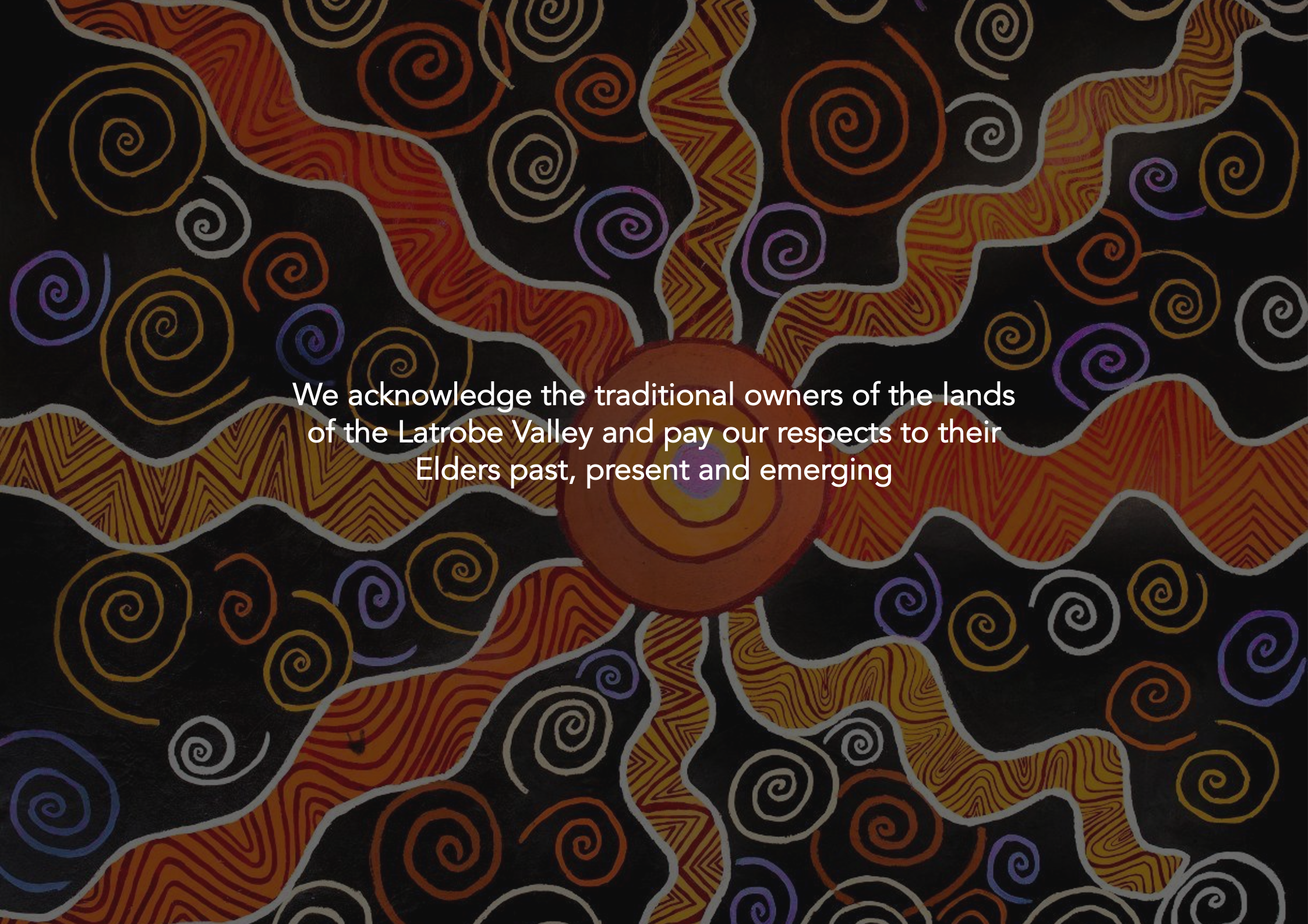
Latrobe Health Assembly

Community-Based Models for Early Detection and Intervention of Chronic Conditions

Latrobe Health Assembly
An initiative of the Latrobe Health Innovation Zone

NINETY MILE CONSULTING

2024


We acknowledge the traditional owners of the lands
of the Latrobe Valley and pay our respects to their
Elders past, present and emerging

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EXECUTIVE SUMMARY

Executive Summary: Background & Context

The Latrobe Valley, characterised by its industrial heritage, faces significant health challenges, particularly in chronic conditions such as cardiovascular diseases, diabetes, and respiratory illnesses.

Background & Context

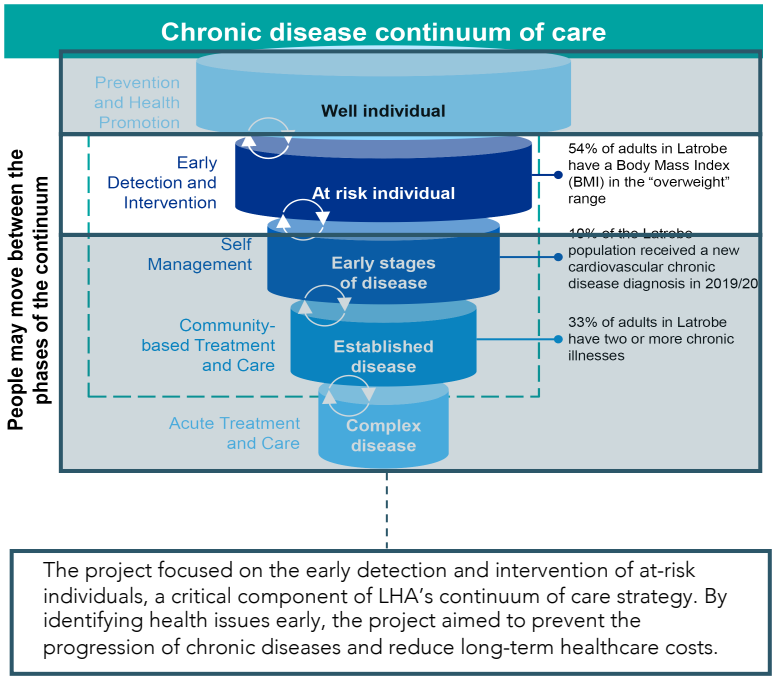
- The Latrobe Valley, located in Gippsland, Victoria, has a rich industrial heritage, primarily driven by energy production and manufacturing. This economic backbone has also led to unique health challenges for its residents, particularly in the realm of chronic conditions.
- Socio-economic conditions, environmental concerns, and lifestyle factors contribute to a higher prevalence of chronic conditions such as cardiovascular diseases, diabetes, respiratory illnesses, and mental health issues compared to state averages.
- The aftermath of the Hazelwood Mine Fire further highlighted the urgent need for enhanced healthcare strategies tailored to the community's needs.
- The Latrobe Health Assembly (LHA) initiative, emerging from the Hazelwood Mine Fire Inquiry recommendations, aims to address these health challenges through comprehensive consultations and leveraging local health professionals' insights.

Objectives of the Project

- Develop a pilot model for the early detection and intervention of chronic conditions, leveraging both local expertise and global insights.
- Create sustainable, community-centric solutions that improve health outcomes and align with the Latrobe Chronic Disease Action Plan 2022-2027.
- Address healthcare professional shortages, enhance service integration, and improve health service delivery to prevent hospitalisations and improve the quality of life for residents.

Importance of Early Detection and Intervention

- Early detection and intervention are crucial for effectively managing chronic conditions, preventing condition progression, and reducing long-term healthcare costs.
- Improves health outcomes and quality of life for individuals and the community.
- Emphasises the importance of proactive healthcare strategies and community engagement in shaping health solutions.



Executive Summary: Project Methodology

The project employed a comprehensive, multi-stage methodology to develop and implement early detection and intervention strategies for chronic conditions in the Latrobe Valley

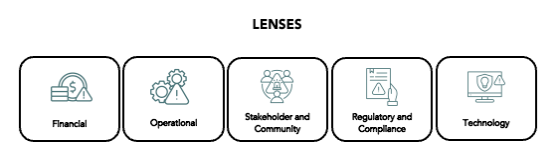
Current State

Stage 1 - SCAN

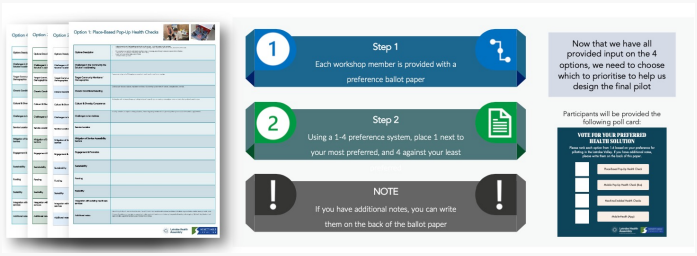
- Regional Data Analysis
- Map Infrastructure and Service Gaps
- Local and Global Scan

Long list of opportunities

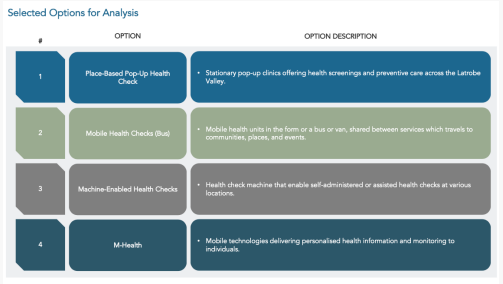
Stage 2 - IDEATE



- Evaluation & Risk Lenses
- Advisory Committee Workshops

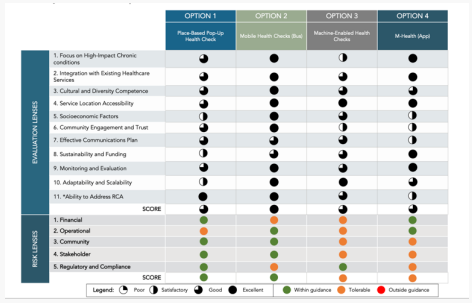


Short list of opportunities



- Evaluation & Recommendations

Potential options to evaluate for possible concept development



Chronic condition Action Plan to Inform Each Stage

Executive Summary: Current State (What Was Done)

The project employed a comprehensive, multi-stage methodology to develop and implement early detection and intervention strategies for chronic conditions in the Latrobe Valley

Demographic and Health Statistics Review

- The Latrobe Valley, located in Gippsland, Victoria, has a rich industrial heritage, Conducted a comprehensive review of demographic data to capture the health and behavioural characteristics of the Latrobe Valley population.
- Analysed health statistics, including the prevalence of chronic conditions, healthcare access, and utilisation patterns.
- Focused on identifying key health trends and areas requiring targeted interventions for improved chronic condition outcomes.

Regional Data Analysis

- Evaluated existing health initiatives within the region, identifying gaps in service provision and opportunities for enhancing chronic condition management and prevention strategies.
- Mapped infrastructure and service gaps to understand the distribution and accessibility of healthcare services.
- Conducted a local and global scan to compare regional health strategies with successful models from other areas, assessing their relevance and adaptability to the Latrobe Valley.

Stakeholder Engagement

- Engaged with a diverse range of stakeholders, including healthcare providers, community leaders, residents, and local authorities, to gather valuable insights and validate findings.
- Conducted over 50 consultations with local service providers and community members to gather firsthand insights and experiences.
- Facilitated four co-design workshops to collaboratively develop and refine intervention models, ensuring solutions were practical, relevant, and aligned with community needs.
- Stakeholder and community feedback played a critical role in shaping the final recommendations and pilot model development, emphasising the importance of collaborative and inclusive approaches in healthcare planning.

Photos from on-site consultations

Executive Summary: Current State (What Was Found)

Synthesis of regional health data, service and infrastructure gaps, and a scan of local and global initiatives, framing the priority evaluation criteria for the Latrobe Valley's early detection model to contextually address chronic conditions

Regional Data Analysis

Thorough demographic analysis to capture health and behavioral data relevant to initiative design. Identification of key health trends and immediate areas to address in service provision in the Latrobe Valley.

Design Evaluation Criteria:

1. Focus on High-Impact Chronic conditions
2. Address Preventable Hospitalisations and Death Disparities
3. Target Vulnerable Populations
4. Consider the Role of Mental Health:
5. Incorporate Socio-Economic Context in Intervention Strategies
6. Consider Behavioral Health Risks

Map Infrastructure & Service Gaps

Evaluation of existing health initiatives within the region, identifying gaps in service provision and opportunities for enhancing chronic condition management and prevention strategies.

Design Evaluation Criteria:

1. Service Location Accessibility
2. Physical Accessibility Features:
3. Cultural Competence
4. Technological and Non-Technological Access
5. Integration with Existing Services.
6. Community Partnerships
7. Service Adaptability

Local & Global Scan

Analysis of successful chronic condition detection and intervention models from both within and outside the region, assessing their relevance and adaptability to the Latrobe Valley.

Design Evaluation Criteria:

1. Integration with Existing Healthcare Services
2. Aboriginal and Torres Strait Islander Communities
3. Rural and Remote Areas
4. Socioeconomic Factors
5. Community Engagement and Trust
6. Technology and Innovation
7. Sustainability and Funding
8. Adaptability and Scalability

The Design Evaluations have been developed into the following 10 Priority Evaluation Criteria. These criteria served as the foundational guidelines used to shape and refine the models of care in the next phase of the project

Priority Evaluation Criteria

1. Focus on High-Impact Chronic conditions	2. Integration with Existing Healthcare Services	3. Cultural and Diversity Competence	4. Service Location Accessibility	5. Socioeconomic Factors
6. Community Engagement and Trust	7. Effective Communications Plan	8. Sustainability and Funding	9. Monitoring and Evaluation	10. Adaptability and Scalability

Executive Summary: Root Cause Analysis

The root cause analysis, based on findings from current state analysis and stakeholder engagements, provided a detailed examination of the causes of underutilisation of healthcare services in the Latrobe Valley, forming a basis for effectively targeting and addressing these issues

Root Cause Analysis Overview

The purpose of this **root cause analysis (RCA)** is to identify and understand the underlying reasons why individuals in the Latrobe Valley are not getting health checks or getting subsequent treatment after an initial check.

The results of the RCA will provide understanding on the major barriers and challenges leading to under-utilisation of health services. From this, NMC developed **guiding criteria for the development of a pilot model** to ensure these major barriers and challenges are effectively addressed.

Defining the Problem(s):

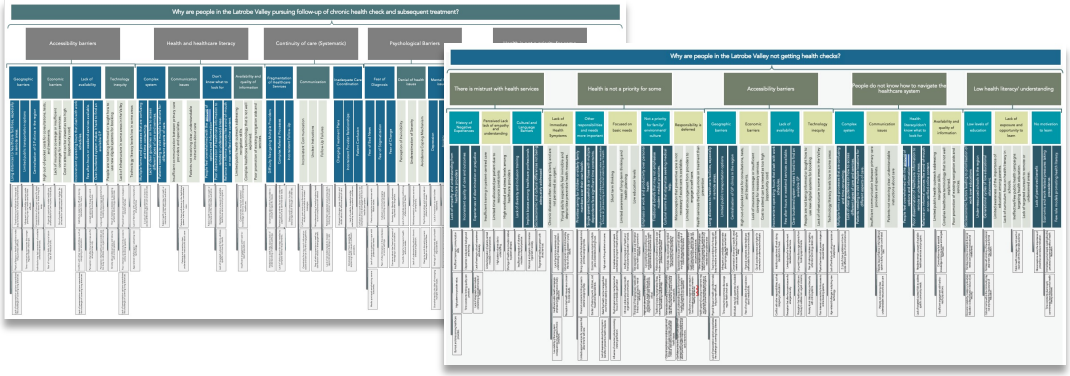
The problem at hand is: "Why are people in the Latrobe Valley not getting health checks?" and, "Why are people who are getting checks not getting subsequent treatment?" These initial questions have been broken down into key categories that contribute to the problem.

The key categories identified include:

- Psychological barriers
- Systemic/structural barriers
- Communication challenges
- Socioeconomic challenges
- Accessibility barriers
- Low health literacy
- Health is not a priority

Methodology

Current State	Current state analysis was performed to understand existing health behaviours and identify service gaps in the Latrobe Valley.
Consultations	40+ consultations were conducted with local healthcare providers, community members, and stakeholders to gather firsthand insights and experiences.
Workshops	Workshops were facilitated with community members and experts to validate findings and collaboratively co-design solutions.
Results	Findings from RCA detail the major barriers and challenges behind under-utilisation of healthcare services in the Latrobe Valley – Findings were developed into model design guidelines.



Visual representation of root cause analysis using the 5 why's methodology

Executive Summary: Root Cause Analysis

The Root Cause Analysis for the Latrobe Valley summarised into 5 categories of broad causes of under-utilisation of health services, which will guide model design in subsequent sections

Psychological Barriers

Psychological barriers prevent people from seeking health checks and follow-up treatments due to fear of diagnosis, stigmatisation, denial of health issues, and mental health challenges.

Mitigation Strategies

1. Welcoming Environment: Design units to be inviting and non-threatening.
2. Anonymous Screenings: Offer anonymous or semi-anonymous options.
3. Educational Materials: Distribute materials addressing fears and benefits of early detection.
4. Peer Testimonials: Share success stories from the community.

Systemic and Structural Barriers

Systemic and structural barriers prevent effective healthcare engagement due to the complexity of the healthcare system, communication issues, and fragmented services.

Mitigation Strategies

1. Simplified Process: Use minimal paperwork and clear steps.
2. Clear Signage: Provide multilingual instructions and signage.
3. Integrated Health Records: Ensure results are accessible to other healthcare providers.
4. On-Site Coordination: Have coordinators to assist with navigation and follow-up.
5. Relevant Services: Offer multiple services in one model.

Socioeconomic and Cultural Barriers

Socioeconomic and cultural barriers prevent individuals from prioritising their health due to financial constraints, cultural norms, and other responsibilities.

Mitigation Strategies

1. Free or Low-Cost Services: Offer free health checks.
2. Flexible Hours and Locations: Schedule checks at convenient times and places.
3. Cultural Sensitivity: Utilise community leaders, organisations for promotion and engagement
4. Community Partnerships: Partner with trusted organisations and leaders.
5. Incentives: Provide small incentives to encourage participation.

Accessibility Barriers

Accessibility barriers hinder access to healthcare services due to geographic challenges, limited service availability, and technology inequities.

Mitigation Strategies

1. Make Access Easy: Bring services directly to underserved areas.
2. Local Events: Schedule checks at community gatherings.
3. Co-Location: Co-Locate the health check model with existing services that target demographic access.
4. Digital Access Points: Provide help with booking and health information.
5. Telehealth Integration: Offer telehealth follow-ups.

Health Literacy and Education Barriers

Low health literacy and education levels prevent individuals from understanding and engaging with healthcare services.

Mitigation Strategies

1. Health Education Workshops: Conduct on-site workshops or education sessions in community.
2. Simple Language: Use clear, jargon-free communication.
3. Visual Aids: Utilise infographics and visual explanations.
4. Educational Materials: Develop clear and relevant educational materials to distribute with the check.
5. Follow-Up Communication: Develop a plan with reminders and educational materials.

Executive Summary: Long List of Options

Based on the initial findings, the following nine options were identified as most relevant and selected for further analysis and co-design

Selected Options for Analysis

#	OPTION	OPTION DESCRIPTION
1	Community Health Workers	• Community members trained to provide localised health services and education in the Latrobe Valley.
2	Place-Based Pop-Up Health Check	• Stationary pop-up clinics offering health screenings and preventive care across the Latrobe Valley.
3	Pharmacy Led Health Checks	• Pharmacies providing health assessments and chronic condition management in the Latrobe Valley.
4	Workplace Health Checks	• Health check services integrated into everyday community spaces and workplaces for accessible preventive care.
5	Nurse Led Health Checks	• Nurses conducting health screenings and managing chronic conditions to support the Latrobe Valley's healthcare.
6	M-Health	• Mobile technologies delivering personalised health information and monitoring to individuals.
7	Digital Health (Predictive Analytics)	• Data-driven tools predicting health risks and improving healthcare interventions in the Latrobe Valley.
8	Machine-Enabled Health Checks	• Health check machine that enable self-administered or assisted health checks at various locations.
9	Mobile (Pop-Up) Health Checks	• Mobile health units in the form or a bus or van, shared between services which travels to communities, places, and events.

Executive Summary: Co-Design Process (Overview)

NMC and LHA conducted four co-design workshops with key stakeholders, including healthcare professionals, community members, and local authorities, aimed at collaboratively developing and refining intervention models based on identified needs and opportunities

WORKSHOP #1
2nd May

Input:

- Validated and reviewed current state
- Validated and reviewed evaluation lenses and program design criteria

Outcomes:

- Identified key health challenges including access barriers, mistrust in healthcare services, and the need for culturally sensitive interventions.

Location:

- Lifeline Gippsland

WORKSHOP #2
16th May

Input

- Validated prioritised evaluation criteria
- Presented long list of options for validation and review

Outcomes:

- Explored solutions such as mobile health checks, community outreach programs, and enhanced health education initiatives.

Location:

- Morwell Innovation Centre

WORKSHOP #3
30th May

Input

- Presented complete findings for long list – further developed from prior workshop
- Presented long list against evaluation criteria

Outcomes:

- Prioritised options based on feasibility, impact, and sustainability.

Location:

- Gippsland Performing Arts Centre, Traralgon

WORKSHOP #4
4th June

Input

- Presented and reviewed short list – with comprehensive analysis of each option with risk, timeline, finances, communications, etc.,

Outcomes:

- Final consensus favored mobile pop-up health checks, with recommendations to integrate elements from other models.

Location:

- Morwell Innovation Centre

The findings from each workshop informed the development of a shortlist of intervention models. This ensured that the shortlisted options were aligned with community needs and strategic priorities.

Executive Summary: Co-Design Process (Short-List Development)

Based on the initial findings, the following four options were identified as most relevant and selected for further analysis and co-design in workshop #4

Selected Options for Analysis

#	OPTION	OPTION DESCRIPTION
1	Place-Based Pop-Up Health Check	• Stationary clinics offering health screenings and preventive care across the Latrobe Valley.
2	Mobile Pop-Up Health Check	• Mobile clinics offering health screenings and preventive care across the Latrobe Valley.
3	Machine-Enabled Health Checks	• Health check machine that enable self-administered or assisted health checks at various locations.
4	Mobile-Health	• Mobile technologies delivering portable and easy to access health service information and detection tools

Executive Summary: Co-Design Process (Short-List Prioritisation)

Participants in workshop 4 voted for their most preferred model to pilot in the Latrobe Valley, with some participants leaving additional comments on their ballot papers

Workshop 4 Voting Summary:

- The Mobile Health Check received the highest number of 1st preference votes, indicating it was the most favoured option among participants.
- The Place-Based Pop-Up Health Check had a strong showing as well, particularly with a high number of 2nd preference votes.
- The Machine-Based Health Check and Mobile Phone Health Check (App) received fewer 1st preference votes, with the Mobile Phone Health Check (App) receiving the highest number of 4th preference votes, indicating it was the least favoured overall.

Option	Preference			
	1	2	3	4
Place-Based Pop Up	13	12	7	3
Mobile Health Check (Bus)	18	9	7	1
Machine Based Health Check	4	8	10	11
Mobile Phone Health Check (App)	7	2	9	15

Workshop 4 Participant Comments:

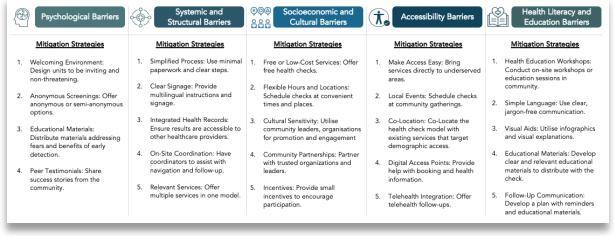
Some participants left comments on their slips, and here are some of their thoughts and suggestions:

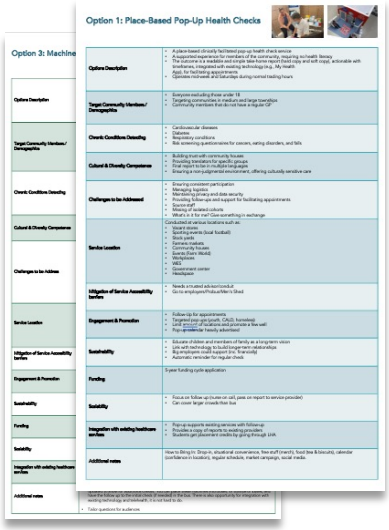
- *Consider the impacts of vaping and energy drinks on youth in pre-screening and prevention efforts.*
- *Favour a combination of place-based and mobile services, with increased health literacy through the MyHealth app.*
- *Support for a mobile bus using self-serve machines and the MyHealth app for facilitated and independent checks.*
- *Address engagement strategies for reaching those not currently involved.*
- *Suggest integrating machine health checks with LHA My Food Swaps program.*
- *Combine strengths from multiple options for a more effective solution.*
- *Mobile buses are easily identifiable and can integrate machine-based and mobile app solutions, unlike harder-to-manage place-based pop-ups.*
- *Caution against making solutions overly complex.*
- *A blend of options 1 and 2 is favoured, with options 3 and 4 seen as supplementary and promotable.*
- *Use mobile services for outreach and advertising, providing flexibility for time-limited individuals.*
- *"Health check heroes" can promote diversity and inclusivity at health check locations.*
- *Systemic change and fresh thinking are needed for impactful innovation, including early education and systemic incentives for regular health checks.*
- *Emphasise awareness and education on regular health checks from a young age to ensure sustainability and address underlying health issues.*

Executive Summary: Pilot Model Development

Based on the Latrobe Valley's internal and external environment, the following methodology was employed to develop the final short list of four options to be considered for piloting in the Latrobe Valley

Current State	Findings from current state analysis resulted in the development of 10 priority evaluation criteria and RCA guiding criteria which will be utilised in the in-depth development of short list options
Workshops and Consultations	Co-design of solutions, brought to moderate maturity through collaborative workshops. Input from workshops are utilised in the development of pilot models.
Options Analysis	Enable detailed analysis and evaluation against NMC's Evaluation Lenses Framework as part of the feasibility study including financial modelling
Recommendations	**Provide recommendation of pilot option to pursue, including detailed evaluation of option, implementation guidelines, and risk analysis with mitigations**





Short List of Options

NMC undertook a comparative analysis and evaluation of all prioritised options, based on the **frameworks** developed from **current state analysis** and **co-design workshops**.

To enable an objective recommendation of potential feasible pilot options based on evidence, multiple viewpoints or lenses of evaluation are required. By generating an agreed evaluation criteria, each option can be modelled and analysed in significant detail. Where the results from the evaluation are outside of expectations, changes can be made prior to finalising the report.

Executive Summary: Pilot Model Development

The feasibility of all options was comprehensively evaluated using quantitative and qualitative data, captured throughout the project, against defined evaluation and risk criteria

1. Evaluation by Lenses

To evaluate the impact of implementing each option, the report uses **10 evaluation lenses**.

Each lens combines qualitative and quantitative analysis.

The lenses are:

1. Focus on High-Impact Chronic Conditions
2. Integration with Existing Healthcare Services
3. Cultural and Diversity Competence
4. Service Location Accessibility
5. Socioeconomic Factors
6. Community Engagement and Trust
7. Effective Communications Plan
8. Sustainability and Funding
9. Monitoring and Evaluation
10. Adaptability and Scalability
11. Ability to Address Root Cause Analysis

2. Evaluation by Risks

The implementation of each option presents several **risks** with **varying levels of likelihood and impact**.

The report identifies **five risk types for** LHA to prioritise, in order of potential impact to the pilot model.

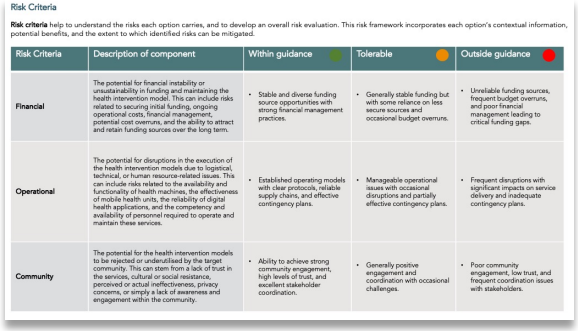
The five risk types are:

1. Operational Risk
2. Financial Risk
3. Community and Stakeholder Risk
4. Regulatory and Compliance Risk
5. Technology Risk

3. Evaluation Summary

A summary score for evaluation lenses provides an overall assessment of options with **metrics based** on the **average score of each evaluation lens**.

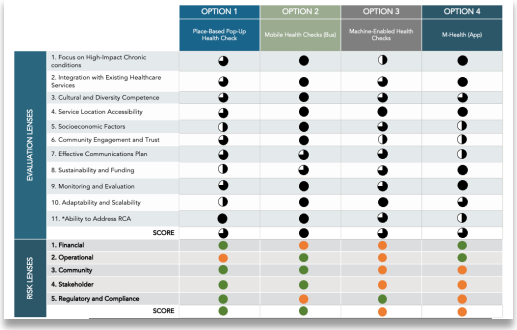
A summary score for the overall assessment of risks is not provided, as it is recommended that options with risks that cannot be mitigated are immediately unfeasible.



Risk Criteria

Risk criteria help to understand the risks each option carries, and to develop an overall risk evaluation. This risk framework incorporates each option's contextual information, potential benefits, and the extent to which identified risks can be mitigated.

Risk Criteria	Description of component	Within guidance	Tolerable	Outside guidance
Financial	The potential for financial instability or unsustainability in funding and maintaining the health intervention model. This can include risks related to securing initial funding, ongoing operational costs, financial management, potential cost overruns, and the ability to attract and retain funding sources over the long term.	• Stable and diverse funding source opportunities with strong financial management practices.	• Generally stable funding but with some reliance on less secure sources and occasional budget overruns.	• Unreliable funding sources, frequent budget overruns, and poor financial management leading to critical funding gaps.
Operational	The potential for disruptions in the execution of the health intervention models due to logistical, technical, or human resource-related issues. This can include risks related to the availability and functionality of health machines, the effectiveness of mobile health units, the reliability of digital health applications, and the competency and availability of personnel required to operate and maintain these services.	• Established operating models with clear protocols, reliable supply chains, and effective contingency plans.	• Manageable operational issues with occasional disruptions and partially effective contingency plans.	• Frequent disruptions with significant impacts on service delivery and inadequate contingency plans.
Community	The potential for the health intervention models to be rejected or underutilised by the target community. This can stem from a lack of trust in the services, cultural or social resistance, perceived or actual ineffectiveness, privacy concerns, or simply a lack of awareness and engagement within the community.	• Ability to achieve strong community engagement, high levels of trust, and excellent stakeholder coordination.	• Generally positive engagement and coordination with occasional challenges.	• Poor community engagement, low trust, and frequent coordination issues with stakeholders.



		OPTION 1	OPTION 2	OPTION 3	OPTION 4
		Place-Based Pop-Up Health Check	Mobile Health Checks (Bus)	Machine-Enabled Health Checks	M-Health (App)
EVALUATION LENSES	1. Focus on High-Impact Chronic conditions	◕	●	◑	●
	2. Integration with Existing Healthcare Services	◕	●	◕	●
	3. Cultural and Diversity Competence	◕	●	◕	◕
	4. Service Location Accessibility	◕	●	●	●
	5. Socioeconomic Factors	◑	●	◕	◑
	6. Community Engagement and Trust	◕	●	◑	◑
	7. Effective Communications Plan	◕	◕	◕	◑
	8. Sustainability and Funding	◑	◕	◕	●
	9. Monitoring and Evaluation	◕	●	◕	●
	10. Adaptability and Scalability	◑	●	●	◕
	11. *Ability to Address RCA	●	●	◕	◑
	SCORE	◕	●	◕	◕
RISK LENSES	1. Financial	●	●	●	●
	2. Operational	●	●	●	●
	3. Community	●	●	●	●
	4. Stakeholder	●	●	●	●
	5. Regulatory and Compliance	●	●	●	●
	SCORE	●	●	●	●

Executive Summary: Pilot Model Development Results

Summary table of all four options across evaluation lenses, evaluation score, and risk lenses

		OPTION 1	OPTION 2	OPTION 3	OPTION 4
		Place-Based (Pop-Up) Health Check	Mobile (Pop-Up) Health Checks	Machine-Enabled Health Checks	M-Health (App)
EVALUATION LENSES	1. Focus on High-Impact Chronic conditions	◕	●	◑	●
	2. Integration with Existing Healthcare Services	◕	●	◕	●
	3. Cultural and Diversity Competence	◕	●	◕	◕
	4. Service Location Accessibility	◕	●	●	●
	5. Socioeconomic Factors	◑	●	◕	◑
	6. Community Engagement and Trust	◕	●	◑	◑
	7. Effective Communications Plan	◕	◕	◕	◑
	8. Sustainability and Funding	◑	◕	◕	●
	9. Monitoring and Evaluation	◕	●	◕	●
	10. Adaptability and Scalability	◑	●	●	◕
	11. *Ability to Address RCA	●	●	◕	◑
	SCORE	◕	●	◕	◕
RISK LENSES	**1. Financial**	🟢	🟠	🟠	🟢
	2. Operational	🟠	🟢	🟠	🟢
	3. Community	🟢	🟢	🟠	🟠
	4. Stakeholder	🟢	🟢	🟠	🟠
	5. Regulatory and Compliance	🟢	🟠	🟢	🟠
	SCORE	🟢	🟢	🟠	🟠

Legend: ◔ Poor ◑ Satisfactory ◕ Good ● Excellent | 🟢 Within guidance 🟠 Tolerable 🔴 Outside guidance

Executive Summary: Pilot Model Development Results cont.

Summary table of the four shortlisted options across evaluation and risk lenses

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
	Place-Based (Pop-Up) Health Check	Mobile (Pop-Up) Health Checks	Machine-Enabled Health Checks	M-Health (App)
Evaluation Lenses	The Place-Based (Pop-Up) Health Check model scores **"excellent"** in community engagement and accessibility by utilising familiar community spaces. It integrates effectively with existing healthcare services and addresses relevant cultural and socioeconomic factors, focusing on high-impact chronic conditions, making it a viable and impactful option.	The Mobile Pop-Up Health Checks scored **"excellent"** in the most criteria, and effectively address geographical and accessibility barriers by bringing services to underserved areas. It integrates well with existing systems and is culturally inclusive, providing flexibility and adaptability to meet diverse community needs.	Machine-Based Health Checks offer a cost-effective, accessible solution by placing kiosks in high-traffic areas. It scores "**good**" in technological integration and convenience, providing flexible health screenings for a broad demographic, though it may lack personal interaction.	Mobile Phone Health Checks provide highly accessible, personalised health services, integrating seamlessly with existing systems and supporting continuous engagement. It promotes self-management and health literacy, addressing critical needs. The overall rating for this option was **"good".**
Risk Lenses	Logistical challenges and follow-up care consistency are primary risks. Ensuring funding and managing privacy concerns are also critical. Despite these, most risks are manageable **within acceptable limits**, especially with ongoing community and business support.	Significant initial investment and ongoing maintenance costs, along with staffing and coordination challenges, are the primary risks. These are **within acceptable limits**, particularly with potential funding from partnerships and grants.	Technological trust and maintenance are primary risks. Ensuring user trust and regular maintenance are critical. These risks are **manageable** with support and education initiatives and strong promotional efforts	The digital divide and user engagement are primary risks. Addressing digital literacy disparities and maintaining engagement require comprehensive programs. These risks are **manageable** with targeted education and community promotion.
Conclusion	This is an ideal **supporting option** for option 2. It extends the reach and accessibility of healthcare services, fostering community engagement and trust. This model should be developed alongside the mobile platform to maximise impact, using the van's resources to set up and support temporary health check stations in strategic locations.	This option **is highly suitable** to progress. It aligns well with the evaluation criteria and addresses critical health needs. With manageable risks and significant potential for community impact, this model should be prioritised and implemented first. It forms the core of the integrated approach, setting the foundation for other supportive health services.	Machine-Based Health Checks are a suitable **supporting option** to enhance option 2's capacity. It provides efficient, accessible health screenings and are particularly useful during high-demand events. This model should be integrated to support and expand the mobile health services, maximising the efficiency and reach of the integrated approach.	This option **falls outside the primary scope of this project**. LHA can support these initiatives as needed, ensuring community members benefit from digital health resources. The focus of this project will remain on the community-based model for early detection and intervention of chronic conditions.

Executive Summary: Pilot Model Recommendation

The Mobile Health Check is recommended to provide comprehensive health screenings and preventive services in underserved areas, supported by Place-Based (Pop-Up) Health Checks and Machine-Based Health Checks to extend reach and increase efficiency

Recommendation

The Latrobe Health Assembly (LHA) can immediately leverage existing resources to implement community-based health check projects. The primary focus will be on deploying a Mobile Health Check (Bus or Van), supplemented by Machine-Based Health Checks and Place-Based (Pop-Up) Health Checks. This strategy ensures comprehensive, accessible, and flexible healthcare services, significantly improving health outcomes in the Latrobe Valley. M-Health (App) Initiatives are acknowledged but are out of scope for this project due to their inability to detect conditions in a community-based setting, though out of scope, LHA can provide advocacy support as needed through this initiative.

Commence immediately, with ongoing operations

Option 2 – Mobile (Pop-Up) Health Checks

Deploy a Mobile Health Check unit to provide a variety of health screenings and preventive services directly to community members, focusing on underserved areas, with necessary equipment and trained staff to increase healthcare access and engagement. Form strategic partnerships to operate as a shared service throughout the region.

Undertake in parallel

Commence in parallel as a supportive capability

Option 1 – Place-Based (Pop-Up) Health Check

The Mobile Health Check unit will be used to set up stationary health check stations in strategic community locations, such as schools, workplaces, and community centers. This involves dropping off necessary equipment from the unit and setting up temporary health check points while the unit continues its mobile operations.

Undertake in parallel

Commence within 12 months, integrated within ongoing operations

Option 3 – Machine-Enabled Health Checks

Once the operations from the Mobile Health Check unit have been established, it is recommended that LHA work with the Latrobe Health Services (LHS) to equip the unit with their self-service health check kiosks. This will allow for quick and convenient health assessments, particularly at events where staffing may be a limiting factor for high volume health checks.

Executive Summary: Pilot Model Recommendation cont.

It is recommended to pursue an integrated model with the Mobile Health Check as the primary focus, supported by Place-Based Health Checks and Machine-Based Health Checks to ensure comprehensive, accessible, and efficient healthcare delivery

Recommendation: Integrated Model

Deploy a Mobile Health Check unit to provide comprehensive health screenings and preventive services in underserved areas, supported by Place-Based Health Checks and Machine-Based Health Checks to extend reach and increase efficiency, with funding and partnerships secured to ensure sustainability and community engagement.

Primary Focus: Mobile (Pop-Up) Health Checks :

- Mobility and Accessibility: The unit can travel to remote and underserved areas, providing essential health services directly to the community.
- Comprehensive Health Services: Equipped with medical equipment for a variety of health screenings and preventive services, ensuring a wide range of care.
- Community Engagement: Builds trust and rapport within the community through consistent presence and reliable healthcare delivery.

Integration of Place-Based Health Checks:

- Utilisation of Existing Infrastructure: Leverages community spaces such as schools, workplaces, and community centers to set up temporary health check stations.
- Enhanced Reach: Extends the health services provided by the mobile unit, making healthcare more accessible to individuals in familiar, convenient locations.
- Community Integration: Fosters stronger community ties and encourages regular health checks by integrating services into everyday community settings.

Implementation of Machine-Enabled Health Checks:

- Efficiency and Convenience: Self-service health kiosks provide quick and efficient health assessments, reducing wait times and increasing the number of individuals served.
- Cost-Effective: Reduces the need for extensive staffing, making it a cost-effective solution for high-demand events and busy periods.
- Technological Integration: Enhances the overall health service framework by incorporating advanced health screening technology, supporting the mobile and place-based models.

Benefits of the Integrated Model

- **Comprehensive Health Services:** Combining mobile, machine-enabled, digital, and place-based health checks provides a robust, multi-faceted approach to health service delivery.
- **Increased Accessibility:** The mobile nature of the bus and the flexibility of the integrated options ensure that health services are accessible to all community members, including those in remote areas.
- **Enhanced Engagement:** The visible presence of the bus and the support for digital health tools foster continuous engagement and health monitoring.
- **Scalability:** The model can be scaled up based on community needs and feedback, allowing for the addition of more services and health checks as required.
- **Cultural Competence:** Tailored services and culturally relevant health information ensure that the diverse needs of the community are met.

Executive Summary: Conclusion

This project utilised a multi-stage methodology to develop and implement early detection and intervention strategies for chronic conditions in the Latrobe Valley; the approach combined extensive data analysis, stakeholder engagement, and co-design workshops

Summary of Project and Key Insights

- Data-Driven and Community-Centric: The project was grounded in both quantitative data (regional health statistics, socio-economic data, global best practices) and qualitative insights (stakeholder consultations, community feedback), ensuring that the solutions were evidence-based and tailored to the community's needs.
- Identified Health Challenges: The analysis highlighted higher prevalence rates of chronic conditions, significant socio-economic and environmental barriers, and gaps in healthcare services and infrastructure.
- Root Cause Analysis: A thorough root cause analysis identified barriers such as mistrust in healthcare services, low health literacy, and accessibility challenges, guiding the development of targeted intervention strategies.

Co-Design Process and Findings

- Collaborative Workshops: Four co-design workshops engaged healthcare professionals, community members, and local authorities to collaboratively develop and refine intervention models.
- Validated Solutions: Workshops identified and validated effective solutions, emphasizing mobile pop-up health checks, place-based health checks, machine-based checks, and M-health initiatives.
- Shortlist of Options: The transition from a long list to a shortlist of intervention models was guided by stakeholder feedback, feasibility, and potential impact.
- Evaluation: Each shortlisted option was rigorously evaluated for impact, feasibility, and sustainability, ensuring alignment with project goals and community needs.

Innovative Design and Execution

- Innovation in healthcare involves implementing new strategies, technologies, and models to improve access, efficiency, and outcomes. The execution of the integrated Mobile Health Check model exemplifies innovation by combining mobile service delivery with adaptive scheduling, ensuring that healthcare reaches underserved and high-need areas effectively.
- By fostering collaborative ownership among health organisations, the model enhances sustainability and operational efficiency. Continuous community engagement and real-time feedback loops allow for dynamic adjustments, ensuring the program remains responsive and relevant.

Conclusion

- Impact on Community Health: The project underscores the critical importance of early detection and intervention in managing chronic conditions, improving health outcomes, and enhancing quality of life in the Latrobe Valley.
- Collaborative Success: The success of the project highlights the value of a collaborative, community-centric approach in developing practical and impactful health solutions.
- Innovative Approach: The project showcases innovative methods through the integration of mobile health solutions, community-centric co-design, and the use of technology to enhance healthcare delivery.
- Future Outlook: The findings and recommendations provide a roadmap for future healthcare strategies, emphasizing sustainability, scalability, and ongoing community involvement.

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01

BACKGROUND

1.1 Background

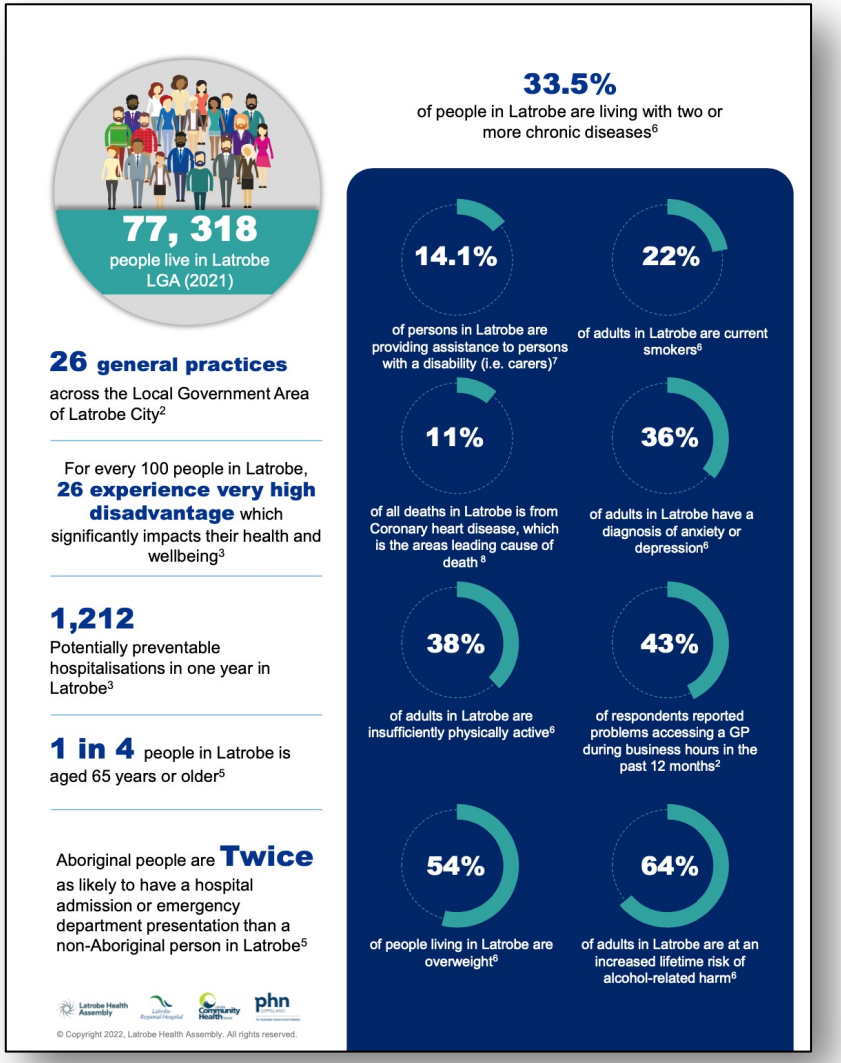
The Latrobe Valley faces distinct health challenges, notably in chronic condition prevalence, exacerbated by socio-economic, environmental, and lifestyle factors, which the Latrobe Health Assembly's initiatives aim to address through community-focused healthcare strategies

The Latrobe Valley, nestled in the heart of Gippsland, Victoria, has long been characterised by its rich industrial heritage, primarily driven by energy production and manufacturing. However, this economic backbone has also presented unique health challenges for its residents, particularly in the realm of chronic conditions. Triggered by factors including socio-economic conditions, environmental concerns, and lifestyle factors, the prevalence of chronic conditions such as cardiovascular condition, diabetes, respiratory illnesses, and mental health issues significantly surpasses state averages.

This situation was further highlighted in the aftermath of the Hazelwood Mine Fire, which brought to the forefront the urgent need for enhanced healthcare strategies and interventions tailored to the community's needs. The Latrobe Chronic Disease Action Plan 2022-2026 which resulted out of recommendations of the Hazelwood Mine Fire, aims to tackle these challenges head-on. By engaging with the community through comprehensive consultations and leveraging the insights and expertise of local health professionals and stakeholders, the project seeks to build a robust understanding of the current healthcare landscape, access barriers, and the lived experiences of those with chronic conditions in the Latrobe Valley.

Central to this endeavour is the goal to co-create solutions that are not only effective but also sustainable and responsive to the community's specific context. This includes addressing the shortage of healthcare professionals, enhancing service integration, and improving health service delivery to prevent hospitalisations and improve quality of life. Furthermore, this project, a direct action from the Plan, places a strong emphasis on the impact of economic and environmental factors on individual and community wellbeing.

In creating a blueprint for health innovation in the Latrobe Valley, this plan represents a significant step towards a healthcare system that is more inclusive, accessible, and equipped to meet the challenges of chronic condition management. It underscores a commitment to transforming the health outcomes of the Latrobe Valley residents, ensuring that they not only have access to quality healthcare services but are also active participants in shaping the health solutions that affect their lives.



1.3 Project Objective and Rationale

This project aims to develop a pilot model for early detection and intervention in chronic conditions tailored to the Latrobe Valley's unique health context, informed by a thorough analysis of local and global health strategies, community input, and stakeholder insights

Key Drivers For This Project

The primary goal of this project is to enhance the early detection and intervention of chronic conditions within the Latrobe Valley by combining local expertise with global insights. This initiative is closely aligned with Section 1.1 of the Latrobe Chronic Disease Action Plan, which focuses on expanding access to wellbeing checks in the community.

This report addresses the exploratory phase of the initiative, where diverse methodologies were employed to gather in-depth knowledge from local stakeholder consultations, analysis of existing health initiatives, and thorough reviews of academic and government publications.

This process aimed to identify effective, culturally appropriate strategies that can be adapted to the unique context of the Latrobe Valley. The project's core objective was to develop a well-informed, evidence-based plan that addresses the specific health needs of the community, taking into consideration the successes and challenges of similar programs worldwide.

Central to this process are co-design workshops, where findings are validated and refined by those embedded within the Latrobe Valley healthcare ecosystem. These workshops are instrumental in ensuring that the project incorporates actions 1.4.2 and 1.4.5 from the Chronic Disease Action Plan into the scope of this project.

Ultimately, the project aimed to develop a single pilot model that is relevant, sustainable, and innovative, ensuring that any future health interventions are grounded in best practices and tailored to meet the local population's needs effectively.

Project Objectives

1. Conduct a comprehensive scan of existing local and global health initiatives to identify best practices in early detection and intervention of chronic conditions.

2. Engage with a diverse range of stakeholders within the Latrobe Valley to gather insights and understand specific community health needs and preferences.

3. Analyse gathered data to inform the ideation process, focusing on innovative and contextually relevant health strategies for the Latrobe Valley.

4. Compile a detailed report of evidence-based recommendations, including a prioritised long list of potential pilot projects for the Latrobe Health Assembly (LHA) to consider.

5. Select one pilot project from the prioritised list, fully developed with implementation guidelines, for the LHA to consider for implementation as a targeted intervention within the community.

1.4 Alignment to the Latrobe Health Assembly Action Plan

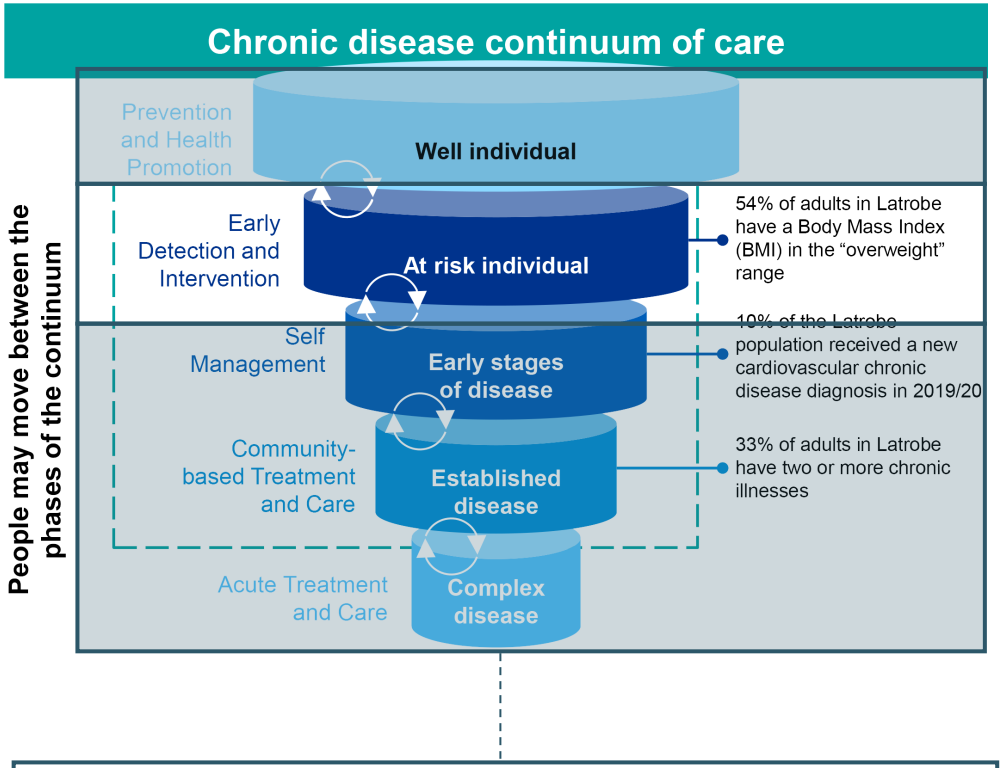
Early Detection and Intervention is a critical component of the strategic vision as outlined in the Latrobe Chronic Disease Action Plan 2022-2027

Relevance To The Latrobe Chronic Disease Action Plan 2022-2027

The Early Detection and Intervention Project is a key initiative designed to address the significant health challenges faced by the Latrobe Valley community. By focusing on the early detection and intervention of chronic diseases, this project aims to improve health outcomes and enhance the quality of life for residents. This project aligns closely with the strategic priorities outlined in the Latrobe Health Assembly's (LHA) key documents: "Listening to Latrobe: Towards improved health outcomes for people living with chronic disease" and the "Latrobe Chronic Disease Action Plan 2022-2027."

The Early Detection and Intervention Project aligns with the strategic priorities and action items of the Latrobe Chronic Disease Action Plan:

- 1.1.2 identify implementation considerations for the mobile clinic and any additional initiatives identified from activity 1.1.1, learning from previous and existing work.
- 1.1.3 Plan, pilot and evaluate the mobile clinic and additional initiatives identified. Planning should consider target population, geographies, activities, workforce, and communication with community members.
- 1.4.2 Partner with Federation University to explore initiatives for student-led wellbeing check clinics seeking to identify improved or innovative methods of delivery.
- 1.4.5 Explore possible approaches to pharmacists delivering wellbeing checks, aiming to increase access to early detection and intervention services.



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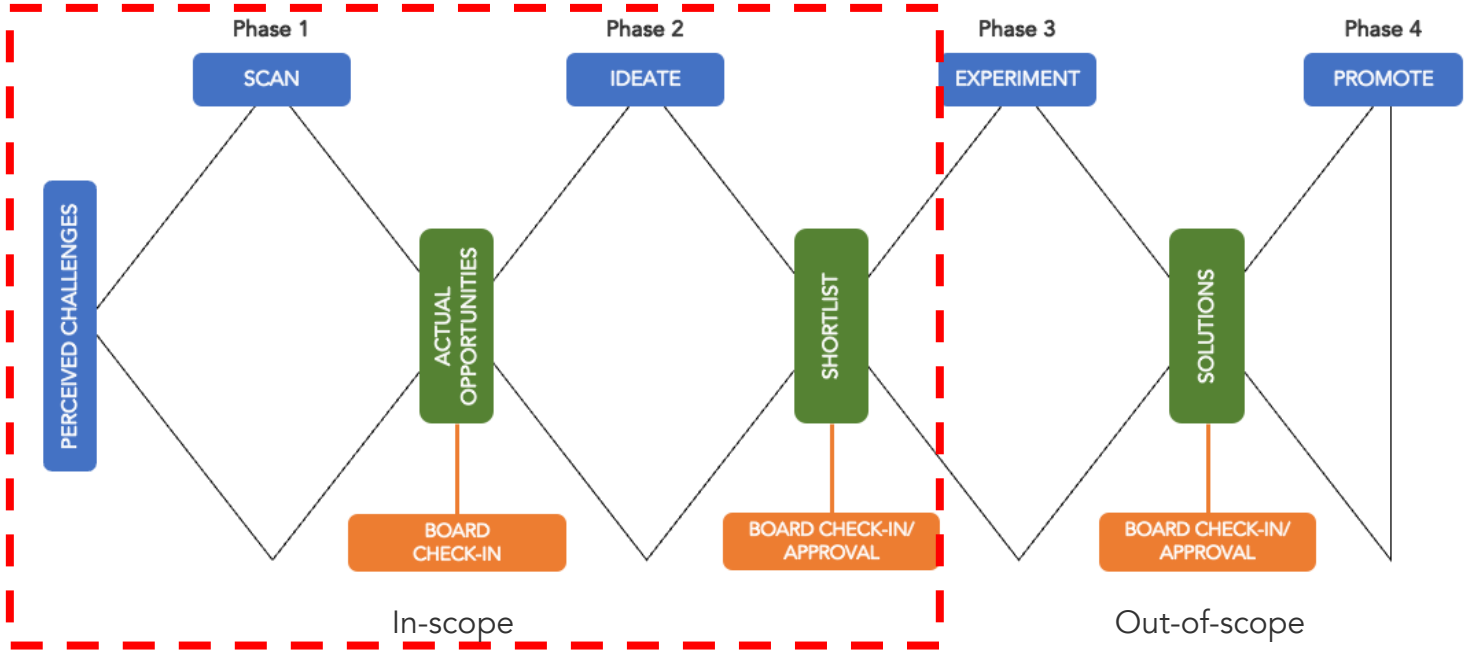
02

OPTIONS ANALYSIS METHODOLOGY

2.1 Methodology: Stage 1 - Scan & Stage 2 - Ideate

NMC utilises the first two stages of LHA's four-staged problem-solving methodology to develop the insights from research and stakeholder engagement into visible concepts for a pilot for board approval

The Latrobe Health Assembly Problem Solving Methodology



STAGE 1 - SCAN

Research the service challenge and **Consult** with stakeholders and community to **Identify** potential opportunities

STAGE 2 - IDEATE

Develop identified opportunities into **Visible Concepts,** co-designed with stakeholders into a **Concept Proposal** for a pilot

STAGE 3 - EXPERIMENT

Pilot prototypes and measure successes

STAGE 4 - PROMOTE

Review pilot outcomes and undergo a scaled rollout

2.2 Concept Option Development Methodology

Identification of all potential concept options and ranking of those options to be evaluated for piloting based on dependencies and limitations carried over from research & engagement

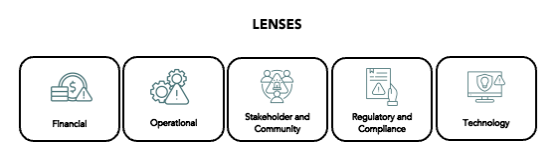
Stage 1 - SCAN

Current State

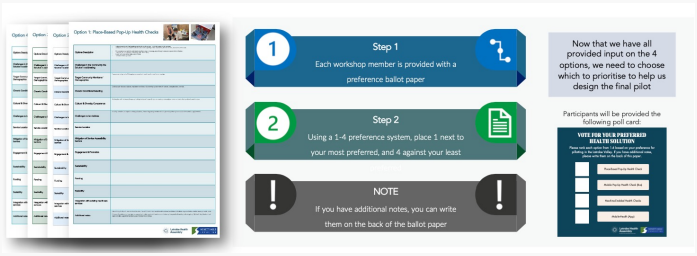
- Regional Data Analysis
- Map Infrastructure and Service Gaps
- Local and Global Scan

Long list of opportunities

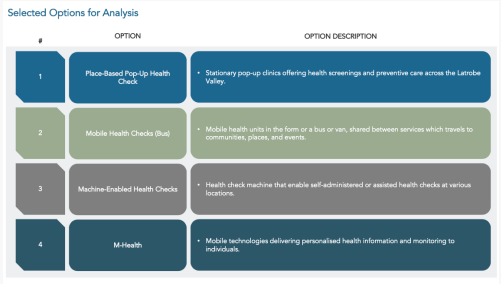
Stage 2 - IDEATE



- Evaluation & Risk Lenses
- Advisory Committee Workshops

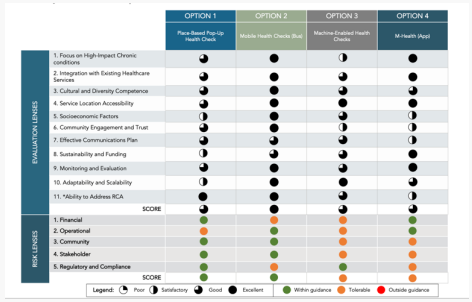


Short list of opportunities



- Evaluation & Recommendations

Potential options to evaluate for possible concept development



Chronic condition Action Plan to Inform Each Stage

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03

Current State

3.1 Current State: Methodology

A review of demographic data, stakeholder consultations, and analysis of local and global health initiatives to guide the development of targeted chronic condition detection and intervention strategies in the Latrobe Valley

Regional Data Analysis

This section provides a review of the Latrobe Valley's demographic and health statistics, providing a foundation to identify key trends and areas requiring targeted interventions for improved chronic condition outcomes.

- **Health and Demographic Data Analysis:** Summarise health statistics such as prevalence of chronic conditions, healthcare access, and utilisation patterns.
- **Stakeholder Consultations:** Engagements with local stakeholders and community to gather local context and behavioral data, ensuring initiatives are context specific
- **Insights and Implications:** Draw insights from the data, identifying health trends and potential areas for intervention.

Map Infrastructure & Service Gaps

Evaluation of existing health initiatives within the region, identifying gaps in service provision and opportunities for enhancing chronic condition management and prevention strategies.

- **Service Gaps and Overlaps:** Analyse the coverage of existing services, identifying gaps and areas of overlap.
- **Community Engagement :** Investigate the community use patterns and behaviours of health services to identify key groups and considerations
- **Opportunities for Enhancement:** Suggest opportunities for improving or expanding upon current initiatives based on the identified gaps.

Local and Global Scan

Analysis of successful chronic condition detection and intervention models from both within and outside the region, assessing their relevance and adaptability to the Latrobe Valley, aiming to inform development of new initiatives

- **Case Studies Review:** Examine case studies of successful chronic condition detection and intervention models from both within and outside the region.
- **Best Practices:** Highlight key strategies, techniques, and programs that have shown effectiveness in other contexts.
- **Applicability to the Latrobe Valley:** Discuss the potential applicability of these models to the local context, considering cultural, demographic, and logistical factors.

The consolidated data and insights from the "Regional Data Analysis", "Mapping Infrastructure and Service Gaps," and "Local and Global Scan" provide a thorough context for the Latrobe Valley, guiding the development of custom, context-specific initiatives for early detection of chronic conditions through community-based models.

Ideation and Development of Context-Specific Options: Synthesise findings to create a curated list of tailored initiatives. From the current state analysis, a list of priority evaluation criteria was developed to guide the creation of context specific options to pilot in the Latrobe Valley. These options are detailed in the resultant section, based on current state findings and best practice.

3.1 Current State: Methodology (contd.)

The current state review involves capturing relevant input from data analysis, consultations, and observations for the Latrobe Valley

Current State Review of the Latrobe Valley

A comprehensive current state review was undertaken to gain insight and understanding on the Latrobe Valley Community current demographics, health trends, and behavioural patterns.

Data analysis was administered on quantitative (i.e., **regional health artefacts**) and qualitative elements (i.e., **one-on-one consultations**) which included the data capture of population data, and discussion and collaboration with key stakeholders from the Latrobe Valley region to provide a clear understanding of **regional demographics** and **key factors** affecting **chronic conditions**.

Besides evaluating the current state, the review also sought to **identify emerging challenges and opportunities** that the Latrobe Valley might encounter in the future. This forward-looking perspective is essential for developing strategies that can address chronic conditions both now and into the future.

Methodology

RESULTS

Data	Capture, model and analyse both quantitative and qualitative data to extract valuable insights that support decision-making
Consultations	Engage with key stakeholders to identify current state and emerging challenges related to chronic conditions in the Latrobe Valley
Observations	Provide essential inputs for subsequent findings and recommendations by highlighting key trends chronic condition trends in the Latrobe Valley
Findings	**Develop holistic view of the health issue pertaining to chronic conditions with an understanding of behavioral factors contributing to access to health services**

Photos from on-site consultations

3.2 Current State: Regional Data Analysis

A demographic snapshot of the Latrobe Valley, detailing population characteristics, education levels, and workforce participation, crucial for understanding community needs and informing targeted healthcare initiatives

Population & Age

77,168
Total 2021 population

90,451
Expected 2041 Population

35,564
Total Dwellings

Key towns attract different demographics: families favour Moe and Morwell (affordability), young adults prefer Churchill (education), while Traralgon attracts a broad range due to services and greenfield development. Future population and household dynamics will be influenced by employment trends in key industries and the development of residential land, particularly in Traralgon, Moe, and Morwell, reflecting local differences within the city.

> *"The ability to provide a healthy environment for our community, while supporting meaningful employment opportunities."*
>
> - Community Member

14%
Aged 0-11

16%
Aged 12-25

48.9%
Aged 26-64

21.1%
Aged 65+

Workforce & Education

Latrobe Valley	Victoria
54.1% of population in the labour force	**62.4%** of population in the labour force
$654 Median personal income	**$803** Median personal income
12.5% of people have a Bachelor Degree or higher	**29.2%** of population have a Bachelor Degree or higher

Source: Latrobe Valley Census 2021 (ABS)

3.2 Current State: Regional Data Analysis

A demographic snapshot of the Latrobe Valley, detailing population characteristics, healthcare sector statistics, and behavioural data to gain an understanding of community needs and informing targeted healthcare initiatives

Healthcare Sector

Latrobe Valley	Victoria
217 ED presentations per 1,000 people	117 ED presentations per 1,000 people
44 Psychologists (FTE) per 1,000 people	114 Psychologists (FTE) per 1,000 people
155 Nurses and midwives per 1,000 people	124 Nurses and midwives per 1,000 people

Compared to Victoria, People in the Latrobe Valley are

- **4x** more likely to use homeless services
- **2.8x** More likely to experience high disadvantage
- **12.2%** more likely to have **one** chronic condition
- **49.1%** more likely to have **two** chronic condition
- **75.8%** more likely to have **three** of more chronic conditions
- **2x** More likely to be Aboriginal and Torres Strait Islander
- **60%** more likely to require assistance with daily activities

Aboriginal Community:

- **3x** More likely to feel uncomfortable accessing services
- **2x** More likely to not understand how to access services
- **50%** More likely to face geographic access barriers

Significant barriers to healthcare access for Indigenous communities in Latrobe include high costs, long wait times for appointments, discomfort in accessing services, transportation issues, and a lack of understanding on how to access healthcare services.

"The Aboriginal community have negative experiences of health ... therefore healing is needed"

- Gippsland Professional

Source: Latrobe Valley Census 2021 (ABS)
Gippsland PHN Health Needs 2022 (GPHN)

3.2 Current State: Regional Data Analysis

Critical health indicators for the Latrobe Valley, emphasising higher rates of chronic conditions and compared to Victoria, underscoring the need for healthcare intervention strategies in the region

Long Term Health Conditions

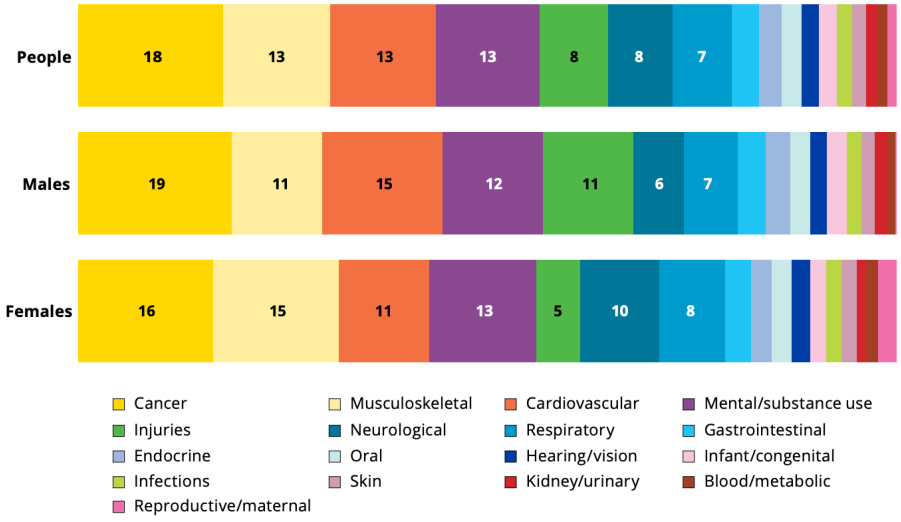
Health Condition	Latrobe Valley	Victoria
Arthritis	12.2%	8.0%
Mental Health Conditions	12.2%	8.8%
Asthma	10.9%	8.4%
Diabetes	6.5%	4.7%
Heart Disease	5.5%	3.7%
Cancer	3.4%	2.8%
Respiratory Conditions (COPD)	3.1%	1.5%
Kidney Disease	1.4%	0.9%
Stroke	1.3%	0.9%

Source: Latrobe Valley Census 2021 (ABS)

Observations

- **All common long-term health conditions have higher prevalence** in the Latrobe Valley when compared to Victoria.
- The occurrence of **respiratory conditions** in the Latrobe Valley is **more than double that of Victoria**, potentially due to the Hazelwood mine fires.
- **Cancer, cardiovascular condition, and respiratory condition**, though less prevalent than arthritis and asthma, have **larger disability-adjusted life year (DALY) burden of disease association**, necessitating early intervention for maximum impact.

Figure 2.3: Proportion (%) of total burden (DALY), by disease group and sex, 2018



Source: Australian Burden of Disease Study (AIHW)

3.2 Current State: Regional Data Analysis

Critical health indicators for the Latrobe Valley, emphasising higher rates of chronic conditions and preventable hospitalisations compared to Victoria, underscoring the need for targeted healthcare intervention strategies in the region

Colour Coding: High compared to other areas, top 25% of values of Australian LGA

HEALTH INDICATOR	LATROBE	VICTORIA	Benchmark
Cancer incidence - all - age-standardised rate per 100,000	507	496	*Average*
Avoidable deaths (0-74 years) - breast cancer - average annual age-standardised rate per 100,000 - Highest PHN	30.4	15.8	Top 25% of Australian LGAs / PHNs
Avoidable deaths (0-74 years) - cancer - average annual age-standardised rate per 100,000 Highest PHN	52.7	28.2	Top 25% of Australian LGAs / PHNs
Potentially preventable hospitalisations, Diabetes complications per 100,000, age-standardised	267	204	Top 25% of Australian SA3s
Avoidable deaths (0-74 years) - circulatory system diseases - average annual age-standardised rate (per 100,000)	65.5	32.4	Top 25% of Australian LGAs / PHNs
Avoidable deaths (0-74 years) - respiratory system diseases - average annual age-standardised rate (per 100,000)	29.5	9.0	Top 25% of Australian LGAs / PHNs
Potentially preventable hospitalisations, Asthma per 100,000, age-standardised	176	138	Top 25% of Australian SA3s
Potentially preventable hospitalisations, COPD per 100,000, age-standardised	356	229	Top 25% of Australian SA3s
Avoidable deaths (0-74 years) - COPD- average annual age-standardised rate (per 100,000)	28.1	8.3	Top 25% of Australian LGAs / PHNs
Suicide deaths - average annual age-standardised rate (per 100,000) East Gippsland highest in Victoria	17.5	10.5	Top 25% of Australian SA3s
Avoidable deaths (0-74 years) - cerebrovascular diseases - average annual age-standardised rate (per 100,000) Third highest PHN	16.8	7.6	Top 25% of Australian LGAs / PHNs
Avoidable death rate - all causes - average annual age-standardised (per 100,000) - females	181	81	Top 25% of Australian LGAs / PHNs
Avoidable death rate - all causes - average annual age-standardised (per 100,000) - males	288	138	Top 25% of Australian LGAs / PHNs

Source: Population Health Planning Hub 2022 (GPHN)

3.3 Current State: Regional Data Analysis Findings

Synthesis of the critical health issues of Latrobe, including notable condition prevalence, guiding tailored approaches in program development for effective community health interventions

Preliminary Health Trends and Findings

- Latrobe's average annual deaths from cancers (breast, colorectal, lung, prostate) and the notably higher avoidable death rate for breast cancer (30.4 per 100,000) compared to Victoria's average (15.8 per 100,000) underscore the urgent need for early cancer detection and preventative care initiatives.
- The rate of potentially preventable hospitalisations in Latrobe (1747 per 100,000) significantly exceeds Victoria's average (1306 per 100,000), suggesting gaps in primary care, early intervention, and condition management that could be mitigated through enhanced community health programs.
- The data indicates a substantial burden of chronic conditions in Latrobe, with high rates of cancer, preventable hospitalisations, and chronic conditions like arthritis.
- Early detection and intervention programs can potentially reduce the incidence of late-stage conditions, lower rates of hospitalisations, and improve the quality of life for individuals living with chronic conditions.
- Community-based models should focus on increasing awareness, improving access to screening and diagnostic services, and integrating care pathways to ensure timely treatment and management of chronic conditions.

Design Evaluation for Program

Focus on High-Impact Chronic conditions:
- The data indicates notably high rates of certain chronic conditions in Latrobe, such as COPD, diabetes complications, and asthma, which are leading to higher rates of potentially preventable hospitalisations. Initiatives should prioritise these conditions for early detection efforts.

Address Cancer-Related Health Disparities:
- Given the elevated rates of avoidable deaths from breast cancer and cancer overall in Latrobe, screening and education for these cancers should be integral to the program design.

Target Vulnerable Populations:
- The demographic data reveal a significant portion of the community are affected by socio-economic and systemic barriers, preventing them from accessing care until later stages of condition

Consider the Role of Mental Health:
- The discrepancy in psychologist availability between Latrobe and Victoria suggests a need for increased mental health services, potentially as part of or in parallel to chronic condition management.

Incorporate Socio-Economic Context in Intervention Strategies:
- The lower median personal income and workforce participation rate in Latrobe compared to Victoria may contribute to health disparities, implying that socio-economic factors should be factored into health intervention plans.

Consider Behavioural Health Risks:
- The data suggests higher rates of risky behaviours in Latrobe, such as higher suicide rates and drug use, which are often comorbid with chronic conditions. Intervention programs should include components to address these risks.

3.4.1 Current State: Infrastructure & Services

Overview of the healthcare infrastructure in the Latrobe Valley, detailing the number of GPs, medical facilities, and the area's status as a Health Innovation Zone for informed initiative development

Latrobe Valley Health Service Profile

85
Working GPs

23
General Practices

5
Community Health Centres

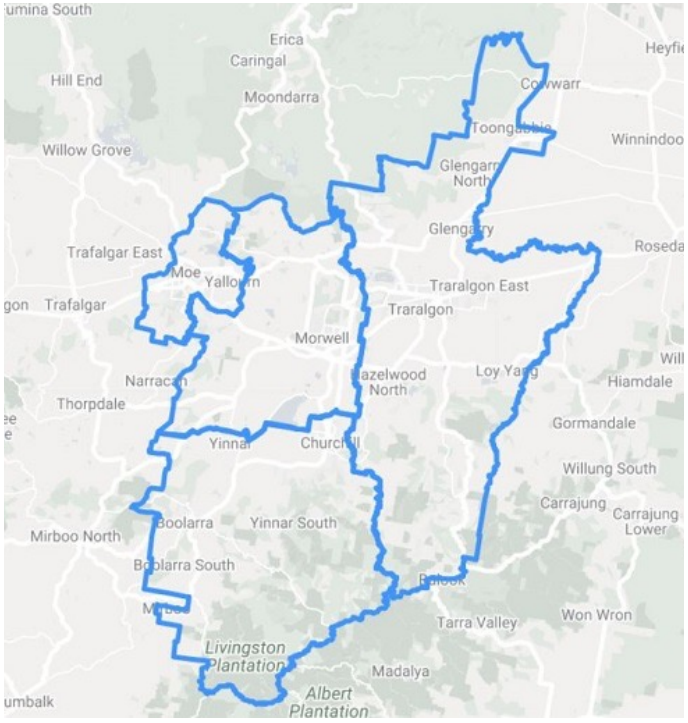
1
Aboriginal Controlled Community Health Service

150km
From Melbourne

4
Central Towns

7
Rural Towns

Designated Health Innovation Zone



1
Regional Hospital

1
Private Hospital

1
Emergency Department

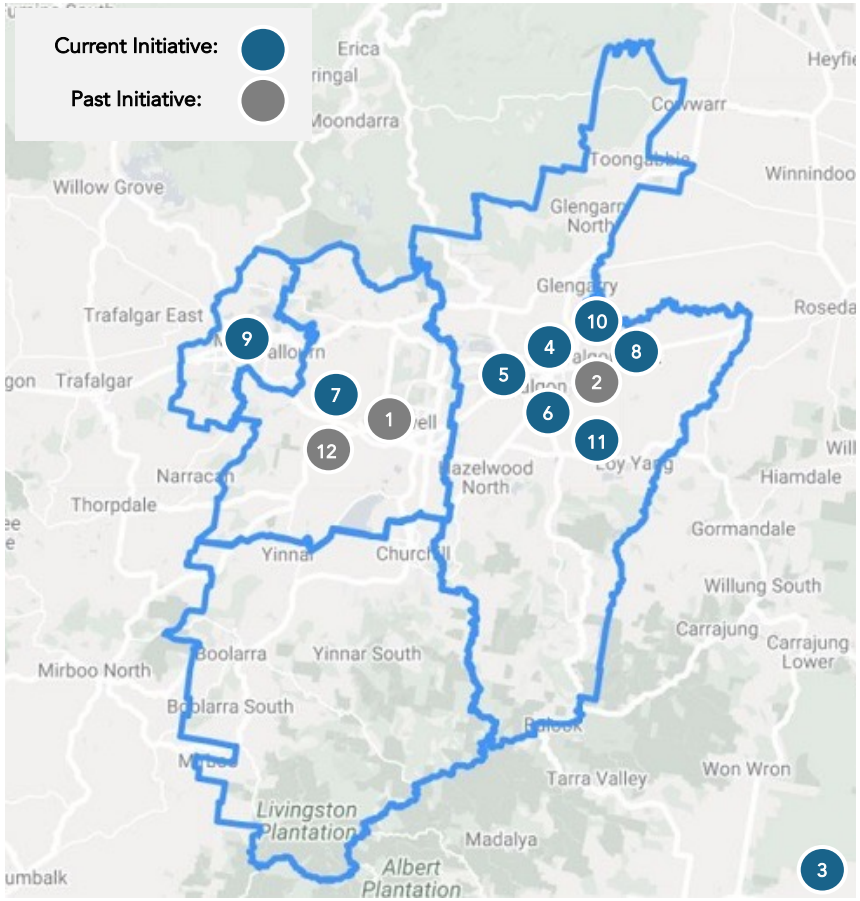
~1
GP For Every 1,000 People

Source: Improving Access to Services in Latrobe 2020 (Latrobe Health Advocate)

3.4.2 Current State: Infrastructure & Services - Health Initiative Mapping

An overview of the key community-based health initiatives targeting chronic diseases within the Latrobe Valley region, highlighting their delivery models and originating organisation locations

Through comprehensive consultation and thorough research, the following health initiatives have been identified within the Latrobe Valley region. Please note that this list is representative of some of the key initiatives and their originating organisations within the Latrobe Valley, but it is not exhaustive.



Map locations refer to location of organisation who owns the initiative, these initiatives are all assumed to run across the entire Latrobe Valley.

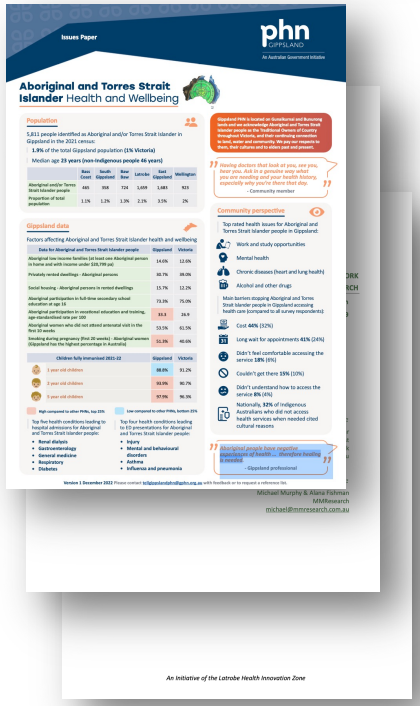
	Initiative	Description	Delivery Model
1	**Screen For Me Program**	Promoted uptake of cancer screening services across the Latrobe Valley.	Community-based activities to promote cancer screening
2	**Gippsland PHN Pharmacy Project**	Evaluates the role of pharmacies in smoking cessation.	Pharmacy-based intervention
3	**Latrobe Health Services Pharmacist Based Health Check Machines (Sisu)**	Implements machine-based health checks to improve accessibility and efficiency.	Machine-based health check units
4	**Gippsland PHN's Community Led Integrated Health Care Program**	Provides integrated and coordinated care through multidisciplinary teams.	Community health teams and collaborative care models
5	**Gippsland PHN's Risk Assessment and Opportunistic Screening**	Improves early detection of chronic conditions through proactive screening.	Opportunistic screenings in community settings
6	**GRPHU's Chitty Chitty Jab Jab COVID-19 Mobile Vaccination Bus**	Delivers vaccinations and health information via a mobile bus.	Mobile vaccination unit
7	**The WES (Wellbeing and Emotional Support) by Latrobe Health Assembly**	Provides a non-clinical environment for mental health and emotional support.	Community-based support center
8	**Population-Based Cancer Screening – Latrobe Health Innovation Zone**	Improves participation in cancer screening programs for breast, bowel, and cervical cancers.	Community outreach and screening events
9	**Priority Primary Care Centres – Gippsland PHN**	Provides urgent medical care and coordinates primary health services.	Community-based urgent care centers
10	**Doctors in Secondary Schools Program**	Provides medical services to students directly in schools to improve access to healthcare.	School-based healthcare model
11	**Head to Health**	Offers mental health services and support, integrating various mental health care services.	Community mental health hubs
12	**Gippsland PHN + Federation University Student-Led Clinics**	Delivery of student led pop-up health checks across the Latrobe Valley.	University-led community clinics (Federation University)

3.5 Current State: Infrastructure & Services Findings

Contrast of the challenges of service accessibility in the Latrobe Valley with program design considerations that emphasise service location, cultural competence, and technological access to enhance early detection delivery adoption

Preliminary Accessibility Findings

- **Maldistribution of GPs:** Along with a shortage of doctors, there is a mal-distribution which is felt more acutely in certain areas of the Latrobe region.
- **Complex Health Needs:** The health of the Latrobe population is complex, impacting the efficacy of the available GPs, who may struggle to address the spectrum of health issues presented.
- **GP Accessibility:** Community members often find it difficult to access GPs as they may be too far away, fully booked, too expensive, or only available temporarily. This impacts the ability to establish trust and continuity of care .
- **High Demand for Local Doctors:** Local doctors are in high demand, and the work conditions are challenging, leading to high turnover and a system that appears to work against the retention of healthcare professional.
- **Training and Recruitment Pathways:** There are aspirations for change in the training and recruitment pathways for GPs, which are currently insufficient to meet local demands.
- **Healthcare Professional Support:** Consultations and reports suggests that a network of healthcare professionals working alongside GPs is ideal. This indicates a need for a more collaborative, team-based approach to primary care, and signals the value of community-based initiatives which may ease the burden on primary care providers.



Design Evaluation for Program

1. **Service Location Accessibility:** Proximity to high-traffic areas should be considered when designing a model to ensure easy physical access for the target population – considerations must be made regarding where the target demographic are located, ensuring that the ***initiative meets them where they are***.
2. **Physical Accessibility Features:** The design model should account for the accessibility needs of all individuals, with particular attention to those with mobility challenges, when selecting service locations.
3. **Cultural Competence:** Cultural sensitivity should be considered in the model design to ensure services are delivered in a manner that respects the varied cultural backgrounds of the community.
4. **Technological and Non-Technological Access:** When designing the model, there should be a balanced use of technology with traditional methods to ensure service access for all community segments.
5. **Integration with Existing Services:** The model should consider how to integrate with and complement existing healthcare services in the community to streamline care for users.
6. **Community Partnerships:** Forming strategic partnerships is important to leverage existing community resources and networks to enhance service delivery.
7. **Service Adaptability:** The model should be designed with the flexibility to adapt based on community feedback and changing health needs, ensuring relevance and responsiveness.

Source: Improving Access to Services in Latrobe 2020 (Latrobe Health Advocate)

3.6 Current State: Local & Global Scan Methodology

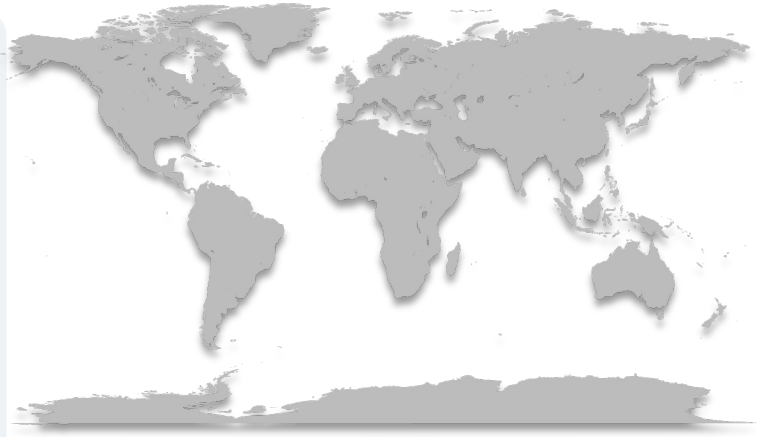
Analysis of local initiatives, incorporating stakeholder insights and academic research, with a synthesis of findings and strategic considerations for shaping community-based early detection models in the Latrobe Valley.

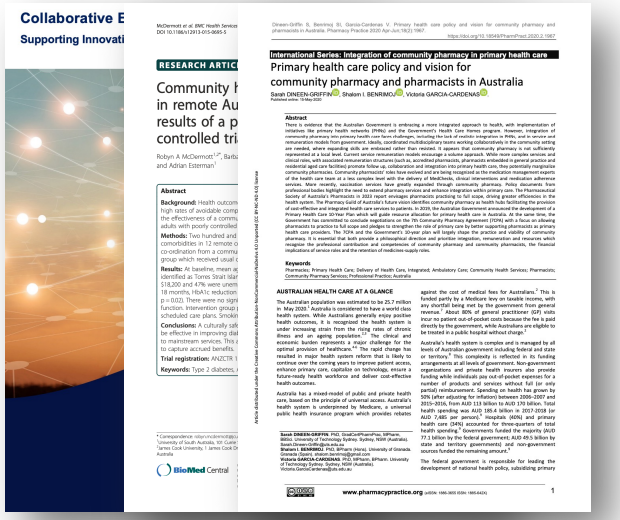
Local Scan Methodology

Stakeholder Consultations: Engaged with individuals and organisations directly involved in similar health programs. This included health professionals, community leaders, and representatives from educational institutions.

Data Analysis from Stakeholder Initiatives and Reports: Reviewed existing documentation, reports, and evaluations from past and current health initiatives.

Academic Research: Incorporated evidence from research publications, white papers, and scholarly articles. This involved a thorough review of academic literature related to community health screenings and early detection of chronic conditions.





Global Scan Methodology

Academic and Government Publications: Extensive review of scholarly articles, research findings, and reports published by academic institutions and government bodies.

Global Case Studies Analysis: Detailed examination of case studies from various countries, focusing on their implementation, outcomes, and the contextual factors contributing to their success or challenges.

Relevance to the Latrobe Valley Context: Specifically assessing the global findings and case studies to determine their applicability to the Latrobe Valley, considering the region's unique demographic, socio-economic, and healthcare infrastructure characteristics.

3.7 Current State: Local & Global Scan Case Studies

Exploring local case studies: transforming healthcare with innovative community-based chronic condition detection models

BMC Health Services Research

Community health workers improve diabetes care in remote Australian Indigenous communities (Queensland)

The care delivery model employed in the study involved community health workers (CHWs) based in remote Australian Indigenous communities, who were tasked with providing case management for Indigenous adults with poorly controlled type 2 diabetes. These CHWs were part of the local fabric of the community, thus ensuring cultural sensitivity and appropriateness in their approach to diabetes care.

Key components of the care delivery model included:

- **Local CHWs:** Leveraging the trust and familiarity inherent in community members to manage patient care and navigate the healthcare system.
- **Clinical Support:** CHWs were backed by a clinical outreach team, offering specialised support and ensuring comprehensive care.
- **Individualised Care Plans:** Focused on creating and implementing care plans tailored to each patient's unique needs.
- **System Integration:** The model was seamlessly integrated into the existing healthcare framework to augment the standard care provision.

Implications for the Latrobe Valley:

- **Cultural Alignment:** CHWs from the community can better engage patients through shared cultural understanding.
- **Local Capacity Building:** Training local residents as CHWs can strengthen community health resources.
- **Holistic Management:** A focus on individualised care plans allows for comprehensive management of chronic conditions.
- **Integrated Healthcare:** The model supports existing healthcare structures, enhancing overall service delivery.

https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-015-0695-5

Federation University

Student-led pop-up health check clinics: innovative health prevention strategy for a low socioeconomic community (Victoria)

The study involved pop-up health check clinics implemented in the Latrobe Valley, Victoria. The initiative aimed to increase access to preventative health screenings and education in a region characterised by low socioeconomic status and high rates of chronic conditions.

Key components of the care delivery model included:

- **Care Delivery Model:** The model utilised pop-up clinics staffed by undergraduate nursing students to deliver health checks and education within community settings, specifically in shopping centers.
- **Study Methods:** A mixed-methods explanatory sequential design was adopted, integrating quantitative health check results with qualitative feedback from participants.
- **Quantitative Findings:** Data indicated that the population served was generally overweight and at high risk for diabetes. Health checks initiated discussions around healthy behaviors and led to some participants making lifestyle changes or consulting GPs.
- **Qualitative Feedback:** Participants valued the clinics for their accessibility and free service. The clinics empowered them with health knowledge, prompting some to take action to improve their health.

Implications for the Latrobe Valley:

- **Accessibility:** Demonstrating a successful model for increasing health service accessibility, particularly relevant for the Latrobe Valley.
- **Community Empowerment:** Highlighting the significance of empowering residents with health knowledge, leading to better health outcomes.
- **Education and Training:** Providing a training platform for nursing students, which could also be beneficial for the local medical education system.
- **Preventative Health Focus:** Reinforcing the importance of preventative health checks in managing chronic conditions.

3.7 Current State: Local & Global Scan Case Studies

Exploring local case studies: transforming healthcare with innovative community-based chronic condition detection models

IJHPM International Journal of Health Policy and Management

Community Health Worker Programs to Improve Healthcare Access and Equity (Australia)

The article "Community Health Worker Programs to Improve Healthcare Access and Equity", explores the role and potential value of Community Health Worker (CHW) programs in Australia, highlighting their effectiveness in addressing inequities in healthcare access and outcomes among disadvantaged population groups.

Key components of the care delivery model included:

- **Diverse Roles and Services**: CHWs in Australia are involved in a wide range of health-related activities, including health education, advocacy, and providing basic clinical services to communities facing disadvantages.
- **Cultural and Community Engagement:** CHW's can bridge cultural gaps and improve healthcare access for Indigenous and other underserved populations.
- **Integration into Primary Healthcare:** CHW programs aim to be integrated within the existing primary healthcare system, enhancing rather than duplicating services.
- **Educational and Supportive Functions:** Besides direct healthcare services, CHWs also play educational roles, empowering communities with knowledge about health and preventive measures.

Implications for the Latrobe Valley:

- **Community Engagement:** The CHW model's emphasis on community trust and cultural competence is particularly relevant for addressing health disparities in the Latrobe Valley.
- **Flexible Health Workforce:** CHW's perform a variety of roles and can inform strategies to fill service gaps in the Latrobe Valley, especially in remote or underserved areas.
- **Chronic condition Detection:** Insights from the CHW model can guide the development of community-based interventions for chronic conditions prevalent in the Latrobe Valley, enhancing early detection and management through trusted community members.

https://www.ijhpm.com/article_3512_041b099498ff46b3655a45303711f323.pdf

Federation University

phn GIPPSLAND
An Australian Government Initiative

Gippsland PHN Pharmacy Project Evaluation (Victoria)

Federation University examined a Pharmacy Project implemented by Gippsland PHN aimed at increasing smoking cessation through pharmacist engagement and nicotine replacement therapy (NRT) best practices. Despite facing challenges such as the impact of the COVID-19 pandemic, which affected the training delivery and engagement of pharmacies, the project highlighted the potential role of pharmacies in public health initiatives in Gippsland.

Key components of the care delivery model included:

- **Integrated Approach to Health:** The Australian Government's shift towards a more integrated health system through primary health networks (PHNs) and Health Care Homes program.
- **Challenges in Integration:** Despite efforts, challenges persist in fully integrating community pharmacy into primary health care, mainly due to the current service remuneration models that prioritise volume over complexity of services.
- **Role Expansion:** Community pharmacies are increasingly recognised for their role beyond medication dispensing
- **Vision for the Future:** Professional bodies envision an expanded role for pharmacists, advocating for practice to full scope to enhance efficiency and integration within the health system.

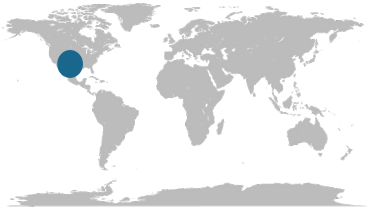
Implications for the Latrobe Valley:

- **Accessibility:** Demonstrating a successful model for increasing health service accessibility, particularly relevant for the Latrobe Valley with similar challenges in healthcare access.
- **Community Empowerment:** Highlighting the significance of empowering residents with health knowledge, leading to better health outcomes.
- **Education and Training:** Providing a training platform for nursing students, which could also be beneficial for the local medical education system.

https://www.pharmacypractice.org/index.php/pp/article/view/1967/808

3.7 Current State: Local & Global Scan Case Studies

Exploring global case studies: transforming healthcare with innovative community-based chronic condition detection models



Impact of community pharmacist-led interventions in chronic disease management on clinical, utilization, and economic outcomes: An umbrella review (USA)

The study by Newman et al. (2020) evaluates the impact of community pharmacist-led interventions on chronic diseases such as diabetes, hyperlipidemia, and cardiovascular diseases. It focuses on the clinical outcomes of these interventions and highlights the need for further research on their economic and utilisation impacts.

Key Components of the Care Delivery Model Included:

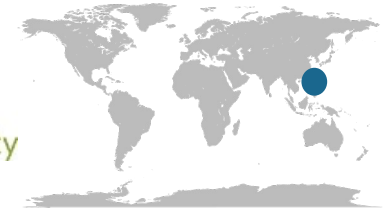
- Patient Education: Essential for enhancing understanding and medication adherence.
- Medication Management: Critical for optimising therapeutic outcomes through regular reviews and adjustments.
- Direct Patient Consultations: Frequent interactions to assess and respond to patient needs.
- Collaborative Healthcare: Coordination with other healthcare professionals to ensure holistic care.

Implications for the Latrobe Valley:

- Empowering Pharmacists: Utilising pharmacists' accessibility to manage chronic diseases could lead to better patient outcomes in the Latrobe Valley.
- Educational Focus: Integrating strong educational programs to boost patient self-management and adherence.
- Evaluation and Assessment: Including mechanisms for evaluating both clinical and economic outcomes to ensure cost-effective care.
- Integrated Care Approach: Promoting collaborative practices among healthcare providers to enhance disease management efficiency.

https://www.sciencedirect.com/science/article/abs/pii/S1551741119305534?via%3Dihub

Cancer
An International Interdisciplinary Journal of the American Cancer Society



Cancer Screening and the Periodic Health Examination (Taiwan)

The Keelung Community-based Integrated Screening (KCIS) program is a pioneering public health initiative conducted in Keelung, Taiwan. It focuses on the simultaneous screening for multiple chronic diseases and cancers, integrating this service into a community setting to maximise outreach and efficiency.

Key Components of the Care Delivery Model Included:

- Integrated Screening: Screening for multiple conditions, including colorectal, liver, and oral cancers, along with diabetes, hypertension, and hyperlipidemia, in a single visit.
- Community Outreach: Utilises local health centers and community workers to facilitate access and increase screening uptake among the population.
- Location Flexibility: Mobile units were deployed to various community locations where access to traditional healthcare facilities might be limited.

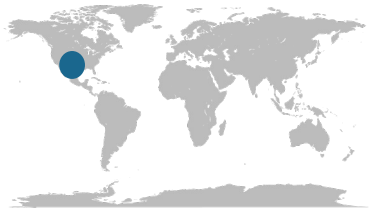
Implications for the Latrobe Valley:

- Model for Others: The KCIS program serves as a model for other regions looking to implement cost-effective, comprehensive screening programs within community settings.
- Efficiency and Effectiveness: Demonstrates how integrating various screenings can lead to improved health outcomes through early detection while being cost-effective.
- Community Engagement: The program's success highlights the importance of community engagement and participation in achieving public health goals.

https://acsjournals.onlinelibrary.wiley.com/doi/epdf/10.1002/cncr.20170

3.7 Current State: Local & Global Scan Case Studies

Exploring global case studies: transforming healthcare with innovative community-based chronic condition detection models

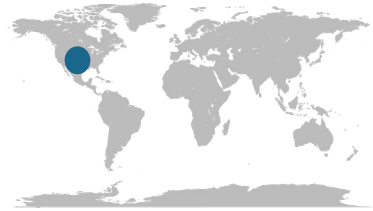


Fairview Health Services - Diabetes and Heart Disease Detection (United States)

Overview: Fairview Health Services in Minneapolis developed an mHealth tool aimed at early detection of diabetes and heart condition. This initiative was part of a broader effort to improve healthcare accessibility and efficiency, particularly for chronic conditions that often go undetected until advanced stages.

Approach: The tool, created in collaboration with Zipnosis, involved an online adaptive questionnaire that was accessible via iOS and Android devices. It was designed to assess an individual's risk for diabetes or heart disease, offering immediate referrals for further diagnostic testing if needed. Initially, the program targeted Fairview's employees, but has since expanded to all patients and the wider Minnesota population.

Impact: This mHealth solution was particularly beneficial for underserved communities, providing early detection and intervention opportunities. It represented a significant step towards integrating digital health solutions into standard healthcare practices, aiming to improve outcomes and reduce healthcare costs.



New Mexico Community Health Outreach (United States)

Overview: Led by Dr. Arthur Kaufman of the University of New Mexico Health Sciences Centre, this initiative enhances healthcare access in underserved New Mexico areas, focusing on early detection and management of chronic conditions.

Approach: Community Health Workers (CHWs) are deployed in various healthcare settings, including emergency departments and clinics. They are responsible for identifying individuals with high-risk factors for chronic conditions, providing them with guidance and support, and connecting them to appropriate medical and social services. Additionally, the program includes the Pathways initiative in Bernalillo County, which specifically targets at-risk populations, offering them tailored support in navigating healthcare systems and addressing social determinants of health that contribute to chronic conditions.

Impact: The program has reduced unnecessary hospital visits and improved chronic condition management. It demonstrates that tailored community health initiatives can effectively identify and address chronic health issues early, particularly in vulnerable populations.

3.8 Current State: Local & Global Scan Findings

Synthesis of key learnings from scan encapsulates strategic program design directions, including service integration, and culturally informed practices, ensuring accessible and effective health interventions in the Latrobe Valley

Design Evaluation for Program

1. Integration with Existing Healthcare Services
Consideration: Coordinate with Primary Health Networks to map existing services and identify gaps where the initiative can add value.

2. Community Engagement and Trust
Consideration: Engage with community leaders, organisations, and residents early in the planning process to tailor the program to local needs and preferences, enhancing participation and effectiveness.

3. Aboriginal and Torres Strait Islander Communities
Consideration: Involve Indigenous communities from the outset, using culturally appropriate engagement strategies and incorporating Indigenous health workers.

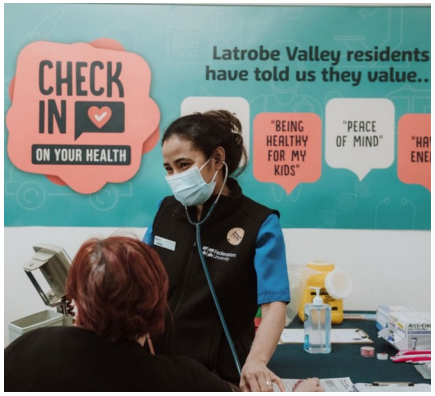
4. Sustainability and Funding
Consideration: Seek sustainable funding models and partnerships with local stakeholders, including healthcare organisations, businesses, and government agencies, to support the program's long-term viability.

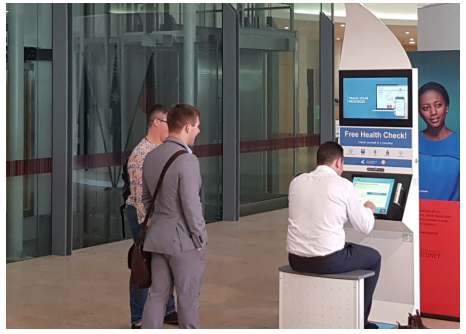
5. Rural and Remote Areas
Consideration: Deploy mobile health services and telehealth, and train local community members to provide basic screenings and health education.

6. Socioeconomic Factors
Consideration: Design interventions that are accessible to people with lower socioeconomic status, potentially by offering services in community centres, schools, and workplaces.

7. Technology and Innovation
Consideration: Utilise e-health records and digital tools for data management, remote consultations, and patient engagement, ensuring compatibility with national systems like My Health Record.

8. Adaptability and Scalability
Consideration: Design the program with flexibility in mind, allowing for adjustments based on ongoing feedback and changing community health needs.





3.12 Current State: Conclusion

Synthesis of regional health data, service and infrastructure gaps, and a scan of local and global initiatives, framing the priority evaluation criteria for the Latrobe Valley's early detection model to contextually address chronic conditions

Regional Data Analysis

Thorough demographic analysis to capture health and behavioral data relevant to initiative design. Identification of key health trends and immediate areas to address in service provision in the Latrobe Valley.

Design Evaluation:

1. Focus on High-Impact Chronic conditions
2. Address Preventable Hospitalisations and Death Disparities
3. Target Vulnerable Populations
4. Consider the Role of Mental Health:
5. Incorporate Socio-Economic Context in Intervention Strategies
6. Consider Behavioral Health Risks

Map Infrastructure & Service Gaps

Evaluation of existing health initiatives within the region, identifying gaps in service provision and opportunities for enhancing chronic condition management and prevention strategies.

Design Evaluation:

1. Service Location Accessibility
2. Physical Accessibility Features:
3. Cultural Competence
4. Technological and Non-Technological Access
5. Integration with Existing Services.
6. Community Partnerships
7. Service Adaptability

Local & Global Scan

Analysis of successful chronic condition detection and intervention models from both within and outside the region, assessing their relevance and adaptability to the Latrobe Valley.

Design Evaluation:

1. Integration with Existing Healthcare Services
2. Aboriginal and Torres Strait Islander Communities
3. Rural and Remote Areas
4. Socioeconomic Factors
5. Community Engagement and Trust
6. Technology and Innovation
7. Sustainability and Funding
8. Adaptability and Scalability

The Design Evaluations have been developed into the following 10 Priority Evaluation Criteria. These criteria will serve as the foundational guidelines used to shape and refine the models of care for the next phase of the project

Priority Evaluation Criteria

1. Focus on High-Impact Chronic conditions	2. Integration with Existing Healthcare Services	3. Cultural and Diversity Competence	4. Service Location Accessibility	5. Socioeconomic Factors
6. Community Engagement and Trust	7. Effective Communications Plan	8. Sustainability and Funding	9. Monitoring and Evaluation	10. Adaptability and Scalability

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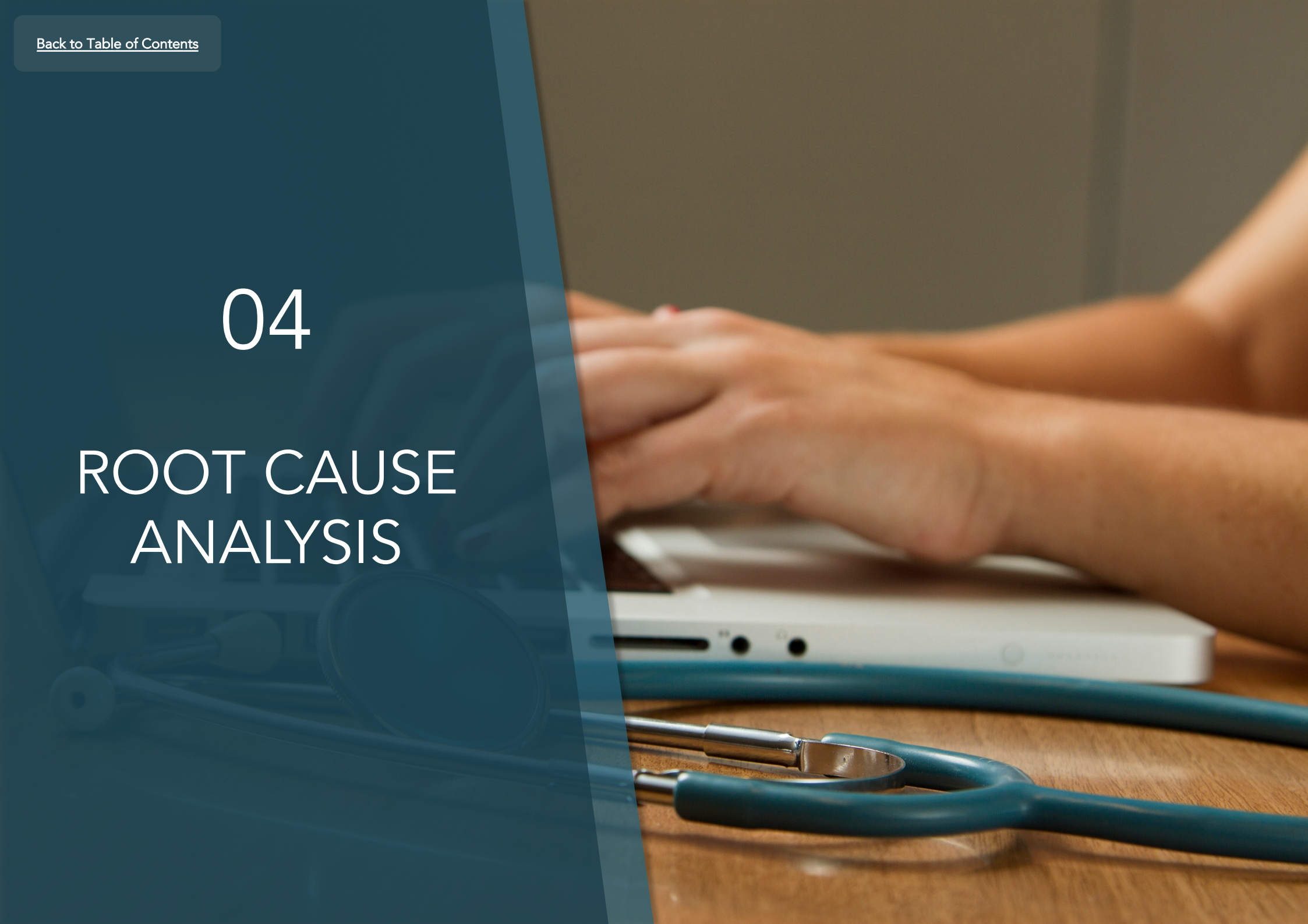
04

ROOT CAUSE ANALYSIS



4.1 Root Cause Analysis: Methodology

The root cause analysis, based on findings from current state analysis and stakeholder engagements, provides a detailed examination of the causes of underutilisation of healthcare services in the Latrobe Valley, forming a basis for effectively targeting and addressing these issues

Root Cause Analysis Overview

The purpose of this **root cause analysis (RCA)** is to identify and understand the underlying reasons why individuals in the Latrobe Valley are not getting health checks or getting subsequent treatment after an initial check.

The results of the RCA provides an understanding on the major barriers and challenges leading to under-utilisation of health services. From this, NMC developed **guiding criteria for the development of a pilot model** to ensure these major barriers and challenges are effectively addressed.

Defining the Problem(s):

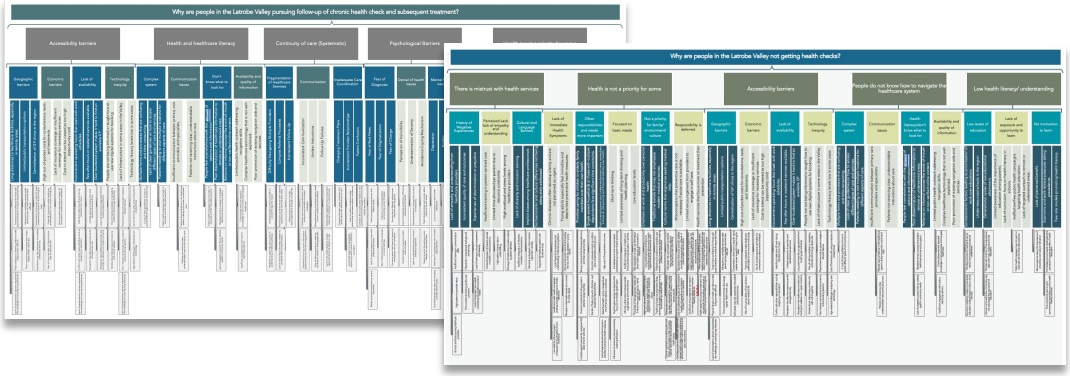
The problem at hand is: "Why are people in the Latrobe Valley not getting health checks?" and, "Why are people who are getting checks not getting subsequent treatment?" These initial questions have been broken down into key categories that contribute to the problem.

The key categories identified include:

- Psychological barriers
- Systemic/structural barriers
- Communication challenges
- Socioeconomic challenges
- Accessibility barriers
- Low health literacy
- Health is not a priority

Methodology

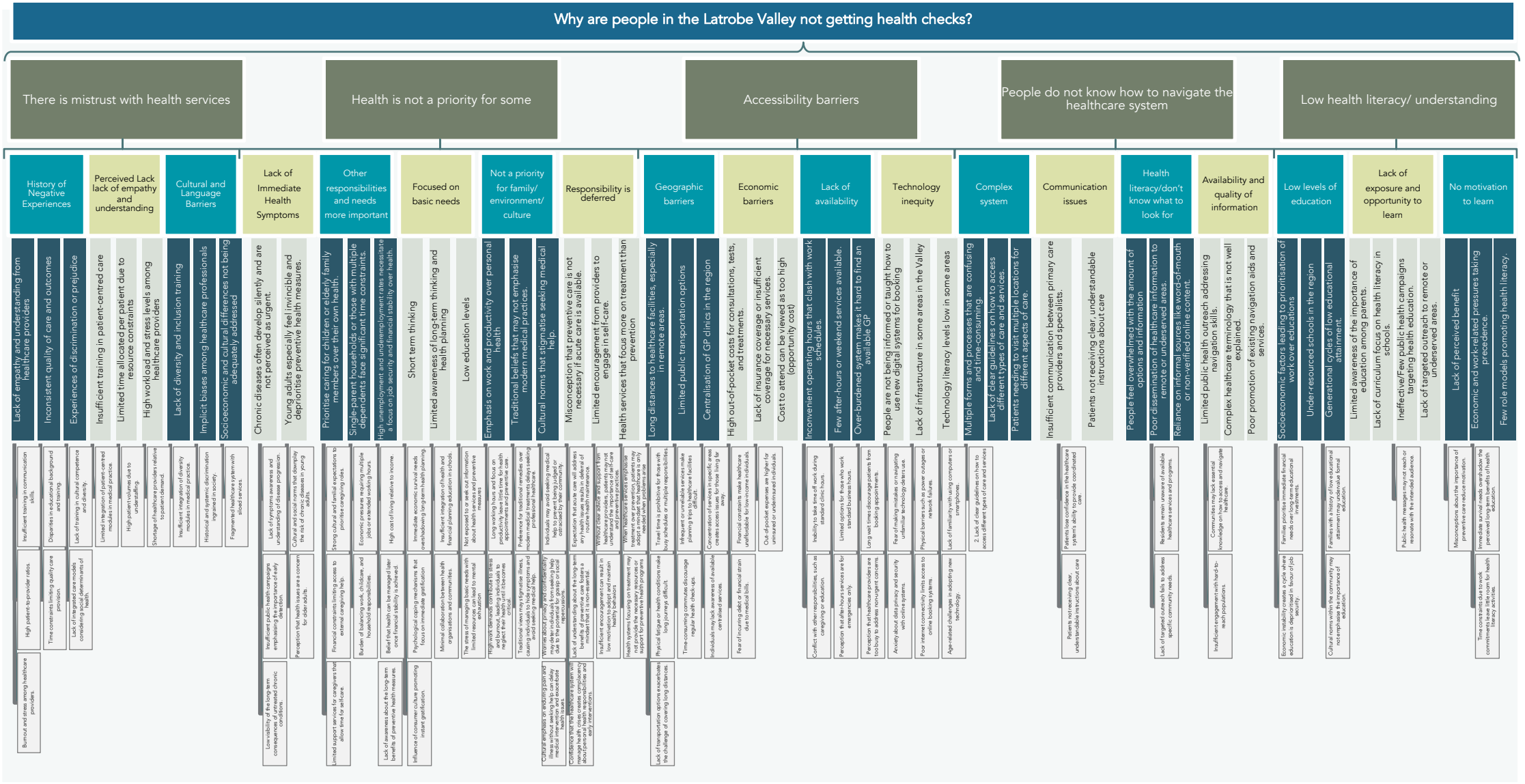
Current State	Current state analysis was performed to understand existing health behaviours and identify service gaps in the Latrobe Valley.
Consultations	40+ consultations were conducted with local healthcare providers, community members, and stakeholders to gather firsthand insights and experiences.
Workshops	Workshops were facilitated with community members and experts to validate findings and collaboratively co-design solutions.
Results	Findings from RCA detail the major barriers and challenges behind under-utilisation of healthcare services in the Latrobe Valley – Findings were developed into model design guidelines.



Visual representation of root cause analysis using the 5 why's methodology

4.2 Root Cause Analysis: Barriers to Health Engagement in the Latrobe Valley

RCA on why people in the Latrobe Valley are not getting health checks, identifying key barriers such as mistrust in healthcare services, health not being a priority, accessibility issues, navigation challenges, and low health literacy



4.2.1 Root Cause Analysis: Mistrust As A Barrier to Health Engagement

The first major area of analysis in the RCA is mistrust in healthcare services, showing that negative experiences, perceived lack of empathy, and cultural barriers impact health service utilisation

There is mistrust with health services due to..		
History of Negative Experiences	Lack of empathy and understanding from healthcare providers	• Insufficient training in communication skills. • High patient-to-provider ratios. • Burnout and stress among healthcare providers.
	Inconsistent quality of care and outcomes	• Disparities in educational background and training. • Time constraints limiting quality care provision.
	Experiences of discrimination or prejudice	• Lack of training in cultural competence and diversity. • Lack of integrated care models considering social determinants of health.
Perceived Lack of empathy and understanding	Insufficient training in patient-centered care	• Providers prioritise efficiency over empathetic interactions. • Patients feel judged based on their socioeconomic status.
	Limited time allocated per patient due to resource constraints	• Time provided by health services is viewed as insufficient for peoples needs, leading to them 'giving up' on seeing a GP for their health
	High workload and stress levels among healthcare providers	• Shortage of healthcare providers relative to patient demand. • Patients sense the providers' stress and rushed interaction, feeling less comfortable and less likely to return.
Cultural and Language Barriers	Lack of diversity and inclusion training	• Insufficient integration of diversity modules in medical practice.
	Implicit biases among healthcare professionals	• Historical and systemic discrimination ingrained in society.
	Socioeconomic and cultural differences not being adequately addressed	• Under-representation and lack of advocacy for cultural and minority groups in healthcare system

4.2.2 Root Cause Analysis: Prioritisation Barriers

The second major area of analysis in the RCA is health not being a priority, revealing that immediate health symptoms, other responsibilities, and cultural norms often take precedence over preventive health measures in the Latrobe Valley

Health is not a priority for some because:		
Lack of immediate health symptoms	Chronic diseases often develop silently and are not perceived as urgent.	• Lack of symptoms awareness and understanding of disease progression. • Insufficient public health campaigns emphasising the importance of early detection. • Low visibility of the long-term consequences of untreated chronic conditions.
	Young adults especially feel invincible and deprioritise preventive health measures.	• Cultural and social norms that downplay the risk of chronic diseases in young adults. • Perception that health issues are a concern for older adults.
Other responsibilities and needs are viewed as more important	Prioritise caring for children or elderly family members over their own health.	• Strong cultural and familial expectations to prioritise caregiving roles. • Financial constraints limiting access to external caregiving help. • Limited support services for caregivers that allow time for self-care.
	Single-parent households or those with multiple dependents face significant time constraints.	• Economic pressures requiring multiple jobs or extended working hours. • Burden of balancing work, childcare, and household responsibilities.
	High unemployment and underemployment rates necessitate a focus on job security and financial stability over health.	• High cost of living relative to income. • Belief that health can be managed later once financial stability is achieved. • Lack of awareness about the long-term benefits of preventive health measures.
They are focused on basic, immediate needs	Short term thinking	• Immediate economic survival needs overshadowing long-term health planning. • Psychological coping mechanisms that focus on immediate gratification • Influence of consumer culture promoting instant gratification.
	Limited awareness of long-term thinking and health planning	• Insufficient integration of health and financial planning education in schools. • Minimal collaboration between health organisations and communities.
	Low education levels	• Not exposed to or seek out information about health services and preventive measures • The stress of managing basic needs with limited resources can lead to mental exhaustion

4.2.2 Root Cause Analysis: Prioritisation Barriers (cont.)

The second major area of analysis in the RCA is health not being a priority, revealing that immediate health symptoms, other responsibilities, and cultural norms often take precedence over preventive health measures in the Latrobe Valley

Health is not a priority for some, because:		
Health is not prioritised in their family/environment	Emphasis on work and productivity over personal health	• Long working hours and focus on productivity leave little time for health appointments and preventive care. • High work demands contribute to stress and burnout, leading individuals to neglect their health until it becomes critical.
	Traditional beliefs that may not emphasise modern medical practices.	• Preference for traditional remedies over modern medical treatments delays seeking professional healthcare. • Traditional views may stigmatise illness, causing individuals to hide symptoms and avoid seeking medical help.
	Cultural norms that stigmatise seeking medical help.	• Individuals may avoid seeking medical help to prevent being judged or ostracised • Worries about privacy and confidentiality may deter individuals from seeking help • Cultural emphasis on enduring pain and illness without seeking help
The responsibility of health is deferred to others	Misconception that preventive care is not necessary if acute care is available.	• Expectation that acute care will address any health issues results in deferral of routine health maintenance. • Lack of understanding about the long-term benefits of preventive care fosters a mindset that it is non-essential. • Confidence that the healthcare system will manage health crises creates complacency about personal health responsibilities and early interventions.
	Limited encouragement from providers to engage in self-care.	• Without clear advice and support from healthcare providers, patients may not understand the importance of self-care and preventive practices. • Insufficient encouragement can result in low motivation to adopt and maintain healthy behaviors
	Health services that focus more on treatment than prevention	• When healthcare services emphasise treatment over prevention, patients may adopt a mindset that healthcare is only needed when problems arise • Health systems focusing on treatment may not provide the necessary resources or support for preventive health programs

4.2.3 Root Cause Analysis: Accessibility Barriers

The third major area of analysis in the RCA focuses on accessibility barriers, highlighting geographic, economic, availability, and technological challenges that hinder access to healthcare services in the Latrobe Valley

Accessibility barriers prevent people from getting health checks, because:		
Geographic barriers	Long distances to healthcare facilities, especially in remote areas.	• Physical fatigue or health conditions make long journeys difficult. • Lack of time and availability of transport makes accessing services difficult
	Limited public transportation options	• Infrequent or unreliable services make planning trips to healthcare facilities difficult. • Time-consuming commutes discourage regular health check-ups.
	Centralisation of GP clinics in the region	• Concentration of services in specific areas creates access issues for those living far away.
Economic Barriers	High out-of-pocket costs for consultations, tests, and treatments.	• Financial constraints make healthcare unaffordable for low-income individuals. • Fear of incurring debt or financial strain due to medical bills.
	Lack of insurance coverage or insufficient coverage for necessary services.	• Out-of-pocket expenses are higher for uninsured or underinsured individuals.
	Cost to attend can be viewed as too high	• Low-income earners may view the cost of attending as a detractor from another important need such as food for their family or rent • Opportunity cost may be viewed as too high, if needing to take time off from work
Lack of availability	Inconvenient operating hours that clash with work schedules.	• Inability to take time off work during standard clinic hours. • Conflict with other responsibilities, such as caregiving or education.
	Few after-hours or weekend services available.	• Limited options for those who work standard business hours. • Perception that after-hours services are for emergencies only.
	Over-burdened system makes it hard to find an available GP	• Long wait times discourage patients from booking appointments. • Perception that healthcare providers are too busy to address non-urgent concerns.
Technology inequity	People are not being informed or taught how to use new digital systems for booking	• Fear of making mistakes or navigating unfamiliar technology deters use. • Anxiety about data privacy and security with online systems.
	Lack of infrastructure in some areas in the Valley	• Physical barriers such as power outages or network failures. • Poor internet connectivity limits access to online booking systems.
	Technology literacy levels low in some areas	• Lack of familiarity with using computers or smartphones. • Age-related challenges in adopting new technology.

4.2.4 Root Cause Analysis: Navigation And Systemic Barriers

The fourth major area of analysis in the RCA examines difficulties in navigating the healthcare system, indicating that complexity, communication issues, and low health literacy prevent effective use of healthcare services in the Latrobe Valley

People do not know how to navigate the healthcare system, because:		
The complexity of the healthcare system	Multiple forms and processes that are confusing and time-consuming.	• Creates anxiety and stress in high-stress, lower socioeconomic communities, leading to avoidance coping mechanism
	Lack of clear guidelines on how to access different types of care and services.	• Infrequent or unreliable services make planning trips to healthcare facilities difficult. • Lack of clarity creates under-utilisation of services because there is high opportunity cost or perceived opportunity cost
	Patients needing to visit multiple locations for different aspects of care.	• People who are time poor will forgo medical treatment if care if perceived as too difficult
Communication issues with health service and community	Insufficient communication between primary care providers and specialists.	• Patients lose confidence in the healthcare system's ability to provide coordinated care. • Patients not receiving clear, understandable instructions about care
	Patients not receiving clear, understandable instructions about care	• Lack of clarity creates uncertainty around options and how to access appropriate services, leading to avoidance in future
People do not know what to look for/healthcare literacy	People feel overwhelmed with the amount of options and information	• Overwhelm leads to avoidance behaviour as a coping mechanism, especially in already stressed individuals
	Poor dissemination of healthcare information to remote or underserved areas.	• Residents remain unaware of available healthcare services and programs and therefore do not utilise them.
	Reliance on informal sources like word-of-mouth or non-verified online content.	• Can lead to incorrect information or biased information, resulting in improper use of services or use of alternative services.
The availability and quality of information	Limited public health outreach addressing navigation skills.	• Communities may lack essential knowledge on how to access and navigate healthcare. • Insufficient engagement with hard-to-reach populations leading to inequity in access.
	Complex healthcare terminology that is not well explained.	• Information on healthcare services often utilises technical language, making it difficult for those from low education and English literate backgrounds to understand
	Poor promotion of existing navigation aids and services.	• Promotion of services in the region not unified and therefore segmented and difficult to access for some in the community

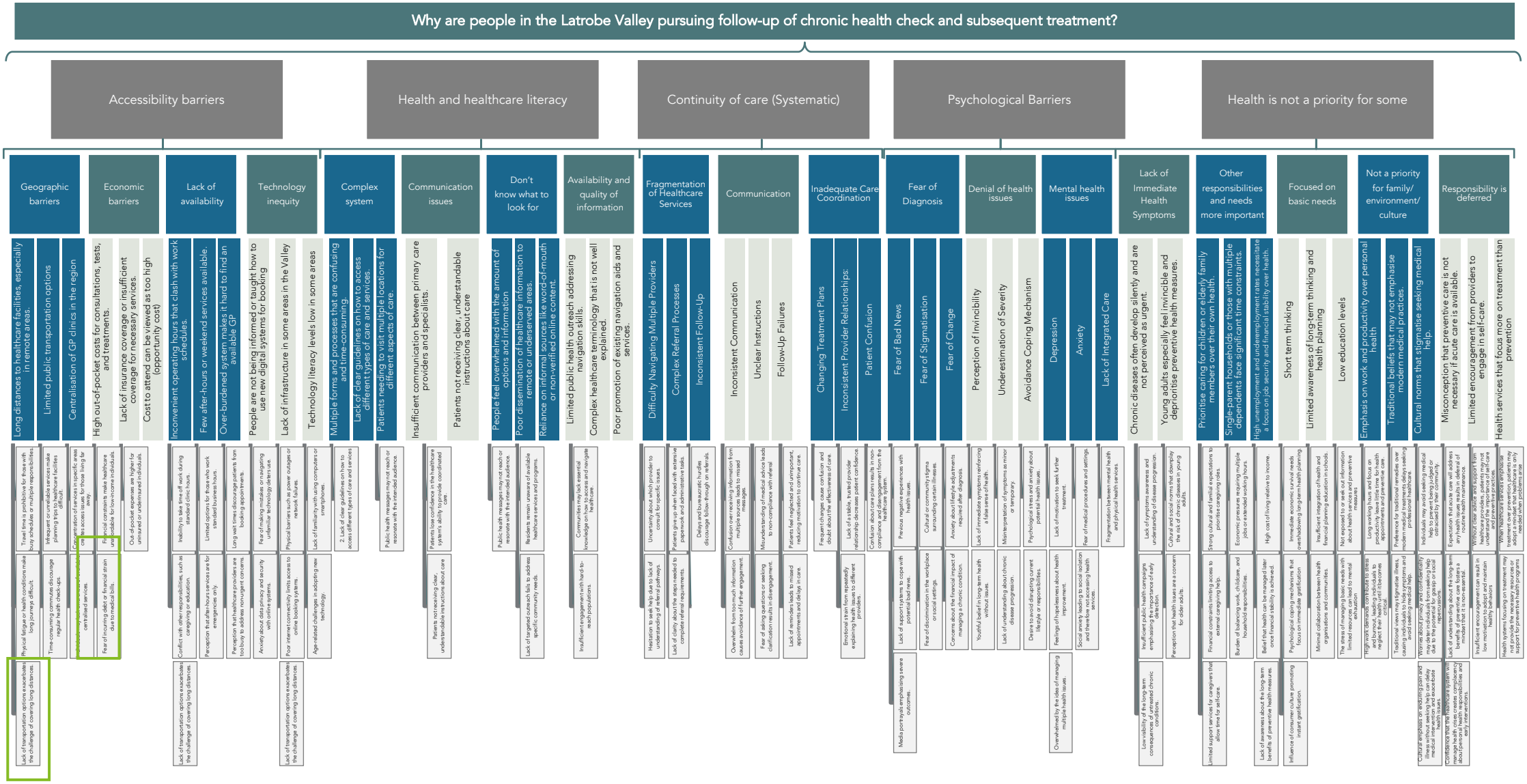
4.2.5 Root Cause Analysis: Health Literacy Barriers

The fifth major area of analysis in the RCA addresses low health literacy and understanding, pointing out that education levels, lack of exposure, and motivation to learn impede individuals' ability to engage with healthcare services in the Latrobe Valley.

Low health literacy prevents engagement in health services, because:		
Low levels of education	Families prioritise immediate financial needs over long-term educational investments.	• Families prioritise immediate financial needs over long-term educational investments. • Economic instability creates a cycle where education is deprioritised in favour of job security.
	Under-resourced schools in the region	• Unable to implement effective health literacy training or develop curriculum
	Generational cycles of low educational attainment.	• Families with a history of low educational attainment may undervalue formal education. • Cultural norms within the community may not emphasise the importance of education.
Lack of exposure in environment/ opportunity to learn	Limited awareness of the importance of education among parents.	• No focus on health at home, or poor health behaviours which are taught or observationally learnt by children
	Lack of curriculum focus on health literacy in schools.	• Poor education outcomes and little focus on health literacy
	Ineffective/Few public health campaigns targeting health education.	• Public health messages may not reach or resonate with the intended audience.
	Lack of targeted outreach to remote or underserved areas.	• High cost of living relative to income. • Belief that health can be managed later once financial stability is achieved. • Lack of awareness about the long-term benefits of preventive health measures.
No motivation or interest in learning about health	Lack of perceived benefit	• Misconceptions about the importance of preventive care reduces motivation to learn.
	Economic and work-related pressures taking precedence.	• Immediate survival needs overshadow the perceived long-term benefits of health education. • Time constraints due to work commitments leave little room for health literacy activities.
	Few role models promoting health literacy.	• Not exposed to role models who prioritise health literacy, leading to development of non-health focused behaviours or avoidance of health topics due to perceived irrelevance

4.3 Root Cause Analysis: Barriers to Follow-Up And Treatment

Root cause analysis revealing the reasons why people in Latrobe are not following up after health checks, enabling NMC and LHA to design a model that effectively addresses these fundamental issues, ensuring better health engagement and outcomes for the community



4.3.1 Root Cause Analysis: Continuity Of Care As a Barrier For Treatment

Root cause analysis revealing the reasons why people in Latrobe are not accessing health services, enabling NMC and LHA to design a model that effectively addresses these fundamental issues, ensuring better health engagement and outcomes for the community

Continuity of care prevents follow-up/treatment, because:		
Fragmentation of Healthcare Services	Difficulty Navigating Multiple Providers	• Uncertainty about which provider to consult for specific issues. • Hesitation to seek help due to lack of understanding of referral pathways.
	Complex Referral Processes	• Patients give up when faced with extensive paperwork and administrative tasks. • Lack of clarity about the steps needed to complete referral requirements.
	Inconsistent Follow-Up	• Delays and bureaucratic hurdles discourage follow-through on referrals.
Inconsistent Communication	Inconsistent Communication	• Confusion over receiving information from multiple sources leads to missed messages. • Overwhelm from too much information causes avoidance of further engagement.
	Unclear Instructions	• Misunderstanding of medical advice leads to non-compliance with referral • Fear of asking questions or seeking clarification results in disengagement.
	Follow-Up Failures	• Patients feel neglected and unimportant, reducing motivation to continue care. • Lack of reminders leads to missed appointments and delays in care.
Inadequate Care Coordination	Changing Treatment Plans	• Frequent changes cause confusion and doubt about the effectiveness of care.
	Inconsistent Provider Relationships:	• Lack of a stable, trusted provider relationship decreases patient confidence. • Emotional strain from repeatedly explaining health issues to different providers.
	Patient Confusion	• Confusion about care plans results in non-compliance and disengagement from the healthcare system.

4.3.2 Root Cause Analysis: Psychological Barriers For Treatment

Root cause analysis revealing the reasons why people in Latrobe are not accessing health services, enabling NMC and LHA to design a model that effectively addresses these fundamental issues, ensuring better health engagement and outcomes for the community

Psychological barriers prevents follow-up/treatment, because:		
Fear of Diagnosis	Fear of Bad News	• Previous negative experiences with health issues. • Lack of support systems to cope with potential bad news. • Media portrayals emphasising severe outcomes.
	Fear of Stigmatisation	• Cultural or community stigma surrounding certain illnesses. • Fear of discrimination in the workplace or social settings.
	Fear of Change	• Anxiety about lifestyle adjustments required after diagnosis. • Concerns about the financial impact of managing a chronic condition.
Denial of Health Issues	Perception of Immunity to Chronic Conditions	• Lack of immediate symptoms reinforcing a false sense of health. • Youthful belief in long-term health without issues.
	Underestimation of Severity	• Misinterpretation of symptoms as minor or temporary. • Lack of understanding about chronic disease progression.
	Avoidance Coping Mechanism	• Psychological stress and anxiety about potential health issues. • Desire to avoid disrupting current lifestyle or responsibilities.
Mental Health Barriers	Depression	• Lack of motivation to seek further treatment. • Feelings of hopelessness about health improvement. • Overwhelmed by the idea of managing multiple health issues.
	Anxiety	• Fear of medical procedures and settings. • Social anxiety leading to social isolation and therefore not accessing health services.
	Cognitive Overload	• Difficulty processing complex health information. • Inability to prioritise health amidst other life stressors.

4.4 Root Cause Analysis: Summary And Mitigation Criteria

The Root Cause Analysis for the Latrobe Valley summarised into 5 categories of broad causes of under-utilisation of health services, which will guide model design in subsequent sections

Psychological Barriers

Psychological barriers prevent people from seeking health checks and follow-up treatments due to fear of diagnosis, stigmatisation, denial of health issues, and mental health challenges.

Mitigation Strategies

1. Welcoming Environment: Design units to be inviting and non-threatening.
2. Anonymous Screenings: Offer anonymous or semi-anonymous options.
3. Educational Materials: Distribute materials addressing fears and benefits of early detection.
4. Peer Testimonials: Share success stories from the community.

Systemic and Structural Barriers

Systemic and structural barriers prevent effective healthcare engagement due to the complexity of the healthcare system, communication issues, and fragmented services.

Mitigation Strategies

1. Simplified Process: Use minimal paperwork and clear steps.
2. Clear Signage: Provide multilingual instructions and signage.
3. Integrated Health Records: Ensure results are accessible to other healthcare providers.
4. On-Site Coordination: Have coordinators to assist with navigation and follow-up.
5. Relevant Services: Offer multiple services in one model.

Socioeconomic and Cultural Barriers

Socioeconomic and cultural barriers prevent individuals from prioritising their health due to financial constraints, cultural norms, and other responsibilities.

Mitigation Strategies

1. Free or Low-Cost Services: Offer free health checks.
2. Flexible Hours and Locations: Schedule checks at convenient times and places.
3. Cultural Sensitivity: Utilise community leaders, organisations for promotion and engagement
4. Community Partnerships: Partner with trusted organisations and leaders.
5. Incentives: Provide small incentives to encourage participation.

Accessibility Barriers

Accessibility barriers hinder access to healthcare services due to geographic challenges, limited service availability, and technology inequities.

Mitigation Strategies

1. Make Access Easy: Bring services directly to underserved areas.
2. Local Events: Schedule checks at community gatherings.
3. Co-Location: Co-Locate the health check model with existing services that target demographic access.
4. Digital Access Points: Provide help with booking and health information.
5. Telehealth Integration: Offer telehealth follow-ups.

Health Literacy and Education Barriers

Low health literacy and education levels prevent individuals from understanding and engaging with healthcare services.

Mitigation Strategies

1. Health Education Workshops: Conduct on-site workshops or education sessions in community.
2. Simple Language: Use clear, jargon-free communication.
3. Visual Aids: Utilise infographics and visual explanations.
4. Educational Materials: Develop clear and relevant educational materials to distribute with the check.
5. Follow-Up Communication: Develop a plan with reminders and educational materials.

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05

DEFINE OPTIONS

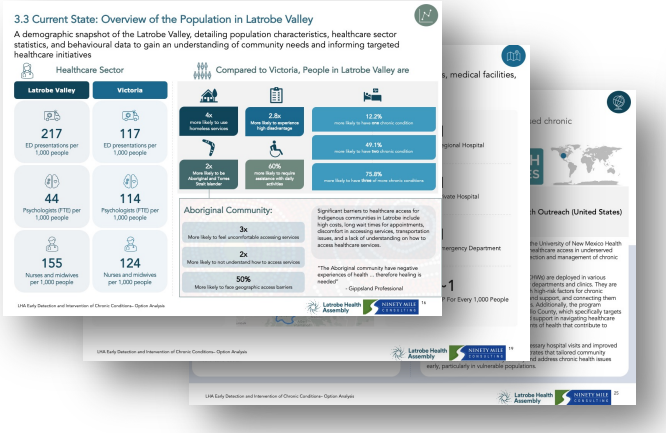
5. Define Options: Long List of Options Development Methodology

Based on the Latrobe Valley's internal and external environment, the following methodology was employed to develop the initial long list of seven options to be presented in co-design workshops

Long List Development Methodology

RESULTS

Data	Capture, model and analyse both quantitative and qualitative data to extract valuable insights that support program selection
Consultations	Engage with key stakeholders to identify current state, emerging challenges, and relevant models related to early detection of chronic conditions in the Latrobe Valley
Observations	Take findings from current state analysis and stakeholder consultations to prioritise and develop a long list of options that are relevant to the Latrobe Valley
Findings	**A long list of options for the Latrobe Valley, provided in moderate detail and mapped against the evaluation criteria from previous sections, for further analysis and co-design**

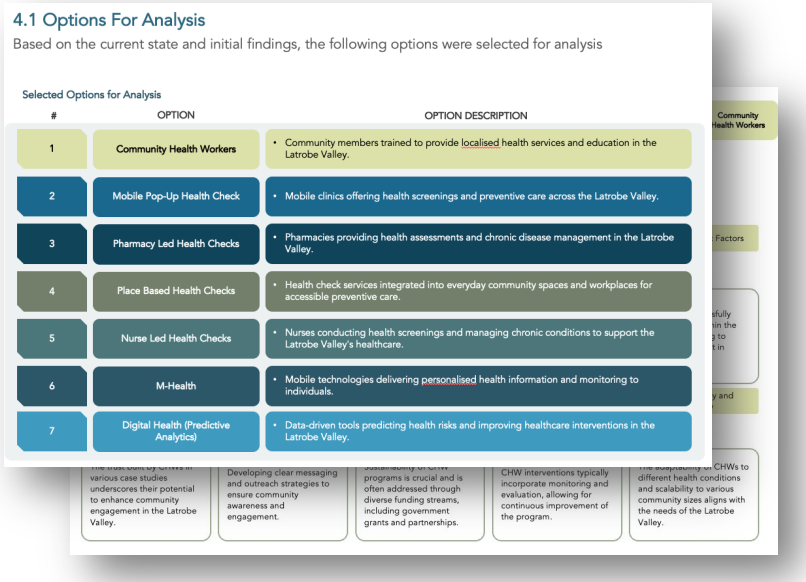


Long List of Options

Drawing from extensive research, consultations, and analysis, nine initial options were defined, tailored to the healthcare context of the Latrobe Valley.

Each option was outlined and assessed using the ten major evaluation criteria. After the scheduled co-design workshops, these options were then refined into a short list of four options, detailed in more depth in subsequent sections of the report.

NMC then developed a feasibility study, addressing financial specifics, risk, sustainability, evaluations, timelines, and other key aspects.



4.1 Options For Analysis

Based on the current state and initial findings, the following options were selected for analysis

Selected Options for Analysis

#	OPTION	OPTION DESCRIPTION
1	Community Health Workers	• Community members trained to provide localised health services and education in the Latrobe Valley.
2	Mobile Pop-Up Health Check	• Mobile clinics offering health screenings and preventive care across the Latrobe Valley.
3	Pharmacy Led Health Checks	• Pharmacies providing health assessments and chronic disease management in the Latrobe Valley.
4	Place Based Health Checks	• Health check services integrated into everyday community spaces and workplaces for accessible preventive care.
5	Nurse Led Health Checks	• Nurses conducting health screenings and managing chronic conditions to support the Latrobe Valley's healthcare.
6	M-Health	• Mobile technologies delivering personalised health information and monitoring to individuals.
7	Digital Health (Predictive Analytics)	• Data-driven tools predicting health risks and improving healthcare interventions in the Latrobe Valley.

5.1 Define Options: Priority Evaluation Lenses For Program Design

Select criteria was carefully chosen to ensure that health interventions are well-aligned with the Latrobe Valley's needs, offering a clear framework for ensuring contextual relevance and systems-based program design

Program Design: Priority Evaluation Lenses

The insights gained from the regional data analysis, infrastructure and service gap mapping, and the extensive local and global scan have provided a platform from which to move forward. Through the Options Analysis phase, there was an assessment of various intervention strategies against the ten priority evaluation criteria to determine their potential effectiveness in the Latrobe Valley. This next phase was built upon the foundational research, aligning the understanding of the community's needs with actionable and sustainable health solutions analysed through consultations and research. This section aims to not only identify but also prioritise interventions that can be successfully piloted against the priority evaluation criteria, laying the groundwork for contextually driven health improvements in the Latrobe Valley.

1. Focus on High-Impact Chronic conditions

Prioritise conditions with the highest prevalence and burden to ensure the model addresses the most pressing health needs.

2. Integration with Existing Healthcare Services

The model must complement and enhance current health services without duplicating efforts.

3. Cultural and Diversity Competence

Ensure the model is effective for Indigenous populations, reflecting their specific health profiles and cultural contexts.

4. Service Location Accessibility

Address accessibility challenges in rural and remote locations to deliver equitable health services.

5. Socioeconomic Factors

Incorporate strategies to mitigate health disparities caused by economic inequalities.

6. Community Engagement and Trust

Develop and maintain trust within the community for successful program implementation and uptake.

7. Effective Communications Plan

Developing clear messaging and outreach strategies to ensure community awareness and engagement.

8. Sustainability and Funding

Securing consistent and reliable financial resources for ongoing program operations.

9. Monitoring and Evaluation

Implement robust monitoring and evaluation mechanisms to track effectiveness and inform continuous improvement.

10. Adaptability and Scalability

Design the model to be flexible and scalable, allowing it to adapt to changing health needs and expand as necessary.

5.2 Define Options: Long-List of Options For Analysis

Based on the initial findings, the following nine options were identified as most relevant and selected for further analysis and co-design

Selected Options for Analysis

#	OPTION	OPTION DESCRIPTION
1	Community Health Workers	• Community members trained to provide localised health services and education in the Latrobe Valley.
2	Place-Based Pop-Up Health Check	• Stationary pop-up clinics offering health screenings and preventive care across the Latrobe Valley.
3	Pharmacy Led Health Checks	• Pharmacies providing health assessments and chronic condition management in the Latrobe Valley.
4	Workplace Health Checks	• Health check services integrated into everyday community spaces and workplaces for accessible preventive care.
5	Nurse Led Health Checks	• Nurses conducting health screenings and managing chronic conditions to support the Latrobe Valley's healthcare.
6	M-Health	• Mobile technologies delivering personalised health information and monitoring to individuals.
7	Digital Health (Predictive Analytics)	• Data-driven tools predicting health risks and improving healthcare interventions in the Latrobe Valley.
8	Machine-Enabled Health Checks	• Health check machine that enable self-administered or assisted health checks at various locations.
9	Mobile (Pop-Up) Health Checks	• Mobile health units in the form or a bus or van, shared between services which travels to communities, places, and events.

5.2.1 Define Options: Option 1 – Community Health Workers

Community Health Workers

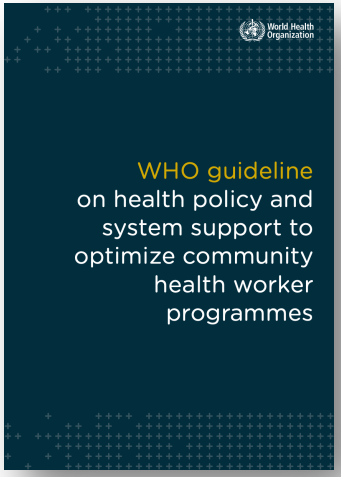
Community Health Workers in the Latrobe Valley serve as a crucial link between the healthcare system and the community, enhancing access to services through culturally sensitive practices

Solution Overview

- In the Latrobe Valley, the CHW program would involve a structured recruitment process to select community members, preferably with a healthcare background, who are well-respected and trusted within their local areas.
- CHW's would undergo specialised training to address common health issues prevalent in the Valley, particularly focusing on chronic conditions like diabetes and heart condition. CHWs would operate in local clinics, attend home visits, and participate in community events to provide health education, basic care, and support for managing long-term health conditions.
- CHW's would also act as a liaison between patients and healthcare providers, assisting with navigation through the healthcare system and follow-up appointments.

Drivers for this option

- The region's existing health disparities and high prevalence of chronic conditions.
- Geographic challenges that limit access to healthcare facilities.
- Cultural nuances of the Latrobe Valley, including a significant Aboriginal population.
- Economic constraints that may prevent optimal utilisation of traditional healthcare resources.



Key Considerations:

- CHWs should be trained to identify and manage conditions that are prevalent in the Latrobe Valley, like diabetes, cardiovascular conditions, and respiratory conditions.
- Empower CHWs with the tools and knowledge to deliver preventive care and early intervention, potentially reducing hospital readmissions and improving mortality rates
- CHWs would play a vital role in reaching out to groups that are often underserved by traditional healthcare models, including Aboriginal and Torres Strait Islander communities and those in remote areas.
- Integrate mental health support within the CHW services to provide a holistic approach to health.
- Equip CHWs with resources to address socio-economic factors that affect health outcomes.
- Training should also focus on behavioral risks like smoking, diet, and exercise, providing CHWs with the capacity to assist in lifestyle interventions.

5.2.1 Define Options: Option 1 – Community Health Workers

Community Health Workers

Community Health Workers in the Latrobe Valley serve as a crucial link between the healthcare system and the community, enhancing access to services through culturally sensitive practices

Advantages

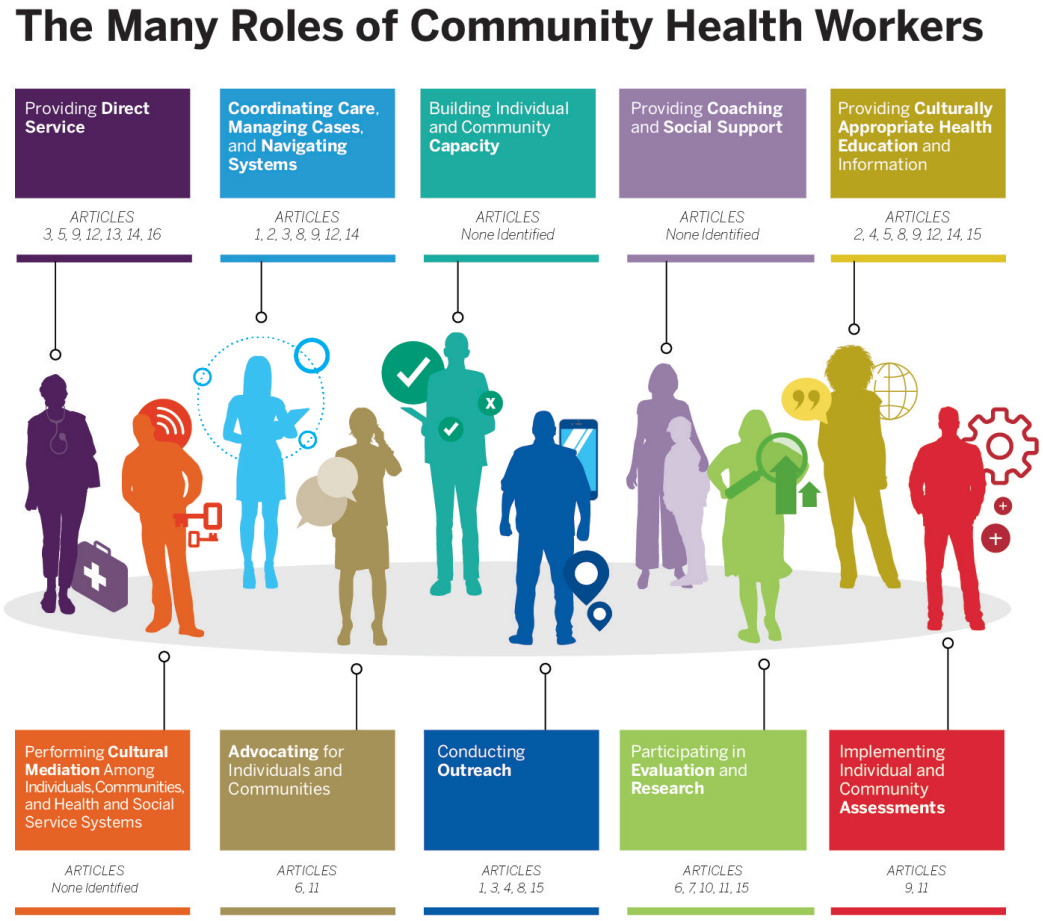
- ✓ Directly addresses healthcare access issues by providing services within the community.
- ✓ Builds on local knowledge and existing relationships to improve health outcomes.
- ✓ Encourages preventative healthcare practices through education and early detection.
- ✓ Offers a cost-effective solution by potentially reducing the need for more expensive medical interventions later.

Disadvantages

- X May face challenges related to scope of practice and limitations on the medical interventions they can provide.
- X Requires investment in training and development to ensure CHWs are well-equipped to handle diverse health situations.
- X Sustaining the program financially and ensuring long-term operational continuity can be difficult.

Challenges

- Ensuring that CHWs receive recognition and are integrated into the broader healthcare team, including clear protocols for referral to medical professionals.
- Data management and privacy concerns, as CHWs will handle sensitive health information.
- Keeping the CHW workforce motivated and reducing turnover, which can affect program continuity and community relationships.



STUDIES: 1. Barret et al. 2022; 2. Berkley-Patton et al. 2022; 3. Bigelow et al. 2021; 4. DeGarmo et al. 2022; 5. Ko et al. 2022; 6. Kruse et al. 2022; 7. Lee et al. 2022; 8. Martinez et al. 2022; 9. Pirraglia et al. 2021; 10. Rivera-Núñez et al. 2022; 11. Stadnick et al. 2022; 12-15. Thoumi et al. 2022; 16. Whanger et al. 2022.

*These roles are adapted from 10 core community health worker roles described by The National Community Health Worker Core Consensus (C3) Project. To read more about each role type refer to the C3 Project Resource Page at https://www.c3project.org/resources

5.2.1 Define Options: Option 1 – Community Health Workers

Community Health Workers

Community Health Workers in the Latrobe Valley serve as a crucial link between the healthcare system and the community, enhancing access to services through culturally sensitive practices

1. Focus on High-Impact Chronic Conditions

CHWs are integrated with local health services, avoiding overlap and creating a cohesive support network for patients.

2. Integration with Existing Healthcare Services

CHWs, being community members themselves, offer culturally informed services that increase patient comfort and service utilisation.

3. Cultural and Diversity Competence

Studies highlight CHWs' ability to culturally and linguistically align their practices with the communities they serve, which is crucial for the Latrobe Valley's diverse population.

4. Service Location Accessibility

Research indicates CHWs improve healthcare reach in rural and remote areas, a key concern for the Latrobe Valley.

5. Socioeconomic Factors

CHWs have successfully cultivated trust within the community, leading to higher engagement in health programs.

6. Community Engagement and Trust

The trust built by CHWs in various case studies underscores their potential to enhance community engagement in the Latrobe Valley.

7. Effective Communications Plan

Developing clear messaging and outreach strategies to ensure community awareness and engagement.

8. Sustainability and Funding

Sustainability of CHW programs is crucial and is often addressed through diverse funding streams, including government grants and partnerships.

9. Monitoring and Evaluation

CHW interventions typically incorporate monitoring and evaluation, allowing for continuous improvement of the program.

10. Adaptability and Scalability

The adaptability of CHWs to different health conditions and scalability to various community sizes aligns with the needs of the Latrobe Valley.

5.2.2 Define Options: Option 2 – Place-Based (Pop-Up) Health Check

Place-Based (Pop-Up) Health Check

Place-Based (Pop-Up) Health Check across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

Solution Overview

- Implementing Place-Based (Pop-Up) Health Checks in the Latrobe Valley involves setting up health check stations in accessible and frequently visited community spaces. These locations include schools, workplaces, community centres, and other public venues. The goal is to make preventive health services readily available, encouraging routine health checks and early detection of chronic conditions.
- The program would build on the previous place-based pop-up health check initiative by Fed University.

Drivers for this option

- Geographical barriers that limit some residents' access to fixed-site healthcare services.
- By situating health check stations in familiar and accessible community locations, this option reduces travel barriers and makes it easier for residents to access health services.
- Integrating health checks into everyday environments fosters a sense of normalcy around health monitoring and encourages more frequent participation.
- Identified need for improved early detection and management of chronic conditions.
- Previous success in similar initiatives executed by Federation University
- Support in the community for enhancing health literacy while also enhancing learning opportunities for students

Key Considerations:

- Identify strategic locations that lack healthcare services and are frequented by the community, such as community centers, schools, and shopping areas.
- Ensure the pop-up locations are equipped to serve all individuals, including those with disabilities.
- Tailor services to the cultural contexts of the diverse Latrobe Valley population, ensuring inclusivity and respect for Aboriginal and Torres Strait Islander communities.
- Coordinate with existing healthcare providers to extend their reach without duplicating services.
- Work with local organisations and community leaders to promote the services and build trust.
- Adapt the health services provided to address the specific needs and prevalent chronic conditions of the Latrobe Valley, such as cardiovascular diseases, diabetes, and respiratory illnesses.
- Engage community volunteers and local health students to participate and support the pop-up health checks.

5.2.2 Define Options: Option 2 – Place-Based (Pop-Up) Health Check

Place-Based (Pop-Up) Health Check

Place-Based (Pop-Up) Health Check across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

Advantages

- ✓ Brings health services directly to where people live, work, and gather, promoting early detection and intervention.
- ✓ Flexible service that can be directed to areas with identified health service needs.
- ✓ Enhances the visibility of public health initiatives and encourages community involvement.
- ✓ Can quickly adapt to emerging health trends or outbreaks by mobilising to hotspots.
- ✓ Meets community where they are, and successfully engages community members who often do not access primary healthcare services.
- ✓ Enhances community health, while also developing future workforce (students).

Disadvantages

- X Ongoing operational costs can be high, including transportation, maintenance, and staffing.
- X May have limited capacity and resources compared to permanent healthcare facilities.
- X Weather conditions and other logistical challenges can impact the consistency of service delivery.

Challenges

- Coordinating and communicating schedules and locations to maximise community access and impact.
- Maintaining high levels of community engagement and participation over time requires continuous effort and effective communication strategies.
- Managing patient follow-up and continuity of care post-screening, especially for individuals with identified health risks.
- Building and maintaining partnerships with local health services for referrals and support.

5.2.2 Define Options: Option 2 – Place-Based (Pop-Up) Health Check

Place-Based (Pop-Up) Health Check

Place-Based (Pop-Up) Health Check across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

1. Focus on High-Impact Chronic conditions

Mobile Pop-Up Health Checks are designed to target and manage high-impact chronic conditions by providing screenings and early interventions directly in community settings.

2. Integration with Existing Healthcare Services

These checks are integrated with local healthcare systems to ensure continuity of care, where data and patient information from mobile checks are shared with primary healthcare providers.

3. Cultural and Diversity Competence

Mobile units can be staffed with healthcare providers who are trained in cultural competence, ensuring that services are sensitive and appropriately tailored to the diverse populations they serve.

4. Service Location Accessibility

Mobile health services excel in providing access to medical services in rural and remote areas, effectively reducing geographical barriers to healthcare.

5. Socioeconomic Factors

By offering health services directly in the community at no or low cost, Mobile Pop-Up Health Checks address socioeconomic barriers to accessing healthcare.

6. Community Engagement and Trust

These mobile units often facilitate greater community engagement by coming directly to the community, fostering a sense of trust and acceptance among residents.

7. Effective Communications Plan

An effective communications plan is critical for informing communities about when and where mobile health services will be available, ensuring high turnout and engagement.

8. Sustainability and Funding

The sustainability of Place-Based (Pop-Up) Health Checks depends on securing ongoing funding and resources, which can be a challenge and requires careful planning and partnerships.

9. Monitoring and Evaluation

Continuous monitoring and evaluation are essential to assess the impact of pop-up health checks, adjust protocols, and improve outcomes based on real-time data collected during operations.

10. Adaptability and Scalability

Mobile health services are highly adaptable and can be scaled to meet the changing health needs of different communities or respond to specific health crises.

5.2.3 Define Options: Option 3 – Pharmacy Led Health Checks

Pharmacy Led Health Checks

Pharmacy-Led Health Checks in the Latrobe Valley utilise the existing pharmacy network to offer convenient health screenings and consultations, expanding the scope of community healthcare

Solution Overview

- Pharmacy-Led Health Checks in the Latrobe Valley would involve local pharmacies offering a range of health services, including health risk assessments, chronic condition management, medication reviews, and health promotion activities. Participating pharmacies would be equipped with private consultation areas where pharmacists, potentially with additional training as nurse practitioners or health educators, could conduct these checks. The service would aim to leverage the high foot traffic and accessibility of pharmacies to improve early detection of health issues.

Drivers for this option

- Leverage the frequent visits that community members make to pharmacies to access a variety of non-emergency health services.
- With a high incidence of chronic conditions such as diabetes and cardiovascular conditions in the region, pharmacies could serve as first-line checkpoints.
- Address the lack of healthcare providers in certain areas, particularly for residents who may live far from clinics and hospitals.
- Pharmacies often have longer opening hours than clinics, including weekends, providing more opportunities for health checks.
- Utilise pharmacists' expertise in medication management to offer a more holistic care approach.
- The Seventh Community Pharmacy Agreement (7CPA) allows for the expansion of services offered by pharmacies, providing a regulatory framework for pharmacies in the Latrobe Valley to offer expanded health checks.

Key Considerations:

- Collaborate with local healthcare providers to ensure that pharmacy-led services are an integrated part of the health system.
- Tailor health check services to respect the diverse cultural backgrounds present in the Latrobe Valley, including sensitivity to Aboriginal and Torres Strait Islander health needs.
- Make services affordable or free when possible, considering the economic barriers faced by some community members.
- Align services with healthcare regulations and policies to ensure compliance and effectiveness.
- Involve community members in the design and rollout of services to ensure they meet local needs and preferences.
- Utilise health informatics to record, analyse, and communicate health check results, ensuring privacy and security of patient data.

5.2.3 Define Options: Option 3 – Pharmacy Led Health Checks

Pharmacy Led Health Checks

Pharmacy-Led Health Checks in the Latrobe Valley utilise the existing pharmacy network to offer convenient health screenings and consultations, expanding the scope of community healthcare

Advantages

- ✓ Utilises existing infrastructure, which can be more cost-effective than setting up new clinics.
- ✓ Increases the capacity for preventive care and routine monitoring of chronic conditions.
- ✓ Fosters stronger relationships between pharmacists and patients, enhancing trust and continuity of care.
- ✓ Convenient for patients who can receive health services during regular errands.
- ✓ Enhances pharmacist's capabilities and professional development

Disadvantages

- X The scope of services that can be provided in a pharmacy setting is limited compared to a full-service medical facility.
- X Pharmacists may require additional training and resources to perform certain health assessments.
- X There might be concerns about privacy and data security within the retail environment.

Challenges

- Ensuring consistent quality of care across different pharmacy settings.
- Integrating pharmacy-led health data with broader health system records for comprehensive patient care.
- Balancing the commercial aspects of pharmacies with the need to provide unbiased health services.
- Managing the potential increase in workload for pharmacists and ensuring they have adequate support.
- Difficulty engaging pharmacists due to already busy workloads.

Community pharmacy is ideally placed to assist in the screening for and/or monitoring of a number of conditions, including (but not limited to):

Screening

- cardio vascular disease
- diabetes
- asthma/COPD
- osteoporosis
- chlamydia
- bowel cancer

Monitoring

- blood pressure
- blood lipids
- blood glucose/HbA1c
- lung function
- anticoagulant therapy/INR

The Pharmacy Guild of Australia

5.2.3 Define Options: Option 3 – Pharmacy Led Health Checks

Pharmacy Led Health Checks

Pharmacy-Led Health Checks in the Latrobe Valley utilise the existing pharmacy network to offer convenient health screenings and consultations, expanding the scope of community healthcare

1. Focus on High-Impact Chronic conditions

Pharmacy-Led Health Checks effectively focus on chronic conditions by offering screening and management services for conditions like hypertension and diabetes right at the pharmacy.

2. Integration with Existing Healthcare Services

These services are designed to complement existing healthcare, creating a care pathway by referring patients to primary care providers when necessary and exchanging health information seamlessly.

3. Cultural and Diversity Competence

Pharmacies can train staff to offer culturally competent care, which is crucial in diverse communities, ensuring that all patients feel respected and understood in their healthcare interactions.

4. Service Location Accessibility

Pharmacies are frequently visited by community members, and often set up in highly accessible locations, close to town and public transport.

5. Socioeconomic Factors

Offering health checks in pharmacies can mitigate some socioeconomic barriers by providing convenient and often more affordable access to essential health services.

6. Community Engagement and Trust

Pharmacies are trusted community resources; offering health checks in this setting can enhance community engagement and trust in the healthcare system.

7. Effective Communications Plan

Effective communication strategies are vital to inform the community about available health services at pharmacies and to encourage their utilisation.

8. Sustainability and Funding

The sustainability of Pharmacy-Led Health Checks hinges on securing consistent funding, which might include support from healthcare systems, government programs, or private companies.

9. Monitoring and Evaluation

Regular monitoring and evaluation are crucial to assess the effectiveness of the health checks provided at pharmacies, ensuring they meet health targets and patient satisfaction.

10. Adaptability and Scalability

This model is highly adaptable and can be scaled up to include more pharmacies or expanded in scope to cover more types of health checks as community needs evolve.

5.2.4 Define Options: Option 4 – Workplace Health Checks

Workplace Health Checks

Workplace Health Checks integrate preventive health services into workplaces, promoting health awareness and early intervention

Solution Overview

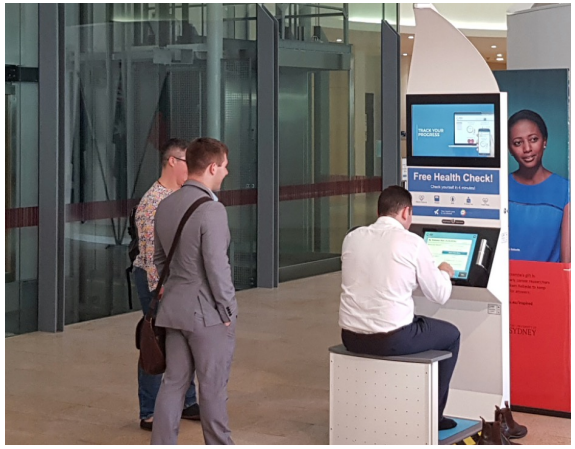
- Workplace-Based Health Checks in the Latrobe Valley involve conducting health screenings and providing preventive care services directly at workplaces. This model aims to make health checks more convenient and accessible for employees, encouraging early detection and intervention for chronic diseases. These health checks can include blood pressure monitoring, cholesterol screenings, diabetes testing, and lifestyle counselling.

Drivers for this option

- By providing health checks at the workplace, employees who work long hours and have difficulty visiting GP clinics can receive essential screenings without taking time off work.
- Workplaces offer a unique setting to reach large groups efficiently, ensuring a broad impact on community health.
- By bringing health services to the workplace, this model can help address socio-economic barriers to healthcare access, particularly for lower-income workers.
- Regular workplace health checks can increase health awareness and promote healthier lifestyle choices among employees.
- Healthier employees tend to be more productive, with fewer absences due to illness, benefiting both the individual and the employer.

Key Considerations:

- Schedule health checks at workplaces to ensure employees can easily access preventive services without needing to take time off work.
- Ensure strict privacy protocols are in place to protect employee health information, addressing concerns about confidentiality to maintain trust and compliance with regulations.
- Tailor the health checks to address common chronic conditions prevalent in the Latrobe Valley, such as cardiovascular diseases, diabetes, and respiratory issues, providing relevant screenings and health education.
- Collaborate with employers to gain their support and buy-in for the program. Highlight the benefits of improved employee health on productivity and reduced absenteeism to encourage participation.



5.2.4 Define Options: Option 4 – Workplace Health Checks

Workplace Health Checks

Workplace Health Checks integrate preventive health services into workplaces, promoting health awareness and early intervention

Advantages

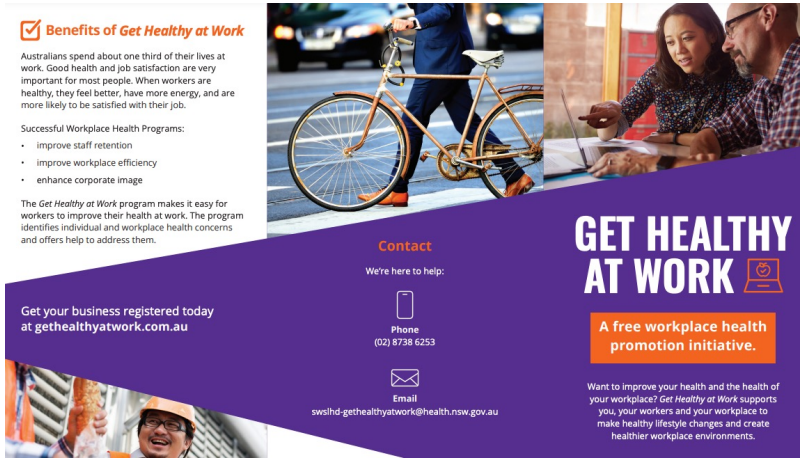
- ✓ Eliminates barriers related to time and location, making it easier for employees to receive regular health screenings.
- ✓ Promotes early identification of chronic conditions, enabling timely intervention and management.
- ✓ Regular health checks can lead to better health outcomes and overall well-being for employees.
- ✓ Reduces absenteeism and presenteeism, leading to a more productive workforce.

Disadvantages

- X Initial Investment: Requires investment from employers, infrastructure, and trained personnel to conduct the health checks.
- X Privacy and Confidentiality Concerns: Employees may be concerned about the confidentiality of their health information.
- X Limited Scope of Services: May not offer the comprehensive services available in traditional healthcare facilities.
- X Dependent on individual workplaces adopting the health checks, which may lead to exclusion of whole sectors and employers.

Challenges

- Safeguarding employee health data is crucial to maintain trust and compliance with regulations.
- Ensuring seamless integration of health check data with broader healthcare systems for continuity of care.
- Securing ongoing funding and resources to maintain and expand the program.
- Gaining and maintaining the support of employers is essential for successful implementation and participation.



5.2.4 Define Options: Option 4 – Workplace Health Checks

Workplace Health Checks

Workplace Health Checks integrate preventive health services into workplaces, promoting health awareness and early intervention

1. Focus on High-Impact Chronic conditions

Effectively targets prevalent conditions like hypertension and diabetes among employees but may lack comprehensive diagnostics of full clinical settings.

2. Integration with Existing Healthcare Services

Health data can be integrated with local healthcare systems for follow-up care, though requires strong coordination and data sharing protocols.

3. Cultural and Diversity Competence

Health checks and educational materials can be culturally tailored for diverse employee populations but fully addressing all needs can be complex.

4. Service Location Accessibility

Services can be extended to rural workplaces, improving access but geographic dispersion poses logistical challenges.

5. Socioeconomic Factors

Provides free or low-cost health checks at workplaces, reducing economic barriers but funding and resource allocation may limit scope.

6. Community Engagement and Trust

Enhances trust through familiar workplace settings but concerns about confidentiality and data privacy may affect participation.

7. Effective Communications Plan

Utilises internal workplace communication channels to promote health checks but reaching all employees, especially non-desk roles, can be challenging.

8. Sustainability and Funding

Can be supported by employer contributions and partnerships but securing long-term funding is challenging.

9. Monitoring and Evaluation

Enables continuous monitoring of employee health data but consistent data collection and analysis require dedicated resources.

10. Adaptability and Scalability

Adaptable to different workplaces and scalable across regions but requires tailored approaches to meet specific needs.

5.2.5 Define Options: Option 5 – Nurse Led Health Checks

Nurse Led Health Checks

Nurse-Led Health Checks leverage the skills of nurses to deliver primary healthcare services in the Latrobe Valley, addressing the shortage of doctors and enhancing care accessibility

Solution Overview

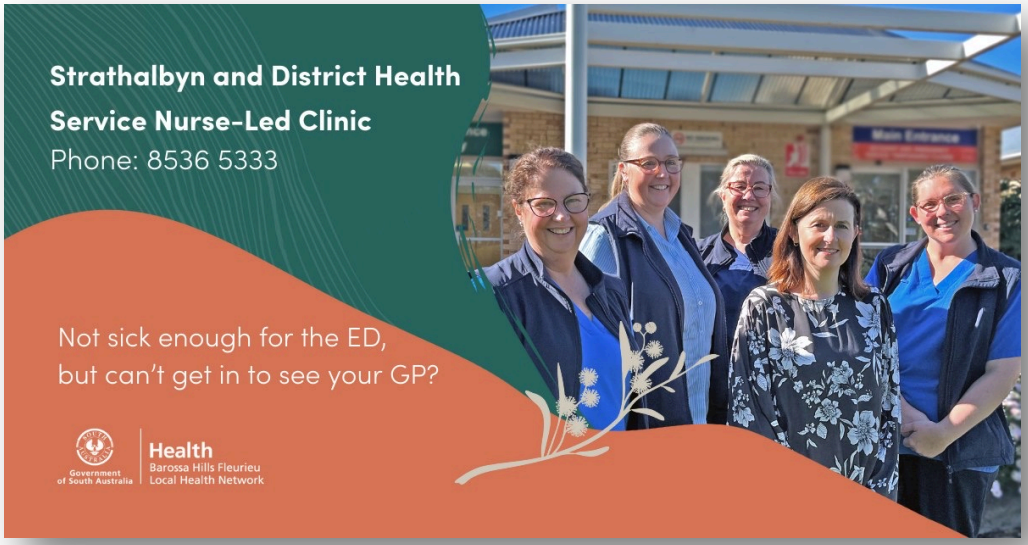
- Nurse-Led Health Checks in the Latrobe Valley would deploy the region's comparatively high number of nurses, including nurse practitioners, to conduct health checks and offer primary health care services. This approach aims to utilise the broad skill set of nurses to provide accessible, efficient health screenings, chronic condition management, and health education, thereby alleviating the burden on doctors and enhancing healthcare accessibility.

Drivers for this option

- Capitalises on the Latrobe Valley's stronger nurse workforce relative to the rest of Victoria, offering a unique resource for expanding health services.
- Addresses the shortage of doctors in the area by leveraging nurse practitioners to perform tasks traditionally reserved for doctors, where legally permissible.
- Improves the efficiency and accessibility of health services by distributing the workload more evenly across healthcare professionals.
- The changing health landscape, including aging populations and increasing health awareness, demands innovative approaches like nurse-led care to meet community needs effectively.
- Geographic dispersion and socio-economic barriers in the Latrobe Valley impede access to healthcare, a challenge nurse-led checks can address by being more locally available.

Key Considerations:

- Ensure that nurse-led services are mobile and flexible enough to reach outlying areas where healthcare services may be scarce.
- Utilise nurse practitioners to their full scope of practice as allowed under local regulations, which can include prescribing medications and ordering diagnostic tests.
- Create strong referral and information-sharing systems between nurse-led services and the broader healthcare network, including GPs and hospitals.
- Establish sustainable funding models, potentially through Medicare rebates, government grants, or partnerships with local health services.



5.2.5 Define Options: Option 5 – Nurse Led Health Checks

Nurse Led Health Checks

Nurse-Led Health Checks leverage the skills of nurses to deliver primary healthcare services in the Latrobe Valley, addressing the shortage of doctors and enhancing care accessibility

Advantages

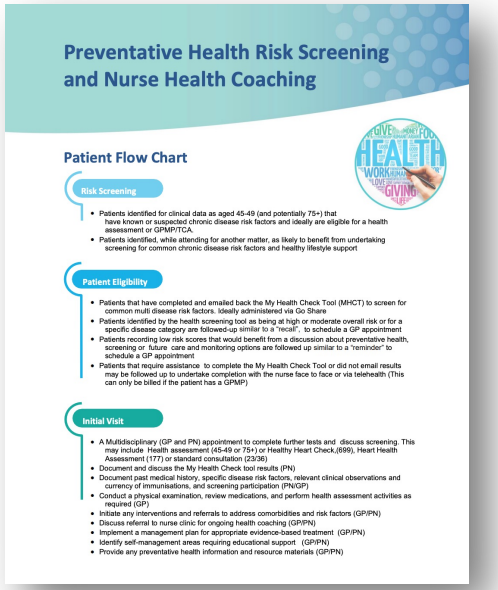
- ✓ Comprehensive Care Capability: Nurse practitioners have the authority to diagnose conditions, prescribe medications, and manage treatment plans, offering a broad spectrum of care.
- ✓ Resource Efficiency: Utilises existing nursing resources to expand healthcare reach without significantly increasing costs.
- ✓ Enhanced Patient Accessibility: Offers more flexible and accessible health service options, reducing wait times and travel barriers for patients.
- ✓ Community-Based Approach: Nurses, often residents of the communities they serve, can provide culturally sensitive and personalised care.

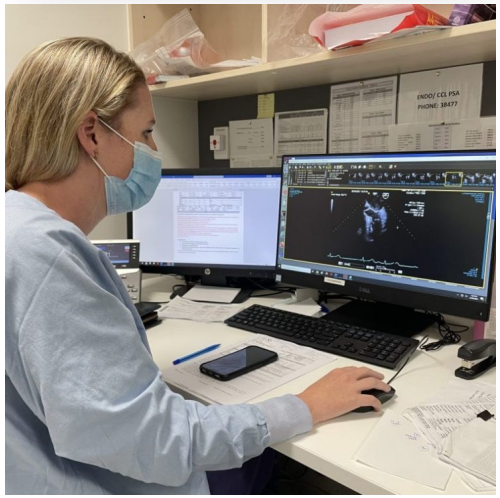
Disadvantages

- X Scope of Practice Restrictions: Regulatory limitations on nurses' scope of practice may restrict the types of services that can be offered.
- X Resource Reallocation: May require shifting resources from other areas of healthcare to support the expansion of nurse-led services.
- X Public Perception and Acceptance: Some community members may be hesitant to receive care from nurses rather than doctors for certain health issues.

Challenges

- Integration With Wider Healthcare System: Ensuring effective communication and referral systems between nurse-led services and other healthcare providers.
- Sustainability and Funding: Securing ongoing funding to support the expansion of nurse roles and services.
- Professional Development: Providing continuous training and professional development opportunities for nurses to keep them updated on the latest in healthcare practices.
- Regulatory Adaptation: Working with healthcare regulatory bodies to expand the scope of practice for nurses where needed to enable comprehensive service delivery.





5.2.5 Define Options: Option 5 – Nurse Led Health Checks

Nurse Led Health Checks

Nurse-Led Health Checks leverage the skills of nurses to deliver primary healthcare services in the Latrobe Valley, addressing the shortage of doctors and enhancing care accessibility

1. Focus on High-Impact Chronic conditions

Nurse-led interventions have proven effective in managing chronic conditions such as hypertension, diabetes, and heart conditions by providing consistent monitoring and personalised care plans

2. Integration with Existing Healthcare Services

These programs are often designed to work seamlessly with existing healthcare structures, ensuring that care provided by nurses complements the efforts of other healthcare professionals and facilities

3. Cultural and Diversity Competence

Nurse-led programs are adaptable to the cultural needs of diverse populations, which is crucial in delivering effective healthcare in multicultural settings like the Latrobe Valley

4. Service Location Accessibility

he flexibility of nurse-led health checks makes them suitable for implementation in rural and remote areas, overcoming barriers to access

5. Socioeconomic Factors

Nurse-led interventions are cost-effective and can be tailored to address the socioeconomic challenges faced by different groups, ensuring equitable healthcare access

6. Community Engagement and Trust

Nurses, by virtue of their training and approach, often build strong, trusting relationships with the communities they serve, enhancing the effectiveness of health interventions

7. Effective Communications Plan

Successful nurse-led programs incorporate robust communication strategies to educate and engage communities, ensuring high participation rates

8. Sustainability and Funding

While nurse-led initiatives are generally cost-effective, they require sustained funding and resources to ensure their long-term viability and success

9. Monitoring and Evaluation

Comprehensive monitoring and evaluation are integral to nurse-led programs, helping to measure effectiveness, adapt practices, and improve outcomes based on empirical evidence

10. Adaptability and Scalability

The inherent flexibility of nurse-led interventions allows them to be easily adapted and scaled according to the evolving healthcare needs of the population

5.2.6 Define Options: Option 6 – M-Health

M-Health

M-Health initiatives harness mobile technology to provide personalised health information and services to the Latrobe Valley community, supporting self-management of health

Solution Overview

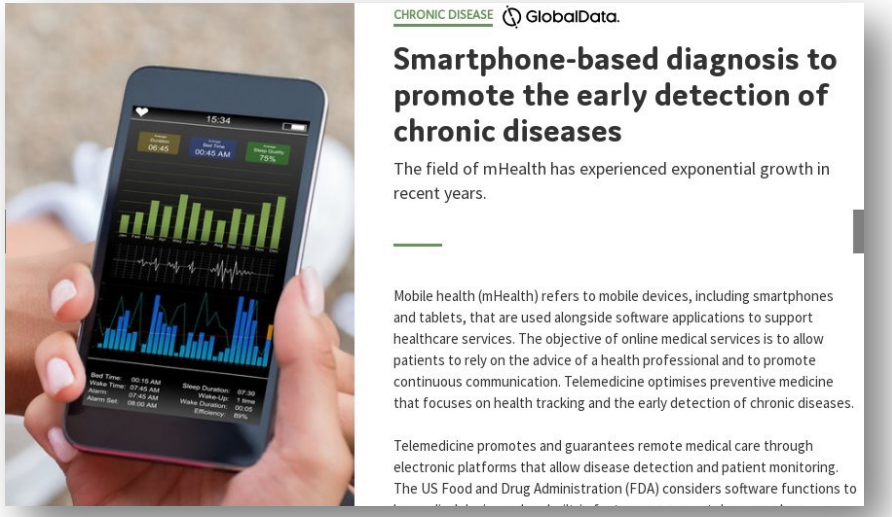
- Implementing M-Health (Mobile Health) in the Latrobe Valley would involve leveraging mobile technologies to deliver health services and information directly to individuals via their smartphones, tablets, or other mobile devices. This solution could encompass apps for managing chronic conditions, telehealth consultations, health education platforms, and digital tools for monitoring health metrics being placed onto a directory for easy access and navigation. This directory can be placed on the LHA website and adoption of this can be advocated for through local health networks.

Drivers for this option

- With widespread use of smartphones and internet access across the Latrobe Valley, M-Health solutions can effectively reach a broad audience.
- The region's rural and remote areas may benefit from mobile health checks that can transcend physical barriers to healthcare access.
- There already exists many apps and portals that people can use to do various health checks, a directory simply guides people to the appropriate tool for their needs.
- National health initiatives promoting digital health innovation provide a supportive backdrop for implementing M-Health solutions.
- Successful implementations of M-Health programs in similar communities, demonstrating improved health outcomes and patient engagement, underscore the potential for positive impact in the Latrobe Valley.

Key Considerations:

- Provide M-Health services that can be accessed through various technologies, catering to different levels of tech-savviness and device availability.
- Ensure M-Health solutions have offline capabilities or low-bandwidth requirements to be accessible in areas with limited internet connectivity.
- M-Health apps and services should be integrated into the local healthcare providers' systems for seamless care coordination.
- Offer free or subsidised access to M-Health solutions to make them affordable for all socioeconomic groups.
- Monitor and evaluate the effectiveness and user engagement of M-Health solutions to continuously improve their relevance and impact.



5.2.6 Define Options: Option 6 – M-Health

M-Health

M-Health initiatives harness mobile technology to provide personalised health information and services to the Latrobe Valley community, supporting self-management of health

Advantages

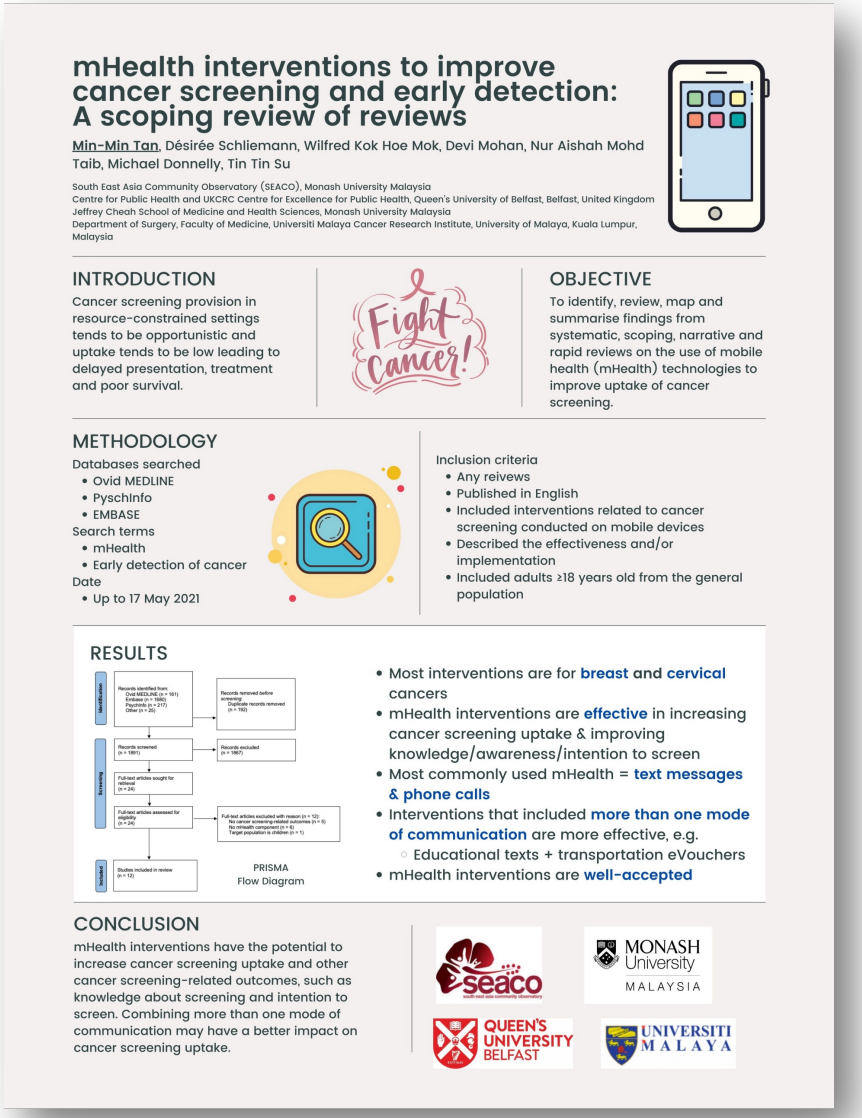
- ✓ M-Health solutions provide health information and services at individuals' fingertips, available anytime and anywhere.
- ✓ Enables continuous health monitoring and early detection of potential health issues through wearable tech and mobile apps.
- ✓ Personalised health recommendations and interventions can be delivered based on individual health data collected through apps.
- ✓ Reduces the need for physical healthcare visits for routine monitoring, potentially decreasing healthcare costs for both providers and patients.

Disadvantages

- X Some community members, especially older adults, may face challenges in using digital health solutions.
- X Collecting and managing health data through mobile platforms raises significant privacy and security concerns.
- X Effective deployment relies on robust internet connectivity and the availability of smart devices.

Challenges

- Ensuring M-Health solutions are integrated with the existing healthcare infrastructure for seamless care coordination.
- Maintaining ongoing user engagement with M-Health apps and platforms over time.
- Navigating health regulations and ensuring M-Health solutions comply with data protection laws.
- Addressing disparities in access to technology to ensure M-Health benefits reach all community members, including those in remote areas or with lower socio-economic status.



mHealth interventions to improve cancer screening and early detection: A scoping review of reviews

Min-Min Tan, Désirée Schliemann, Wilfred Kok Hoe Mok, Devi Mohan, Nur Aishah Mohd Taib, Michael Donnelly, Tin Tin Su

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INTRODUCTION

Cancer screening provision in resource-constrained settings tends to be opportunistic and uptake tends to be low leading to delayed presentation, treatment and poor survival.

Fight Cancer!

OBJECTIVE

To identify, review, map and summarise findings from systematic, scoping, narrative and rapid reviews on the use of mobile health (mHealth) technologies to improve uptake of cancer screening.

METHODOLOGY

Databases searched
- Ovid MEDLINE
- PyschInfo
- EMBASE

Search terms
- mHealth
- Early detection of cancer

Date
- Up to 17 May 2021

Inclusion criteria
- Any reivews
- Published in English
- Included interventions related to cancer screening conducted on mobile devices
- Described the effectiveness and/or implementation
- Included adults ≥18 years old from the general population

RESULTS

PRISMA Flow Diagram

- Most interventions are for **breast** and **cervical** cancers
- mHealth interventions are **effective** in increasing cancer screening uptake & improving knowledge/awareness/intention to screen
- Most commonly used mHealth = **text messages & phone calls**
- Interventions that included **more than one mode of communication** are more effective, e.g.
  - Educational texts + transportation eVouchers
- mHealth interventions are **well-accepted**

CONCLUSION

mHealth interventions have the potential to increase cancer screening uptake and other cancer screening-related outcomes, such as knowledge about screening and intention to screen. Combining more than one mode of communication may have a better impact on cancer screening uptake.

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5.2.6 Define Options: Option 6 – M-Health

M-Health

M-Health initiatives harness mobile technology to provide personalised health information and services to the Latrobe Valley community, supporting self-management of health

1. Focus on High-Impact Chronic conditions	2. Integration with Existing Healthcare Services	3. Cultural and Diversity Competence	4. Service Location Accessibility	5. Socioeconomic Factors
M-Health tools monitor vital signs and symptoms, prompting early screenings but depend on user engagement and data accuracy.	They facilitate data transfer to healthcare providers for early interventions, though challenges remain in system interoperability.	M-Health can be customised for cultural relevance but must overcome barriers in health literacy and language diversity.	Enhances service access via remote monitoring, yet effectiveness is limited by local internet availability.	Provides cost-effective health access, though the affordability of necessary technology can be a barrier.

6. Community Engagement and Trust	7. Effective Communications Plan	8. Sustainability and Funding	9. Monitoring and Evaluation	10. Adaptability and Scalability
Promotes proactive health management; however, data privacy concerns may affect user trust.	May be difficult to effectively communicate the early detection capabilities of m-health devices without in-person consultation.	Requires sustainable investment for development and maintenance, with the need for continual funding streams.	Offers real-time health monitoring and app performance evaluation, reliant on consistent user interaction.	Highly adaptable and scalable, though needs continuous customisation to meet diverse user needs effectively.

5.2.7 Define Options: Option 7 – Digital Health (Predictive Analytics)

Digital Health (Predictive Analytics)

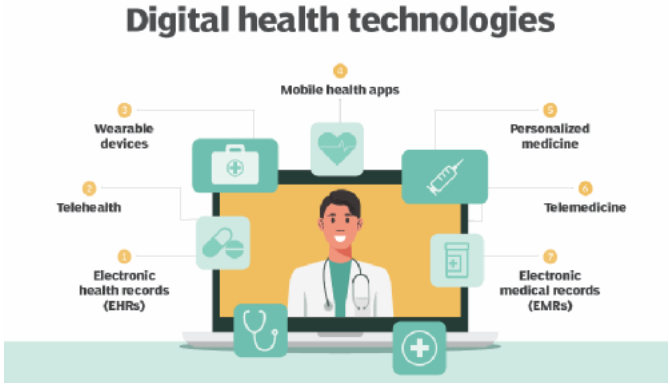
Digital Health leveraging Predictive Analytics in the Latrobe Valley utilises data analysis to anticipate health needs and tailor interventions, improving the efficiency and effectiveness of health services

Solution Overview

- Digital Health utilising Predictive Analytics in the Latrobe Valley would involve the development and deployment of advanced analytics systems to analyse health data across the community. This approach would leverage electronic health records, population health data, and real-time monitoring inputs to predict health trends, identify at-risk populations for chronic conditions, and optimise healthcare delivery. By integrating these analytics with health apps, telehealth platforms, and electronic medical records, healthcare providers can offer pre-emptive care interventions and tailor health services to meet the community's needs more effectively.

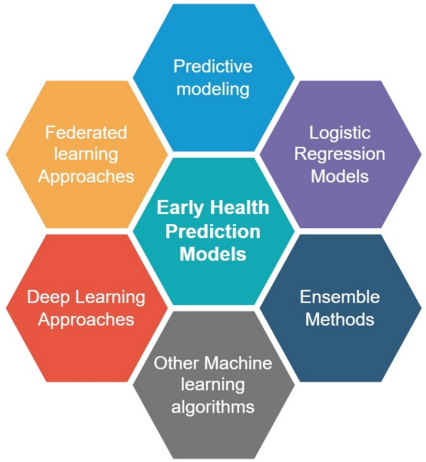
Drivers for this option

- The increasing digitisation of health records and the use of wearable health devices provide a rich data pool for analytics.
- The need to better allocate healthcare resources, especially in areas with limited access to specialised medical services.
- Case studies from other regions have demonstrated the effectiveness of predictive analytics in improving patient outcomes and reducing healthcare costs.



Key Considerations:

- Digital Health systems should enhance current practices, integrating seamlessly with local healthcare providers' electronic medical records and information systems.
- The model must comply with healthcare data regulations, including patient privacy and data security.
- Continually evaluate the predictive models' accuracy and refine algorithms based on local health data.
- Ensure ongoing funding for the technology infrastructure and data analysis necessary for effective predictive analytics.



5.2.7 Define Options: Option 7 – Digital Health (Predictive Analytics)

Digital Health (Predictive Analytics)

Digital Health leveraging Predictive Analytics in the Latrobe Valley utilises data analysis to anticipate health needs and tailor interventions, improving the efficiency and effectiveness of health services

Advantages

- ✓ Enables healthcare providers to anticipate health issues before they become critical, allowing for earlier interventions.
- ✓ Facilitates the development of personalised care plans based on an individual's risk factors and health status.
- ✓ Helps in the strategic allocation of healthcare resources by predicting areas of greatest need and potential health crises.
- ✓ Offers public health officials' data-driven insights for better planning and response to health trends and outbreaks.
- ✓ Leveraging personal health data to empower individuals with actionable insights, enabling them to take control of their health and well-being.
- ✓ Utilising predictive analytics to identify health risks and patterns within the community, leading to the development of targeted preventive health programs.

Disadvantages

- X Requires sophisticated analytics tools and expertise, which can be resource-intensive to implement and maintain.
- X Managing sensitive health data raises concerns about privacy, data security, and the ethical use of predictive information.
- X There is a potential for bias in data analysis, which could lead to inequitable healthcare interventions.

Challenges

- Ensuring seamless integration of predictive analytics tools with existing healthcare IT systems and workflows.
- Training healthcare professionals to interpret and act on predictive analytics insights effectively.
- Building trust with the community regarding the use of their data for predictive health analytics.
- Securing ongoing funding to support the continuous development and enhancement of predictive analytics capabilities.

5.2.7 Define Options: Option 7 – Digital Health (Predictive Analytics)

Digital Health (Predictive Analytics)

Digital Health leveraging Predictive Analytics in the Latrobe Valley utilises data analysis to anticipate health needs and tailor interventions, improving the efficiency and effectiveness of health services

1. Focus on High-Impact Chronic conditions

Digital health, utilising predictive analytics, excels in the early detection of conditions like diabetes, cancer, and heart disease, allowing for timely interventions

2. Integration with Existing Healthcare Services

Predictive analytics integrates effectively with existing healthcare systems between electronic health records and health providers, facilitating more informed decision-making and earlier interventions

3. Cultural and Diversity Competence

While predictive analytics can be tailored to diverse populations, ensuring cultural competence involves continuous refinement of algorithms to reflect the health needs across populations

4. Service Location Accessibility

Predictive analytics can mitigate geographic barriers by providing remote monitoring and diagnostic capabilities, although its effectiveness is contingent upon the availability of reliable data connectivity

5. Socioeconomic Factors

This model helps address socioeconomic disparities by enabling more targeted and efficient health interventions, reducing the need for costly in-person visits and optimising resource allocation

6. Community Engagement and Trust

The success of predictive analytics in community engagement hinges on transparency about data use, privacy safeguards, and demonstrating tangible health benefits to the community

7. Effective Communications Plan

Essential for the success of predictive analytics, communication strategies must clearly convey the benefits and functionalities of digital health tools to ensure user engagement and adherence

8. Sustainability and Funding

Although predictive analytics can be cost-saving in the long term by preventing costly medical interventions, initial setup and ongoing data management require sustained investment

9. Monitoring and Evaluation

Continuous monitoring and evaluation are crucial, with predictive analytics providing real-time feedback and performance metrics that help refine and improve early detection strategies

10. Adaptability and Scalability

Predictive analytics models are highly adaptable to various health conditions and scalable across different healthcare settings, allowing for broad implementation to meet diverse health needs effectively

5.2.8 Define Options: Option 8 - Machine-Based Health Checks

Machine-Enabled Health Checks

Machine Based Checks in the Latrobe Valley will allow a large degree of flexibility and adaptability, with limited staffing costs and ease-of-use

Solution Overview

- Machine-Enabled Health Checks, such as those provided by SiSU Health Stations, involve the deployment of self-service, medical-grade devices that can be placed in various public locations. These machines enable individuals to perform quick, comprehensive health checks on their own, with results delivered via email or printed on-site. These checks typically measure vital metrics such as blood pressure, heart rate, body composition, and diabetes risk.

Drivers for this option

- Accessibility and Convenience: These machines can be placed in high-traffic areas such as supermarkets, pharmacies, and workplaces, making health checks easily accessible to a broad audience without the need for appointments.
- Early Detection and Prevention: By providing quick and easy access to health metrics, these machines help in the early detection of potential health issues, encouraging timely medical consultation and intervention.
- Cost-Effectiveness: Self-service health checks reduce the need for frequent visits to healthcare providers, saving time and reducing costs for both individuals and the healthcare system.
- Engagement and Empowerment: These devices empower individuals to take control of their health by providing immediate feedback and encouraging proactive health management.

Key Considerations:

- Strategically place machines in high-traffic, accessible locations such as supermarkets, pharmacies, community centers, and workplaces to maximise reach and convenience for users.
- Ensure the machines are equipped to measure vital health metrics pertinent to the Latrobe Valley's prevalent chronic conditions.
- Develop educational campaigns to inform the community about the availability and benefits of machine-enabled health checks.
- Ensure that health data collected from the machines can be easily integrated into existing healthcare systems, facilitating seamless follow-up care and coordination with local healthcare providers.

5.2.8 Define Options: Option 8 - Machine-Based Health Checks

Machine-Enabled Health Checks

Machine-Enabled Health Checks integrate preventive health services into community spaces like schools and workplaces, promoting health awareness and early intervention

Advantages

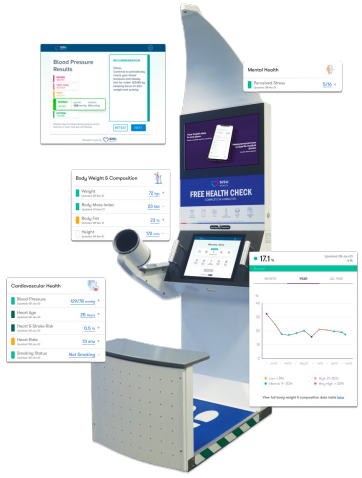
- ✓ Widespread Accessibility: Can be placed in multiple, easily accessible locations, reaching a large number of people.
- ✓ Quick and Non-Invasive: Health checks are completed in a few minutes, are non-invasive, and require no medical staff.
- ✓ Immediate Results: Users receive immediate feedback on their health metrics, which can be emailed or printed.
- ✓ Future-Proofed: Hardware and software upgrades are very easy, meaning futured developments in additional capabilities are easily implemented

Disadvantages

- X Initial Setup Cost: Requires investment in purchasing and installing the machines.
- X Limited Scope: While comprehensive, the scope of health metrics measured is still limited compared to full clinical assessments.
- X User Reliance: Effectiveness depends on user engagement and willingness to act on the results.
- X Lack of Follow-Up: Currently there is not follow up mechanism in place if someone has been determined to be at risk of a chronic condition

Challenges

- Privacy and Data Security: Ensuring the confidentiality of user health data is paramount.
- Maintenance and Calibration: Regular maintenance and calibration of the machines are necessary to ensure accurate readings.
- Awareness and Education: Raising awareness about the availability and benefits of these health checks to ensure high utilisation rates.
- Integration with Healthcare Providers: Ensuring that the data collected can be seamlessly integrated with existing healthcare systems for comprehensive care.



5.2.8 Define Options: Option 8 - Machine-Based Health Checks

Machine-Enabled Health Checks

Digital Health leveraging Predictive Analytics in the Latrobe Valley utilises data analysis to anticipate health needs and tailor interventions, improving the efficiency and effectiveness of health services

1. Focus on High-Impact Chronic conditions

Screens for prevalent conditions like cardiovascular diseases and diabetes but may lack comprehensive diagnostics of full clinical evaluations.

2. Integration with Existing Healthcare Services

Data can be integrated into electronic health records for follow-up but requires compatibility with existing systems and provider cooperation.

3. Cultural and Diversity Competence

User interfaces and materials can be culturally tailored but ensuring all nuances and literacy levels are met is challenging.

4. Service Location Accessibility

Machines can be deployed in rural and remote areas but reliance on electricity and internet limits effectiveness in very remote locations.

5. Socioeconomic Factors

Offers low-cost health checks, improving accessibility but initial and maintenance costs might be barriers in resource-limited settings.

6. Community Engagement and Trust

Builds trust through education and ensuring data privacy but initial scepticism and concerns about data security can affect uptake.

7. Effective Communications Plan

Clear communication strategies inform users about benefits but requires continuous engagement to maintain awareness.

8. Sustainability and Funding

Cost-effective for preventive care but requires ongoing funding for maintenance and operation.

9. Monitoring and Evaluation

Facilitates real-time health data monitoring and evaluation but requires dedicated resources for consistent data analysis.

10. Adaptability and Scalability

Highly adaptable and scalable for various locations but requires consistent updates and maintenance to remain effective.

5.2.9 Define Options: Option 9 - Mobile (Pop-Up) Health Check Bus

Mobile (Pop-Up) Health Checks

Mobile (Pop-Up) Health Checks across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

Solution Overview

Implementing Mobile (Pop-Up) Health Checks in the Latrobe Valley involves deploying fully equipped health buses that travel to various community locations to provide comprehensive health screenings and preventive care services. These mobile units aim to make healthcare more accessible, especially in underserved and rural areas, by offering services such as blood pressure checks, diabetes assessments, cholesterol screenings, and health education.

Drivers for this option

- Targeting Underserved Populations: The mobile health bus can reach underserved areas, ensuring that residents who might otherwise face barriers to healthcare can receive essential health checks.
- Convenience and Accessibility: By bringing healthcare directly to communities, the mobile bus eliminates the need for long travel times and time off work, making health services more accessible.
- Building Trust and Engagement: The informal, community-focused setting of a mobile health bus helps build trust and encourages engagement among residents who may distrust traditional healthcare systems.
- Flexibility in Service Delivery: The mobility of these units allows them to respond to community needs and health emergencies quickly, providing tailored services as required.

Key Considerations:

- Identify and prioritise high-need and underserved areas within the Latrobe Valley to maximise the impact of the mobile health bus.
- Tailor the health services provided to address the most prevalent chronic conditions in the Latrobe Valley, such as cardiovascular diseases, diabetes, and respiratory illnesses.
- Develop outreach programs to inform the community about the mobile health bus services.
- Secure diverse funding sources to ensure the program's sustainability. This includes seeking government grants, establishing private sector partnerships, and initiating community fundraising efforts.
- Ensure seamless integration of the mobile health bus data with existing healthcare systems.

5.2.9 Define Options: Option 9 - Mobile (Pop-Up) Health Check Bus

Mobile (Pop-Up) Health Checks

Mobile (Pop-Up) Health Checks across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

Advantages

- ✓ Increases Access to Preventive Care: Brings essential health services to those who might not visit a clinic, promoting early detection and intervention.
- ✓ Cost-Effective: Reduces the need for frequent hospital visits and can prevent costly health complications by catching issues early.
- ✓ Improves Health Outcomes: Provides continuous monitoring and follow-up, which is crucial for managing chronic diseases and improving overall health outcomes.
- ✓ Community Integration: Enhances community engagement by physically entering communities and providing a familiar, approachable healthcare setting.

Disadvantages

- X Initial and Ongoing Costs: Requires significant investment in purchasing, outfitting, and maintaining the health bus and its equipment.
- X Logistical Challenges: Coordinating schedules, locations, and staffing for the mobile units can be complex.
- X Scope of Services: While comprehensive, the range of services is still limited compared to a full-scale medical facility.

Challenges

- Ensuring Data Privacy: Protecting patient information collected during Mobile (Pop-Up) Health Checks is critical.
- Sustaining Funding: Continuous funding is needed to keep the mobile health bus operational and staffed.
- Integration with Healthcare Systems: Ensuring that data from health checks is integrated into the broader healthcare system for continuity of care.
- Engaging and Retaining Staff: Recruiting and retaining qualified healthcare professionals to staff the mobile units.

5.2.9 Define Options: Option 9 - Mobile (Pop-Up) Health Check Bus

Mobile (Pop-Up) Health Checks

Mobile (Pop-Up) Health Checks across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

1. Focus on High-Impact Chronic conditions

Provides comprehensive screenings for chronic diseases like cardiovascular conditions and diabetes but may not offer all diagnostic capabilities of a full medical facility.

2. Integration with Existing Healthcare Services

Can integrate patient data with local healthcare providers for follow-up care but data integration requires effective IT systems and cooperation from providers.

3. Cultural and Diversity Competence

Services can be tailored to meet the cultural needs of the local population but fully addressing all cultural nuances can be complex.

4. Service Location Accessibility

Effectively reaches underserved and geographically isolated communities but access can be limited by weather and terrain challenges.

5. Socioeconomic Factors

Reduces healthcare disparities by providing free or low-cost services but ongoing funding and resources are needed to maintain these services.

6. Community Engagement and Trust

Builds trust by delivering healthcare in familiar community settings but initial skepticism and concerns about mobile healthcare quality can arise.

7. Effective Communications Plan

Can use local media and community networks to inform and engage residents but requires continuous effort to maintain awareness.

8. Sustainability and Funding

Requires sustained funding through government, private sector, and community partnerships but ensuring long-term financial support is challenging.

9. Monitoring and Evaluation

Facilitates ongoing monitoring and evaluation of health data but requires dedicated resources for consistent implementation.

10. Adaptability and Scalability

Flexible and scalable, capable of expanding services based on community needs but requires tailored approaches for diverse regions.

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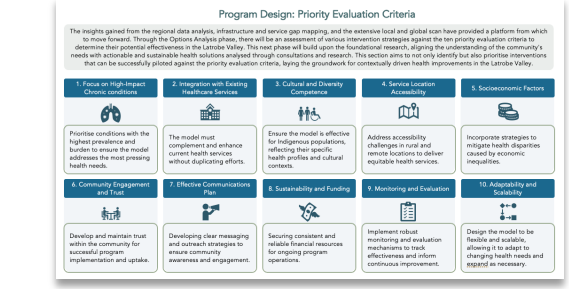
06

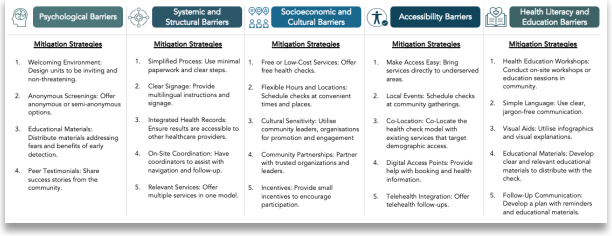
PILOT EVALUATION

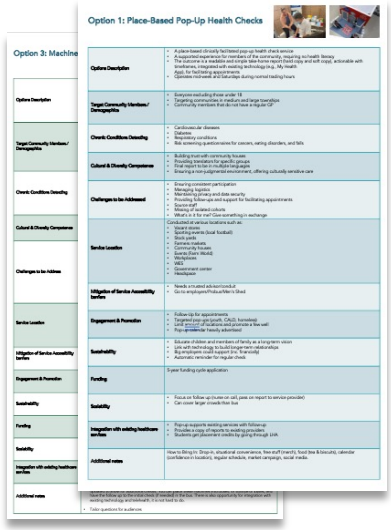
6.1 Pilot Design: Methodology

Based on the Latrobe Valley's internal and external environment, the following methodology was employed to develop the final short list of four options to be considered for piloting in the Latrobe Valley

Current State	Findings from current state analysis resulted in the development of 10 priority evaluation criteria and RCA guiding criteria which will be utilised in the in-depth development of short list options
Workshops and Consultations	Co-design of solutions, brought to moderate maturity through collaborative workshops. Input from workshops are utilised in the development of pilot models.
Options Analysis	Enable detailed analysis and evaluation against NMC's Evaluation Lenses Framework as part of the feasibility study including financial modelling
Recommendations	**Provide recommendation of pilot option to pursue, including detailed evaluation of option, implementation guidelines, and risk analysis with mitigations**







Short List of Options

NMC undertook a comparative analysis and evaluation of all prioritised options, based on the **frameworks** developed from **current state analysis** and **co-design workshops**.

To enable an objective recommendation of potential feasible pilot options based on evidence, multiple viewpoints or lenses of evaluation are required. By generating an agreed evaluation criteria, each option can be modelled and analysed in significant detail. Where the results from the evaluation are outside of expectations, changes can be made prior to finalising the report.

6.1.1 Pilot Design: Methodology – Evaluation

The feasibility of all options was comprehensively evaluated using quantitative and qualitative data, captured throughout the project

1. Evaluation by Lenses

To evaluate the impact of implementing each option, the report uses **10 evaluation lenses**.

Each lens combines qualitative and quantitative analysis.

The lenses are:

1. Focus on High-Impact Chronic Conditions
2. Integration with Existing Healthcare Services
3. Cultural and Diversity Competence
4. Service Location Accessibility
5. Socioeconomic Factors
6. Community Engagement and Trust
7. Effective Communications Plan
8. Sustainability and Funding
9. Monitoring and Evaluation
10. Adaptability and Scalability
11. Ability to Address Root Cause Analysis

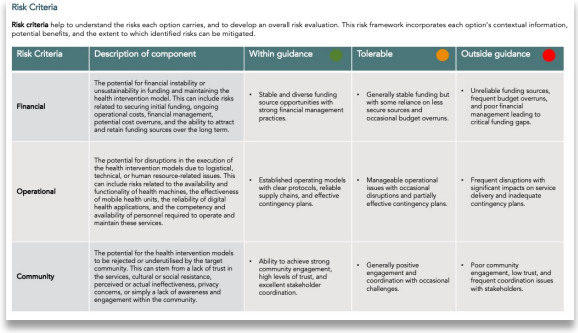
2. Evaluation by Risks

The implementation of each option presents several **risks** with **varying levels of likelihood and impact**.

The report identifies **five risk types for** LHA to prioritise, in order of potential impact to the pilot model.

The five risk types are:

1. Operational Risk
2. Financial Risk
3. Community and Stakeholder Risk
4. Regulatory and Compliance Risk
5. Technology Risk



Risk Criteria

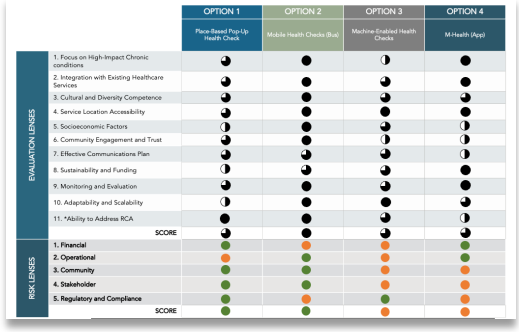
Risk criteria help to understand the risks each option carries, and to develop an overall risk evaluation. This risk framework incorporates each option's contextual information, potential benefits, and the extent to which identified risks can be mitigated.

Risk Criteria	Description of component	Within guidance	Tolerable	Outside guidance
Financial	The potential for financial instability or unsustainability in funding and maintaining the health intervention model. This can include risks related to securing initial funding, ongoing operational costs, financial management, potential cost overruns, and the ability to attract and retain funding sources over the long term.	• Stable and diverse funding source opportunities with strong financial management practices.	• Generally stable funding but with some reliance on less secure sources and occasional budget overruns.	• Unreliable funding sources, frequent budget overruns, and poor financial management leading to critical funding gaps.
Operational	The potential for disruptions in the execution of the health intervention models due to logistical, technical, or human resource-related issues. This can include risks related to the availability and functionality of health machines, the effectiveness of mobile health units, the reliability of digital health applications, and the competency and availability of personnel required to operate and maintain these services.	• Established operating models with clear protocols, reliable supply chains, and effective contingency plans.	• Manageable operational issues with occasional disruptions and partially effective contingency plans.	• Frequent disruptions with significant impacts on service delivery and inadequate contingency plans.
Community	The potential for the health intervention models to be rejected or underutilised by the target community. This can stem from a lack of trust in the services, cultural or social resistance, perceived or actual ineffectiveness, privacy concerns, or simply a lack of awareness and engagement within the community.	• Ability to achieve strong community engagement, high levels of trust, and excellent stakeholder coordination.	• Generally positive engagement and coordination with occasional challenges.	• Poor community engagement, low trust, and frequent coordination issues with stakeholders.

3. Evaluation Summary

A summary score for evaluation lenses provides an overall assessment of options with **metrics based** on the **average score of each evaluation lens**.

A summary score for the overall assessment of risks is not provided, as it is recommended that options with risks that cannot be mitigated are immediately unfeasible.



		OPTION 1 Place-Based Pop-Up Health Check	OPTION 2 Mobile Health Checks (Bus)	OPTION 3 Machine-Enabled Health Checks	OPTION 4 M-Health (App)
EVALUATION LENSES	1. Focus on High-Impact Chronic conditions	◕	●	◑	●
	2. Integration with Existing Healthcare Services	◕	●	◕	●
	3. Cultural and Diversity Competence	◕	●	◕	◕
	4. Service Location Accessibility	◕	●	●	●
	5. Socioeconomic Factors	◑	●	◕	◑
	6. Community Engagement and Trust	◕	●	◑	◑
	7. Effective Communications Plan	◕	◕	◕	◑
	8. Sustainability and Funding	◑	◕	◕	●
	9. Monitoring and Evaluation	◕	●	◕	●
	10. Adaptability and Scalability	◑	●	●	◕
	11. *Ability to Address RCA	●	●	◕	◑
	SCORE	◕	●	◕	◕
RISK LENSES	1. Financial	🟢	🟠	🟠	🟢
	2. Operational	🟠	🟢	🟠	🟢
	3. Community	🟢	🟢	🟠	🟠
	4. Stakeholder	🟢	🟢	🟠	🟠
	5. Regulatory and Compliance	🟢	🟠	🟢	🟠
	SCORE	🟢	🟢	🟠	🟠

6.1.2 Pilot Design: Methodology – Evaluation Lenses

Priority evaluation criteria utilised in long-list analysis will be explored in greater detail for each of the short-listed options

Program Design: Priority Evaluation Lenses

The priority evaluation lenses will be explored in detail for each of the four short listed options, with real world recommendations on how to develop and implement each model.

1. Focus on High-Impact Chronic conditions

Prioritise conditions with the highest prevalence and burden to ensure the model addresses the most pressing health needs.

2. Integration with Existing Healthcare Services

The model must complement and enhance current health services without duplicating efforts.

3. Cultural and Diversity Competence

Ensure the model is effective for Indigenous populations, reflecting their specific health profiles and cultural contexts.

4. Service Location Accessibility

Address accessibility challenges in rural and remote locations to deliver equitable health services.

5. Socioeconomic Factors

Incorporate strategies to mitigate health disparities caused by economic inequalities.

6. Community Engagement and Trust

Develop and maintain trust within the community for successful program implementation and uptake.

7. Effective Communications Plan

Developing clear messaging and outreach strategies to ensure community awareness and engagement.

8. Sustainability and Funding

Securing consistent and reliable financial resources for ongoing program operations.

9. Monitoring and Evaluation

Implement robust monitoring and evaluation mechanisms to track effectiveness and inform continuous improvement.

10. Adaptability and Scalability

Design the model to be flexible and scalable, allowing it to adapt to changing health needs and expand as necessary.

6.1.3 Pilot Design: Methodology – RCA Mitigation Criteria

The Root Cause Analysis for the Latrobe Valley summarised into 5 categories of broad causes of under-utilisation of health services, with mitigation strategies to enable the chosen program to effectively address the root cause

Program Design: Root Cause Analysis Barriers

The Root Cause Analysis provided a foundation for understanding the challenges and barriers this program will need to overcome to achieve long-term success and improve health outcomes in the Latrobe Valley. The findings from the RCA have been summarised into broad categories with recommended mitigating strategies which will be used throughout this section.

Psychological Barriers

Mitigation Strategies

1. Welcoming Environment: Design units to be inviting and non-threatening.
2. Anonymous Screenings: Offer anonymous or semi-anonymous options.
3. Educational Materials: Distribute materials addressing fears and benefits of early detection.
4. Peer Testimonials: Share success stories from the community.

Systemic and Structural Barriers

Mitigation Strategies

1. Simplified Process: Use minimal paperwork and clear steps.
2. Clear Signage: Provide multilingual instructions and signage.
3. Integrated Health Records: Ensure results are accessible to other healthcare providers.
4. On-Site Coordination: Have coordinators to assist with navigation and follow-up.
5. Relevant Services: Offer multiple services in one model.

Socioeconomic and Cultural Barriers

Mitigation Strategies

1. Free or Low-Cost Services: Offer free health checks.
2. Flexible Hours and Locations: Schedule checks at convenient times and places.
3. Cultural Sensitivity: Utilise community leaders, organisations for promotion and engagement
4. Community Partnerships: Partner with trusted organisations and leaders.
5. Incentives: Provide small incentives to encourage participation.

Accessibility Barriers

Mitigation Strategies

1. Make Access Easy: Bring services directly to underserved areas.
2. Local Events: Schedule checks at community gatherings.
3. Co-Location: Co-Locate the health check model with existing services that target demographic access.
4. Digital Access Points: Provide help with booking and health information.
5. Telehealth Integration: Offer telehealth follow-ups.

Health Literacy and Education Barriers

Mitigation Strategies

1. Health Education Workshops: Conduct on-site workshops or education sessions in community.
2. Simple Language: Use clear, jargon-free communication.
3. Visual Aids: Utilise infographics and visual explanations.
4. Educational Materials: Develop clear and relevant educational materials to distribute with the check.
5. Follow-Up Communication: Develop a plan with reminders and educational materials.

6.1.4 Pilot Design: Methodology – Workshop Co-Design Output

NMC and LHA engaged community and the Latrobe Valley healthcare stakeholders in a series of 4 co-design workshops, where current state findings and long list options were validated and further developed into the final short-listed options which form the basis of the pilot model designs

WORKSHOP PURPOSE

- **Addressing Health Disparities:** Chronic conditions are prevalent in the Latrobe Valley, and many community members face barriers to accessing preventive health services. The workshops aimed to create effective, accessible solutions tailored to the community's needs.
- **Community-Centric Approach:** By involving the community and stakeholders directly, the workshops ensured the solutions are relevant, sustainable, and supported by those they are designed to help.

METHODOLOGY

- **Collaborative Engagement:** Four workshops were conducted involving a diverse group of stakeholders.
- **Iterative Process:** Each workshop built on the previous, refining understanding and developing solutions through validation, co-design, and prioritisation.
- **Evidence-Based Approach:** The workshops were informed by current state analysis and stakeholder consultations, grounded in real-world data and insights.

OUTCOMES

- **Validated Findings:** The initial analysis of healthcare challenges and needs in the Latrobe Valley was validated and refined
- **Developed Models:** A long list of potential models for early detection was co-designed and evaluated based on established criteria.
- **Prioritised Solutions:** Four models were shortlisted and further developed. Participants then votes on their prioritised options with option 1 & 2 receiving the most votes.

Click To View Workshop 4 Outcomes

Workshop 1

Validated and reviewed the current state, evaluation criteria, and prioritised challenges and constraints.

Workshop 2

Co-designed and refined a long list of options for early detection models.

Workshop 3

Prioritised the shortlisted options through voting and further co-design.

Workshop 4

Finalised and prioritised the short-listed options to be piloted in the Latrobe Valley.

6.2 Pilot Design: Options Considered But Not Pursued

After initial consultations and high-level analysis, the Project Working Group decided not to pursue five potential options for detailed analysis based on the current state review and workshop outcomes

Options not pursued for analysis

After initial consultations with stakeholders, workshop co-design, investigations and high-level analysis, the Project Working Group eliminated five potential options to be pursued for further analysis. Workshop participants included individuals from Federation University, GRPHU, LCHS, GPHN, LRH, LVA, GMS, LVA, LHS, LHA, NMC, Community, and Latrobe City Council. These participants aided in the prioritisation and development of all options.

OPTION	REASONS OPTION NOT PURSUED FOR DETAILED ANALYSIS
Community Health Workers	Did not make the shortlist due to logistical challenges in training and deploying a sufficient number of workers across the region.
Pharmacy Led Health Checks	Excluded because of the limited scope of services that pharmacies can offer compared to more comprehensive health check models, along with the lack of capacity within the profession to take on additional responsibilities.
Workplace Health Checks	Not shortlisted due to limited scope and difficulties in coordinating with various workplaces and ensuring consistent participation from employees.
Nurse Led Health Checks	Did not advance due to the challenges in building an initiative reliant on nurses due to cost and workforce shortages. Nurses are seen to be a crucial component of all models, but it was deemed to not be viable to depend solely on trained nurses.
Digital Health (Predictive Analytics)	Excluded because of potential barriers in digital literacy and access to technology among the target population.

While we are not moving forward with the specific options from this list, it is important to note that several elements from these options will be incorporated into the final recommendation. These integrated components can enhance the overall effectiveness and innovation of the proposed health check models, ensuring that the best aspects of each idea contribute the final solution and are not lost in the process.

6.3 Pilot Design: Options For Further Analysis

Based on the constraints and influences, four options were co-designed with workshop participants and unanimously agreed on by the Project Working Group for detailed analysis

Selected Options for Analysis

#	OPTION	OPTION DESCRIPTION
1	Place-Based Pop-Up Health Check	• Stationary pop-up clinics offering health screenings and preventive care across the Latrobe Valley.
2	Mobile (Pop-Up) Health Checks	• Mobile health units in the form or a bus or van, shared between services which travels to communities, places, and events.
3	Machine-Enabled Health Checks	• Health check machine that enable self-administered or assisted health checks at various locations.
4	M-Health	• Mobile technologies delivering personalised health information and monitoring to individuals.

6.4.1 Pilot Design: Option 1 – Place-Based (Pop-Up) Health Checks

Place-Based (Pop-Up) Health Check

Place-Based (Pop-Up) Health Checks across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

Solution Summary

- The Place-Based Pop-Up Health Check initiative aims to improve early detection and management of chronic diseases in the Latrobe Valley by offering accessible, community-based health screenings.
- These pop-up health checks, facilitated by clinicians, will be set up in high-traffic community locations such as markets, events, and workplaces.
- The program targets individuals aged 18 and over, particularly those in medium to large townships and those without regular GP access.
- By integrating health checks with existing health services and using digital tools for follow-up, the initiative seeks to create a sustainable, culturally competent model that can significantly reduce healthcare disparities and improve public health outcomes in the region.

Requirements For Success:

- Region wide marketing campaign
- Comprehensive scheduling calendar
- Community engagement and promotion with partners and services
- Health provider collaboration and support
- Established follow up mechanisms
- Integration into the health system (e.g., through local collaboration, telehealth, Nurse Practitioners)

Innovative Execution

The Place-Based (Pop-Up) Health Check model is innovative for the Latrobe Valley by addressing barriers that previous health initiatives faced, such as accessibility and cultural competence. By setting up health check stations at community events and markets, this model ensures healthcare is convenient and familiar. The innovation lies in its ability to bring healthcare directly to the community, ensuring no one is left behind, and addressing specific local health challenges with a versatile and community-focused approach.

Root Cause Analysis Barriers

Through the root cause analysis, mitigation strategies were developed, relevant mitigation strategies that can be employed for Place-Based health checks are detailed in the table below:

Barrier Category	Mitigation Strategies
Psychological Barriers	Welcoming Environment, Anonymous Screenings, Educational Materials, Peer Testimonials
Systemic and Structural Barriers	Simplified Process, Clear Signage, Integrated Health Records, On-Site Coordination, Relevant Services
Socioeconomic and Cultural Barriers	Free or Low-Cost Services, Flexible Hours and Locations, Cultural Sensitivity, Community Partnerships, Incentives
Accessibility Barriers	Make Access Easy, Local Events, Co-Location, Digital Access Points, Telehealth Integration
Health Literacy and Education Barriers	Health Education Workshops, Simple Language, Visual Aids, Educational Materials, Follow-Up Communication

Click to View Root Cause Mapping

6.4.1 Pilot Design: Option 1 – Place-Based (Pop-Up) Health Check Criteria 1 & 2

Place-Based (Pop-Up) Health Check across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

1. Focus on High-Impact Chronic conditions

2. Integration with Existing Healthcare Services

CRITERIA 1 OBJECTIVE

To prioritise the early detection and intervention of high-impact chronic conditions prevalent in the Latrobe Valley, specifically focusing on cardiovascular diseases, diabetes, respiratory conditions, and risk factors for cancers. This model is effectively able to achieve this through:

TARGETED SCREENING PROTOCOLS

- Cardiovascular Diseases: Implement screenings for hypertension, cholesterol levels, and heart rate using portable blood pressure monitors and lipid profile tests.
- Diabetes: Conduct blood glucose testing and HbA1c measurements to identify undiagnosed diabetes and prediabetes, using finger-prick tests and portable glucose meters.
- Respiratory Conditions: Utilise spirometry and peak flow meters to assess lung function and screen for conditions like asthma and chronic obstructive pulmonary disease (COPD).
- *Although this model allows all major tests and screening, due to it being limited to one place with defined staff, it lacks the adaptability of a mobile clinic which can travel to different locations utilising different staff

COMPREHENSIVE HEALTH ASSESSMENTS

- Include a variety of health checks to cover a broad spectrum of chronic conditions common in the Latrobe Valley, ensuring a holistic approach to community health.
- Use a combination of physical examinations, biometric measurements, and risk questionnaires to gather comprehensive health data.

Rating

CRITERIA 2 OBJECTIVE

To ensure seamless integration of the Place-Based Pop-Up Health Check model with existing healthcare services in the Latrobe Valley, facilitating continuity of care and effective follow-up for individuals identified with health risks. This model is effectively able to achieve this through:

DATA INTEGRTION AND SHARING

- Electronic Health Records (EHRs): Establish protocols for securely sharing health check data with local healthcare providers, ensuring that patient information is integrated into existing electronic health records (EHRs).
- Standardised Data Formats: Utilise standardised formats for data collection and transmission to ensure compatibility with various healthcare IT systems.

REFERRAL PATHWAYS

- Clear Referral Processes: Develop clear referral pathways for individuals identified with health risks, ensuring they are connected to appropriate healthcare services for follow-up care.
- Collaboration with Healthcare Providers: Collaborate with local GPs, specialists, and allied health professionals to create a network of referral options and facilitate coordinated care.

COORDINATION WITH HEALTHCARE PROVIDERS

- Provider Engagement: Engage with local healthcare providers to inform them about the mobile health check program and its objectives.
- Regular Communication: Facilitate regular meetings and communication channels between mobile health check staff and healthcare providers to discuss patient care and follow-up needs.

Rating

6.4.1 Pilot Design: Option 1 – Place-Based (Pop-Up) Health Check Criteria 3 & 4

Place-Based (Pop-Up) Health Check across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

3. Cultural and Diversity Competence

4. Service Location Accessibility

CRITERIA 3 OBJECTIVE

To ensure the Place-Based Pop-Up Health Check model is culturally and linguistically appropriate, leveraging community leaders and organisations to effectively reach and engage diverse populations in the Latrobe Valley. This model is effectively able to achieve this through:

ENGAGEMENT WITH COMMUNITY LEADERS

- Partnerships: Collaborate with leaders from various cultural and ethnic groups to promote the health checks and build trust within the community.
- Ambassadors: Use these leaders as ambassadors to share information and encourage participation through culturally relevant channels.

PARTNERSHIPS WITH LOCAL ORGANISATIONS

- Cultural Centres and Faith-Based Groups: Partner with local community organisations, cultural centres, and faith-based groups that have established relationships with diverse populations.
- Promotion: Utilise these organisations to disseminate information about the health checks and provide venues for the pop-up events.

DIVERSE STAFFING AND TRAINING

- Recruit staff from diverse cultural backgrounds to reflect the community being served and provide training on cultural competence.
- Ensure staff are skilled in delivering culturally sensitive care and can communicate effectively with individuals from various backgrounds.

Rating

CRITERIA 4 OBJECTIVE

To ensure the Place-Based Pop-Up Health Check model is culturally and linguistically appropriate, leveraging community leaders and organisations to effectively reach and engage diverse populations in the Latrobe Valley. This model is effectively able to achieve this through:

STRATEGIC LOCATION SELECTION

- High-Traffic Areas: Select locations that are frequented by community members, such as shopping centres, markets, community centres, schools, and workplaces.
- Community Events: Coordinate health check visits with local events and festivals to capitalise on large gatherings and increase accessibility.

PORTABLE INFRASTRUCTURE

- Equip pop-up health checks with mobile units that can easily travel to and set up in remote locations.
- Ensure these units are self-sufficient, with necessary medical supplies and equipment for comprehensive health screenings.

FLEXIBLE SCHEDULING

- Schedule health checks during times that are convenient for rural residents, such as weekends or after-hours, to accommodate those with inflexible work schedules.
- Collaborate with local community organisations, rural health clinics, and schools to host pop-up health checks.
- Implement a rotating schedule to ensure regular visits to remote areas.

Rating

6.4.1 Pilot Design: Option 1 – Place-Based (Pop-Up) Health Check Criteria 5 & 6

Place-Based (Pop-Up) Health Check across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

5. Socioeconomic Factors

6. Community Engagement and Trust

CRITERIA 5 OBJECTIVE

To incorporate strategies in the Place-Based Pop-Up Health Check model that mitigate health disparities caused by economic inequalities, ensuring equitable access to healthcare services for all socioeconomic groups in the Latrobe Valley. This model is effectively able to achieve this through:

FREE SERVICES

- Affordability: Provide health checks and screenings free of charge or at a minimal cost to ensure affordability for all community members, regardless of their economic status.
- Subsidies and Grants: Secure funding from government grants, private sector partnerships, and community fundraising to subsidise the costs of the services provided.

LEVERAGE PARTNERSHIPS AND LOCAL SERVICES

- Collaborate with local non-profits, community organisations, and social services that support low-income populations to promote the pop-up health checks.
- Leverage these partnerships to reach economically disadvantaged individuals and families who might otherwise face barriers to accessing healthcare.

COMMUNITY-BASED LOCATIONS

- Set up pop-up health check stations in easily accessible, community-based locations such as schools, community centres, and public housing areas.
- Ensure that these locations are within walking distance or easily reachable by public transport for low-income residents.

Rating

CRITERIA 6 OBJECTIVE

To develop and maintain trust within the community, ensuring successful program implementation and uptake for the Place-Based Pop-Up Health Check model in the Latrobe Valley. This model is effectively able to achieve this through:

EARLY AND ONGOING COMMUNITY ENGAGEMENT

- Stakeholder Engagement: Engage community members and leaders from the outset in the planning and design of the health check program to foster a sense of ownership and trust.
- Regular Communication: Conduct regular community meetings and workshops to gather input, provide updates, and maintain transparency throughout the program's development and implementation.

LOCAL PARTNERSHIP NETWORK

- Local Collaborations: Partner with trusted local organisations, community centres, and cultural groups to promote the health checks and endorse the program.
- Endorsements: Leverage these partnerships to reach different segments of the community and build credibility.

COMMUNITY PRESENCE

- Use clear, consistent, and culturally appropriate messaging
- Ensure the pop-up health checks are held in well-known and frequented community locations to increase visibility and accessibility.
- Incorporate community events and local festivals into the health check schedule to integrate with existing community activities.

Rating

6.4.1 Pilot Design: Option 1 – Place-Based (Pop-Up) Health Check Criteria 7 & 8

Place-Based (Pop-Up) Health Check across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

7. Effective Communications Plan

8. Sustainability and Funding

CRITERIA 7 OBJECTIVE

To develop clear messaging and outreach strategies to ensure community awareness and engagement for the Place-Based Pop-Up Health Check model, addressing historical communication challenges in the Latrobe Valley. This model is effectively able to achieve this through:

IDENTIFY TARGET AUDIENCES

- Segmentation: Segment the community into target groups (e.g., elderly, young adults, families, culturally diverse groups) to tailor communication strategies effectively.
- Demographics Analysis: Use demographic data and community input to understand the specific needs and preferences of each group.

DEVELOP CLEAR MESSAGING

- Simple and Clear Information: Create simple, clear, and consistent messages that explain the purpose, benefits, and logistics of the health checks.
- Key Messages: Emphasise the convenience, accessibility, and importance of early detection of chronic diseases.

UTILISE MULTIPLE COMMUNICATION CHANNELS

- Multi-Channel Approach: Implement a multi-channel approach, using social media, local newspapers, community newsletters, radio, and flyers to reach a broad audience.
- Organisational Partnerships: Collaborate with local community organisations, cultural groups, and religious institutions to disseminate information and encourage participation.
- Use these organisations' existing networks to enhance outreach and engagement.

Rating

CRITERIA 8 OBJECTIVE

To secure consistent and reliable financial resources for the ongoing operations of the Place-Based Pop-Up Health Check model, ensuring its long-term viability and impact in the Latrobe Valley. This model is effectively able to achieve this through:

DIVERSE FUNDING SOURCES

- Government Grants: Apply for health-specific grants from federal and state health departments, focusing on preventive care and chronic disease management programs.
- Collaborate with local and regional health authorities to secure ongoing funding and support for the program.
- Leverage existing health programs and initiatives to integrate funding and resources, ensuring alignment with broader health goals.

COST-EFFECTIVE OPERATIONS

- Develop a detailed financial plan outlining the costs of setting up, operating, and maintaining the pop-up health checks, including staffing, equipment, and outreach activities.
- Implement financial management practices to monitor expenses, track funding sources, and ensure efficient use of resources.
- Implement cost-saving measures such as bulk purchasing of supplies, efficient scheduling of health checks, and the use of digital tools to reduce administrative costs.
- Utilise student nurses (along with students from other health professions) as a cost-effective staffing option
- Regularly evaluate and optimise operational processes to ensure cost-effectiveness and sustainability.

Rating

6.4.1 Pilot Design: Option 1 – Place-Based (Pop-Up) Health Check Criteria 9 & 10

Place-Based (Pop-Up) Health Check across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

9. Monitoring and Evaluation

10. Adaptability and Scalability

CRITERIA 9 OBJECTIVE

To implement robust monitoring and evaluation mechanisms that track the effectiveness of the Place-Based Pop-Up Health Check model and inform continuous improvement. This model is effectively able to achieve this through:

DEFINE CLEAR OBJECTIVES AND OUTCOMES

- Measurable Goals: Establish specific, measurable objectives for the health check program, such as the number of individuals screened, the detection rate of chronic conditions, and patient follow-up rates.
- Key Performance Indicators (KPIs): Identify KPIs that align with these objectives to measure program success.

DEVELOP DATA COLLECTION PROTOCOLS

- Standardised Tools: Create standardised data collection tools and protocols to ensure consistent and accurate data recording during health checks.
- Digital Integration: Utilise digital tools, such as the My Health App, for real-time data entry and management.

PATIENT FOLLOW-UP AND TRACKING

- Follow-Up System: Establish a system for tracking patient follow-up appointments and outcomes, ensuring that individuals who need further care are connected to appropriate services.
- Digital Reminders: Use digital tools to send reminders and follow-up surveys to participants.

Rating

CRITERIA 10 OBJECTIVE

To design the Place-Based Pop-Up Health Check model to be flexible and scalable, allowing it to adapt to changing health needs and expand as necessary. This model is effectively able to achieve this through:

MODULAR SERVICE DESIGN

- Service Modules: Develop a modular approach to the health check services, enabling easy addition or removal of specific screenings based on evolving health priorities and community needs.
- Independent Operations: Ensure each module (e.g., cardiovascular screening, diabetes testing) can operate independently or in conjunction with others.

FLEXIBLE INFRASTRUCTURE

- Portable Equipment: Utilise portable and adaptable equipment that can be easily set up and transported to various locations, including rural and urban settings.
- Versatile Design: Ensure pop-up clinic can be set up at different venues, such as community centres, schools, markets, and workplaces.

COMMUNITY NEEDS

- Regularly gather feedback from participants and community stakeholders to identify areas for improvement and new service needs.
- Engage with community leaders to ensure the program remains relevant and responsive to local health concerns.

Rating

6.4.1 Pilot Design: Option 1 – Place-Based (Pop-Up) Health Check Summary

Place-Based (Pop-Up) Health Check across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

LENS	Option 1: Place-Based (Pop-Up) Health Check	Rating
1. Focus on High-Impact Chronic conditions	• Effectively targets prevalent chronic conditions through focused health screenings at community events.	◕
2. Integration with Existing Healthcare Services	• Can integrate well with local healthcare services but requires consistent follow-up procedures.	◕
3. Cultural and Diversity Competence	• High engagement with diverse communities through tailored health information and outreach.	◕
4. Service Location Accessibility	• Good accessibility by setting up in high-traffic community locations but may exclude socially isolated and hard-to-reach groups.	◕
5. Socioeconomic Factors	• Addresses socioeconomic barriers through free or low-cost services but may require additional outreach for economically disadvantaged groups.	◑
6. Community Engagement and Trust	• High engagement and trust due to the ability to utilise multiple services and rusted organisations.	◕
7. Effective Communications Plan	• Effective at reaching the community through event promotions but may need additional channels for broader reach.	◕
8. Sustainability and Funding	• Good sustainability with diverse funding sources but requires initial investment and ongoing financial support for maintenance.	◑
9. Monitoring and Evaluation	• Strong monitoring and evaluation capabilities with real-time data collection and analysis.	◕
10. Adaptability and Scalability	• Moderately adaptable and scalable by adjusting location, staffing, and services based on community needs.	◑
*Ability to Address RCA	• All mitigation strategies noted in RCA can be addressed through this model	●
	Overall Score	◕

Legend: ○ Non-Existent ◔ Poor ◑ Satisfactory ◕ Good ● Excellent

6.4.2 Pilot Design: Option 2 - Mobile (Pop-Up) Health Checks

Mobile (Pop-Up) Health Checks

Mobile (Pop-Up) Health Checks across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

Solution Summary

- The Mobile (Pop-Up) Health Checks (Bus or Van) initiative is designed to enhance early detection and management of chronic diseases in the Latrobe Valley by providing comprehensive health screenings through a mobile health unit.
- This flexible, adaptable model, developed through workshops and co-design sessions, aims to reach diverse demographics by bringing healthcare services directly to the community.
- The mobile unit will be equipped with essential medical equipment and staffed by healthcare professionals, enabling it to serve various locations, including rural and underserved areas.
- This approach ensures accessibility, convenience, and a broad reach, addressing the community's healthcare needs effectively.

Requirements For Success:

- Region wide marketing campaign
- Sustainable funding sources
- Comprehensive scheduling calendar
- Region-wide communications plan
- Strong community engagement and promotion with partners and services
- Health provider collaboration and support
- Established follow up mechanisms
- Integration into the health system (e.g., through local collaboration, telehealth, Nurse Practitioners)

Innovative Execution

The Mobile (Pop-Up) Health Checks model is an innovative model for the Latrobe Valley by addressing barriers that previous health initiatives faced, such as accessibility and cultural competence. By incorporating machine-enabled checks, M-Health app support, and place-based services, the mobile unit provides a comprehensive and adaptable health solution. The innovation lies in its ability to bring healthcare directly to the community, ensuring no one is left behind, and addressing specific local health challenges with a versatile and community-focused approach.

Root Cause Analysis Barriers

Through the root cause analysis, mitigation strategies were developed, relevant mitigation strategies that can be employed for Mobile (Pop-Up) Health Checks are detailed in the table below:

Barrier Category	Mitigation Strategies
Psychological Barriers	Welcoming Environment, Anonymous Screenings, Educational Materials, Peer Testimonials
Systemic and Structural Barriers	Simplified Process, Clear Signage, Integrated Health Records, On-Site Coordination, Relevant Services
Socioeconomic and Cultural Barriers	Free or Low-Cost Services, Flexible Hours and Locations, Cultural Sensitivity, Community Partnerships, Incentives
Accessibility Barriers	Make Access Easy, Local Events, Co-Location, Digital Access Points, Telehealth Integration
Health Literacy and Education Barriers	Health Education Workshops, Simple Language, Visual Aids, Educational Materials, Follow-Up Communication

Click to View Root Cause Mapping

6.4.2 Pilot Design: Mobile (Pop-Up) Health Checks Criteria 1 & 2

1. Focus on High-Impact Chronic conditions

2. Integration with Existing Healthcare Services

Mobile (Pop-Up) Health Checks across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

CRITERIA 1 OBJECTIVE

To prioritise the early detection and intervention of high-impact chronic conditions prevalent in the Latrobe Valley, specifically focusing on cardiovascular diseases, diabetes, respiratory conditions, and risk factors for cancers. This model is effectively able to achieve this through:

TARGETED SCREENING PROTOCOLS

- Cardiovascular Diseases: Implement screenings for hypertension, cholesterol levels, and heart rate using portable blood pressure monitors and lipid profile tests.
- Diabetes: Conduct blood glucose testing and HbA1c measurements to identify undiagnosed diabetes and prediabetes, using finger-prick tests and portable glucose meters.
- Respiratory Conditions: Utilise spirometry and peak flow meters to assess lung function and screen for conditions like asthma and chronic obstructive pulmonary disease (COPD).
- Cancer Risks: Provide risk assessments for common cancers (e.g., breast, colorectal, and skin cancer) through questionnaires and referrals for further testing based on family history and risk factors.

COMPREHENSIVE HEALTH ASSESSMENTS

- Include a variety of health checks to cover a broad spectrum of chronic conditions common in the Latrobe Valley, ensuring a holistic approach to community health.
- Use a combination of physical examinations, biometric measurements, and risk questionnaires to gather comprehensive health data.

Rating

CRITERIA 2 OBJECTIVE

To facilitate integration of the Mobile Health Check model with existing healthcare services in the Latrobe Valley, enabling continuity of care and effective follow-up for individuals identified with health risks. This model is effectively able to achieve this through:

DATA INTEGRTION AND SHARING

- Electronic Health Records (EHRs): Establish protocols for securely sharing health check data with local healthcare providers, ensuring that patient information is integrated into existing electronic health records (EHRs).
- Standardised Data Formats: Utilise standardised formats for data collection and transmission to ensure compatibility with various healthcare IT systems.

REFERRAL PATHWAYS

- Clear Referral Processes: Develop clear referral pathways for individuals identified with health risks, ensuring they are connected to appropriate healthcare services for follow-up care.
- Collaboration with Healthcare Providers: Collaborate with local GPs, specialists, and allied health professionals to create a network of referral options and facilitate coordinated care.

COORDINATION WITH EHALTHCARE PROVIDERS

- Provider Engagement: Engage with local healthcare providers to inform them about the mobile health check program and its objectives.
- Regular Communication: Facilitate regular meetings and communication channels between mobile health check staff and healthcare providers to discuss patient care and follow-up needs.

Rating

6.4.2 Pilot Design: Mobile (Pop-Up) Health Checks Criteria 3 & 4

3. Cultural and Diversity Competence

4. Service Location Accessibility

Mobile (Pop-Up) Health Checks across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

CRITERIA 3 OBJECTIVE

To ensure the Mobile Health Check model is culturally and linguistically appropriate, leveraging community leaders and organisations to effectively reach and engage diverse populations in the Latrobe Valley. This model is effectively able to achieve this through:

ENGAGEMENT WITH COMMUNITY LEADERS

- Partnerships: Collaborate with leaders from various cultural and ethnic groups to promote the health checks and build trust within the community.
- Ambassadors: Use these leaders as ambassadors to share information and encourage participation through culturally relevant channels.

PARTNERSHIPS WITH LOCAL ORGANISATIONS

- Cultural Centres and Faith-Based Groups: Partner with local community organisations, cultural centres, and faith-based groups that have established relationships with diverse populations.
- Promotion: Utilise these organisations to disseminate information about the health checks and provide venues for the pop-up events.

CULTURALLY RELEVANT EDUCATION AND MATERIALS

- Develop health education materials in multiple languages that are common in the Latrobe Valley, ensuring they are easily understandable and culturally appropriate.
- Include culturally relevant health information that addresses specific health beliefs and practices of the community.

Rating

CRITERIA 4 OBJECTIVE

To ensure that the Mobile Health Check model provides accessible services by strategically selecting and planning locations that maximise community reach and convenience. This model is effectively able to achieve this through:

STRATEGIC LOCATION SELECTION

- High-Traffic Areas: Select locations that are frequented by community members, such as shopping centres, markets, community centres, schools, and workplaces.
- Community Events: Coordinate health check visits with local events and festivals to capitalise on large gatherings and increase accessibility.

REACHING UNDERSERVED AREAS

- Rural and Remote Locations: Ensure the mobile unit visits rural and remote areas that lack easy access to healthcare facilities, providing essential services to these underserved populations.
- Regular Rotation Schedule: Implement a rotating schedule to ensure consistent and regular visits to different locations, covering both urban and rural

CONVENIENT OPERATING HOURS

- Flexible Hours: Operate during convenient times, including evenings and weekends, to accommodate working individuals and families with varying schedules.
- Extended Hours: Consider extended hours during specific community events or in high-demand locations to increase accessibility.

Rating

6.4.2 Pilot Design: Mobile (Pop-Up) Health Checks Criteria 5 & 6

5. Socioeconomic Factors

6. Community Engagement and Trust

Mobile (Pop-Up) Health Checks across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

CRITERIA 5 OBJECTIVE

To incorporate strategies in the Mobile Health Check model that mitigate health disparities caused by economic inequalities, ensuring equitable access to healthcare services for all socioeconomic groups in the Latrobe Valley. This model is effectively able to achieve this through:

FREE SERVICES

- Affordability: Provide health checks and screenings free of charge or at a minimal cost to ensure affordability for all community members, regardless of their economic status.
- Subsidies and Grants: Secure funding from government grants, private sector partnerships, and community fundraising to subsidise the costs of the services provided.

TARGETED OUTREACH

- Low-Income Neighbourhoods: Develop outreach programs specifically targeting low-income neighbourhoods and communities with high levels of economic disadvantage.
- Awareness Campaigns: Use local media, social networks, and community events to raise awareness about the availability and benefits of the health checks.

COMMUNITY-BASED LOCATIONS

- Accessible Venues: Set up the mobile health bus in easily accessible, community-based locations such as schools, community centres, and public housing areas.
- Proximity to Residents: Ensure that these locations are within walking distance or easily reachable by public transport for low-income residents.

Rating

CRITERIA 6 OBJECTIVE

To develop and maintain trust within the community, ensuring successful program implementation and uptake for the Mobile Health Check model in the Latrobe Valley. This model is effectively able to achieve this through:

EARLY AND ONGOING COMMUNITY ENGAGEMENT

- Stakeholder Engagement: Engage community members and leaders from the outset in the planning and design of the health check program to foster a sense of ownership and trust.
- Regular Communication: Conduct regular community meetings and workshops to gather input, provide updates, and maintain transparency throughout the program's development and implementation.

LOCAL PARTNERSHIP NETWORK

- Local Collaborations: Partner with trusted local organisations, community centres, and cultural groups to promote the health checks and endorse the program.
- Endorsements: Leverage these partnerships to reach different segments of the community and build credibility.

STRATEGIC COMMUNICATIONS STRATEGIES

- Clear Messaging: Use clear, consistent, and culturally appropriate messaging to inform the community about the purpose, benefits, and logistics of the health checks.
- Multi-Channel Approach: Utilise multiple communication channels, including social media, local radio, community newsletters, and face-to-face interactions to reach a broad audience.

Rating

6.4.2 Pilot Design: Mobile (Pop-Up) Health Checks Criteria 7 & 8

7. Effective Communications Plan

8. Sustainability and Funding

Mobile (Pop-Up) Health Checks across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

CRITERIA 7 OBJECTIVE

To develop clear messaging and outreach strategies to ensure community awareness and engagement for the Mobile Health Check model, addressing historical communication challenges in the Latrobe Valley. This model is effectively able to achieve this through:

IDENTIFY TARGET AUDIENCES

- Segmentation: Segment the community into target groups (e.g., elderly, young adults, families, culturally diverse groups) to tailor communication strategies effectively.
- Demographics Analysis: Use demographic data and community input to understand the specific needs and preferences of each group.

DEVELOP CLEAR MESSAGING

- Simple and Clear Information: Create simple, clear, and consistent messages that explain the purpose, benefits, and logistics of the health checks.
- Key Messages: Emphasise the convenience, accessibility, and importance of early detection of chronic diseases.

UTILISE MULTIPLE COMMUNICATION CHANNELS

- Multi-Channel Approach: Implement a multi-channel approach, using social media, local newspapers, community newsletters, radio, and flyers to reach a broad audience.
- Digital Tools: Leverage digital tools such as the My Health App to send reminders and updates directly to community members.
- Organisational Partnerships: Collaborate with local community organisations, cultural groups, and religious institutions to disseminate information and encourage participation.

Rating

CRITERIA 8 OBJECTIVE

To secure consistent and reliable financial resources for the ongoing operations of the Mobile Health Check model, ensuring its long-term viability and impact in the Latrobe Valley. This model is effectively able to achieve this through:

DIVERSE FUNDING SOURCES

- Government Grants: Apply for health-specific grants from federal and state health departments, focusing on preventive care and chronic disease management programs.
- Private Sector Partnerships: Engage with local businesses and large employers to secure sponsorships and donations, emphasising the community health benefits and potential reduction in healthcare costs.
- Philanthropic Donations: Seek donations from philanthropic organisations and individual donors who are invested in improving community health.
- Shared Ownership: Split operating costs between partnering organisations who agree to share the service

COST-EFFECTIVE OPERATIONS

- Operational Efficiency: Implement cost-saving measures such as bulk purchasing of supplies, efficient scheduling of health checks, and the use of digital tools to reduce administrative costs.
- Continuous Evaluation: Regularly evaluate and optimise operational processes to ensure cost-effectiveness and sustainability.

Rating

6.4.2 Pilot Design: Mobile (Pop-Up) Health Checks Criteria 9 & 10

9. Monitoring and Evaluation

10. Adaptability and Scalability

Mobile (Pop-Up) Health Checks across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

CRITERIA 9 OBJECTIVE

To implement robust monitoring and evaluation mechanisms that track the effectiveness of the Mobile Health Check model and inform continuous improvement. This model is effectively able to achieve this through:

DEFINE CLEAR OBJECTIVES AND OUTCOMES

- Measurable Goals: Establish specific, measurable objectives for the health check program, such as the number of individuals screened, the detection rate of chronic conditions, and patient follow-up rates.
- Key Performance Indicators (KPIs): Identify KPIs that align with these objectives to measure program success.

DEVELOP DATA COLLECTION PROTOCOLS

- Standardised Tools: Create standardised data collection tools and protocols to ensure consistent and accurate data recording during health checks.
- Digital Integration: Utilise digital tools, such as the My Health App, for real-time data entry and management.

PATIENT FOLLOW-UP AND TRACKING

- Follow-Up System: Establish a system for tracking patient follow-up appointments and outcomes, ensuring that individuals who need further care are connected to appropriate services.
- Digital Reminders: Use digital tools to send reminders and follow-up surveys to participants.

Rating

CRITERIA 10 OBJECTIVE

To design the Mobile Health Check model to be flexible and scalable, allowing it to adapt to changing health needs and expand as necessary. This model is effectively able to achieve this through:

MODULAR SERVICE DESIGN

- Service Modules: Develop a modular approach to the health check services, enabling easy addition or removal of specific screenings based on evolving health priorities and community needs.
- Independent Operations: Ensure each module (e.g., cardiovascular screening, diabetes testing) can operate independently or in conjunction with others.

FLEXIBLE INFRASTRUCTURE

- Portable Equipment: Utilise portable and adaptable equipment that can be easily set up and transported to various locations, including rural and urban settings.
- Versatile Bus Design: Ensure the bus infrastructure can accommodate different venues and service needs.

COLLABORATIVE PARTNERSHIPS

- Local Collaborations: Form partnerships with local healthcare providers, community organisations, and businesses to support scalability.
- Resource Sharing: Leverage these partnerships for resources, venues, and additional services as the program expands.

Rating

6.4.2 Pilot Design: Option 2 - Mobile (Pop-Up) Health Checks Summary

Mobile (Pop-Up) Health Checks

Mobile (Pop-Up) Health Checks across the Latrobe Valley provide essential health screenings directly to communities, overcoming geographical and accessibility barriers

LENS	Option 2: Mobile (Pop-Up) Health Checks	Rating
1. Focus on High-Impact Chronic conditions	• Provides comprehensive health checks targeting chronic conditions effectively across different locations.	●
2. Integration with Existing Healthcare Services	• Strong integration with local healthcare providers through direct data sharing and follow-up.	●
3. Cultural and Diversity Competence	• High competence with diverse staffing and tailored services for various community groups.	●
4. Service Location Accessibility	• Excellent accessibility by traveling to various locations, including remote areas.	●
5. Socioeconomic Factors	• Effectively addresses economic barriers by providing free or low-cost services directly to underserved areas.	●
6. Community Engagement and Trust	• High engagement and trust due to the ability to utilise multiple services and rusted organisations.	●
7. Effective Communications Plan	• Diverse communication strategy using multiple channels and partners to promote the bus services and engage the community.	◕
8. Sustainability and Funding	• Good sustainability with diverse funding sources but requires large initial investment and ongoing financial support for maintenance.	◕
9. Monitoring and Evaluation	• Strong monitoring and evaluation capabilities with real-time data collection and analysis.	◕
10. Adaptability and Scalability	• Highly adaptable and scalable by adjusting routes, staffing, and services based on community needs.	●
*Ability to Address RCA	• All mitigation strategies noted in RCA can be addressed through this model	●
	Overall Score	●

Legend: ○ Non-Existent ◔ Poor ◑ Satisfactory ◕ Good ● Excellent

6.4.3 Pilot Design: Option 3 - Machine-Enabled Health Checks

Machine Based Checks in the Latrobe Valley will allow a large degree of flexibility and adaptability, with limited staffing costs and ease-of-use

Machine-Enabled Health Checks

Solution Summary

- The Machine-Enabled Health Checks model involves deploying self-service health check machines at various locations throughout the Latrobe Valley.
- These machines are designed to conduct a range of health assessments autonomously, including screenings for respiratory conditions, cardiovascular diseases, and potential cancer risks.
- The health check machines provide immediate feedback through printed or emailed reports and can be easily moved between locations to maximise accessibility.
- They are branded and shielded to ensure privacy and equipped with user-friendly interfaces to facilitate self-administration of tests.

Requirements For Success:

- Region wide marketing campaign
- Strong community engagement and promotion with partners and services
- Partner (host) collaboration and support
- Established follow up mechanisms
- Integration into the health system (e.g., through local collaboration, telehealth
- Strategic location identification

Innovative Execution

The innovation within this model lies in the use of advanced technology to provide instant health assessments, allowing for immediate feedback and follow-up recommendations. By integrating these machines with local healthcare systems, the model can ensure that health data is seamlessly shared with healthcare providers for continuous care. This strategy can effectively address the barriers of accessibility, anonymity, and immediate feedback, which have been challenges in previous health initiatives.

Root Cause Analysis Barriers

Through the root cause analysis, mitigation strategies were developed, relevant mitigation strategies that can be employed for machine-enabled health checks are detailed in the table below:

Barrier Category	Mitigation Strategies
Psychological Barriers	Anonymous Screenings, Educational Materials, Peer Testimonials
Systemic and Structural Barriers	Simplified Process, Clear Signage, Integrated Health Records, On-Site Coordination, Relevant Services
Socioeconomic and Cultural Barriers	Free or Low-Cost Services, Flexible Hours and Locations, Cultural Sensitivity, Community Partnerships
Accessibility Barriers	Make Access Easy, Local Events, Co-Location, Digital Access Points, Telehealth Integration
Health Literacy and Education Barriers	Simple Language, Visual Aids, Educational Materials, Follow-Up Communication

Click to View Root Cause Mapping

6.4.3 Pilot Design: Option 3 - Machine-Enabled Checks Criteria 1 & 2

1. Focus on High-Impact Chronic conditions
2. Integration with Existing Healthcare Services

Machine Based Checks in the Latrobe Valley will allow a large degree of flexibility and adaptability, with limited staffing costs and ease-of-use

CRITERIA 1 OBJECTIVE

To prioritise the early detection and intervention of high-impact chronic conditions prevalent in the Latrobe Valley, specifically focusing on cardiovascular diseases, diabetes, respiratory conditions, and risk factors for cancers. This model is effectively able to achieve this through:

TARGETED SCREENING PROTOCOLS

- Machines are equipped to perform a range of health checks specifically designed to detect early signs of chronic conditions. For example, they can measure blood pressure, glucose levels, and lung function, which are key indicators for conditions like hypertension, diabetes, and chronic obstructive pulmonary disease (COPD).
- These machines provide instant feedback on health metrics, enabling individuals to receive immediate information about their health status. This immediacy can prompt timely medical consultations and interventions.

COMPREHENSIVE HEALTH ASSESSMENTS

- Include a variety of health checks to cover a broad spectrum of chronic conditions common in the Latrobe Valley, ensuring a holistic approach to community health.
- Use a combination of physical examinations, biometric measurements, and risk questionnaires to gather comprehensive health data.

Rating

CRITERIA 2 OBJECTIVE

To facilitate integration of the Machine Based model with existing healthcare services in the Latrobe Valley, enabling continuity of care and effective follow-up for individuals identified with health risks. This model is effectively able to achieve this through:

DATA INTEGRTION AND SHARING

- Health machines are designed to upload patient data directly to electronic health records (EHRs), allowing healthcare providers to access real-time health information.

REFERRAL PATHWAYS

- Machines can automatically generate referrals for patients with abnormal results, directing them to appropriate healthcare providers for further evaluation and treatment.

PHYSICAL INTEGRATION

- Follow-up care can be facilitated through integrated alerts and reminders for both patients and healthcare providers, ensuring timely follow-up appointments and continuous care. Sisu are currently investigating integrating telehealth into their machines, illustrating capabilities for integration.
- Machines have historically been implemented within healthcare services such as pharmacies, illustrating their capability to integrate into facilities and support health checks.

Rating

6.4.3 Pilot Design: Option 3 - Machine-Enabled Checks Criteria 3 & 4

3. Cultural and Diversity Competence

4. Service Location Accessibility

Machine Based Checks in the Latrobe Valley will allow a large degree of flexibility and adaptability, with limited staffing costs and ease-of-use

CRITERIA 3 OBJECTIVE

Machine-Enabled Health Checks address cultural and diversity competence by offering multilingual support and culturally tailored health information, which enhances engagement and trust among diverse community groups. This model is effectively able to achieve this through:

MULTI-LINGUAL SUPPORT

- Machines provide instructions and health information in multiple languages, ensuring accessibility for non-English speakers. ultilingual support increases participation and improves health outcomes among diverse populations

CULTIURALLY RELEVANT CONTENT

- Health information and educational materials can be tailored to reflect the cultural contexts of the communities served, fostering better understanding and engagement.
- Culturally relevant content enhances the effectiveness of health interventions in diverse populations

COMMUNITY COLLABORATION

- Collaboration with local cultural organisations ensures that the health checks are respectful of cultural practices and sensitivities.
- Community collaboration increases trust and acceptance of health services

Rating

CRITERIA 4 OBJECTIVE

Machine-Enabled Health Checks enhance service location accessibility by placing machines in high-traffic and convenient locations, making health services readily available to a broader population. This model is effectively able to achieve this through:

STRATEGIC LOCATION SELECTION

- High-Traffic Areas: Select locations that are frequented by community members, such as shopping centres, markets, community centres, schools, and workplaces.
- Community Events: Coordinate health check visits with local events and festivals to capitalise on large gatherings and increase accessibility.

REACHING UNDERSERVED AREAS

- Rural and Remote Locations: Ensure the bus visits rural and remote areas that lack easy access to healthcare facilities, providing essential services to these underserved populations.
- Regular Rotation Schedule: Implement a rotating schedule to ensure consistent and regular visits to different locations, covering both urban and rural

CONVENIENT OPERATING HOURS

- Flexible Hours: Operate during convenient times, including evenings and weekends, to accommodate working individuals and families with varying schedules.
- Extended Hours: Consider extended hours during specific community events or in high-demand locations to increase accessibility.

Rating

6.4.3 Pilot Design: Option 3 - Machine-Enabled Checks Criteria 5 & 6

5. Socioeconomic Factors

6. Community Engagement and Trust

Machine Based Checks in the Latrobe Valley will allow a large degree of flexibility and adaptability, with limited staffing costs and ease-of-use

CRITERIA 5 OBJECTIVE

Machine-Enabled Health Checks mitigate socioeconomic barriers by providing free or low-cost health services, ensuring that financial constraints do not prevent individuals from accessing necessary health checks. This model is effectively able to achieve this through:

FREE SERVICES

- Machines offer health checks at no cost or low cost, making them accessible to economically disadvantaged populations.
- Affordable health services increase access and reduce health disparities among low-income groups

COLLABORATION WITH COMMUNITY

- Collaborations with community organisations help subsidise the cost of health checks, further lowering financial barriers.
- Evidence: Community partnerships enhance the reach and affordability of health services

COMMUNITY-BASED LOCATIONS

- Accessible Venues: The machines can be set up in easily accessible, community-based locations such as schools, community centres, and public housing areas.
- Proximity to Residents: Ensure that these locations are within walking distance or easily reachable by public transport for low-income residents.

Rating

CRITERIA 6 OBJECTIVE

To develop and maintain trust within the community, ensuring successful program implementation and uptake for the Machine Enabled Health Check model in the Latrobe Valley. This model is effectively able to achieve this through:

PRIVACY AND ANONYMITY

- Machines allow for anonymous health checks, reducing stigma and encouraging participation from individuals who value privacy. Although, if privacy is a concern, the machines do not hide the users from the public.
- Anonymity in health services increases trust and participation, especially for stigmatised conditions

LOCAL PARTNERSHIP NETWORK

- Local Collaborations: Partner with trusted local organisations, community centres, and cultural groups to promote the health checks and endorse the program.
- Endorsements: Leverage these partnerships to reach different segments of the community and build credibility.

STRATEGIC COMMUNICATIONS STRATEGIES

- Clear Messaging: Use clear, consistent, and culturally appropriate messaging to inform the community about the purpose, benefits, and logistics of the health checks.
- Multi-Channel Approach: Utilise multiple communication channels, including social media, local radio, community newsletters, and face-to-face interactions to reach a broad audience.

Rating

6.4.3 Pilot Design: Option 3 - Machine-Enabled Checks Criteria 7 & 8

7. Effective Communications Plan

8. Sustainability and Funding

Machine Based Checks in the Latrobe Valley will allow a large degree of flexibility and adaptability, with limited staffing costs and ease-of-use

CRITERIA 7 OBJECTIVE

To develop clear messaging and outreach strategies to ensure community awareness and engagement for the Machine Enabled model, addressing historical communication challenges in the Latrobe Valley. This model is effectively able to achieve this through:

IDENTIFY TARGET AUDIENCES

- Segmentation: Segment the community into target groups (e.g., elderly, young adults, families, culturally diverse groups) to tailor communication strategies effectively.
- Demographics Analysis: Use demographic data and community input to understand the specific needs and preferences of each group.

DEVELOP CLEAR MESSAGING

- Simple and Clear Information: Create simple, clear, and consistent messages that explain the purpose, benefits, and logistics of the health checks.
- Key Messages: Emphasise the convenience, accessibility, and importance of early detection of chronic diseases.

UTILISE MULTIPLE COMMUNICATION CHANNELS

- Multi-Channel Approach: Implement a multi-channel approach, using social media, local newspapers, community newsletters, radio, and flyers to reach a broad audience.
- Digital Tools: Leverage digital tools such as the My Health App to send reminders and updates directly to community members.
- Organisational Partnerships: Collaborate with local community organisations, cultural groups, and religious institutions to disseminate information and encourage participation.

Rating

CRITERIA 8 OBJECTIVE

The sustainability of Machine-Enabled Health Checks is supported through diverse funding sources and partnerships, ensuring long-term viability and continuous operation. This model is effectively able to achieve this through:

DIVERSE FUNDING SOURCES

- Private Sector Partnerships: Engage with local businesses and large employers to secure sponsorships and donations, emphasising the community health benefits and potential reduction in healthcare costs.
- Shared Ownership: Split operating costs between partnering organisations who agree to share the service
- Utilise a more affordable agreement such as leasing of the machines in order to offset purchasing costs.

COST-EFFECTIVE OPERATIONS

- Continuous Evaluation: Regularly evaluate and optimise operational processes to ensure cost-effectiveness and sustainability.

Rating

6.4.3 Pilot Design: Option 3 - Machine-Enabled Checks Criteria 9 & 10

9. Monitoring and Evaluation

10. Adaptability and Scalability

Machine Based Checks in the Latrobe Valley will allow a large degree of flexibility and adaptability, with limited staffing costs and ease-of-use

CRITERIA 9 OBJECTIVE

Robust monitoring and evaluation mechanisms are in place to track the effectiveness of Machine-Enabled Health Checks, ensuring continuous improvement and accountability. This model is effectively able to achieve this through:

DEFINE CLEAR OBJECTIVES AND OUTCOMES

- Measurable Goals: Establish specific, measurable objectives for the health check program, such as the number of individuals screened, the detection rate of chronic conditions, and patient follow-up rates.
- Key Performance Indicators (KPIs): Identify KPIs that align with these objectives to measure program success.

DEVELOP DATA COLLECTION PROTOCOLS

- Health machines collect comprehensive data on usage patterns, health metrics, and patient feedback, which are crucial for monitoring performance and outcomes.
- Regular reports on program performance are generated and reviewed by stakeholders to ensure transparency and continuous improvement.

PATIENT FOLLOW-UP AND TRACKING

- Mechanisms are in place to gather feedback from users and healthcare providers, which is used to refine and improve the service.
- Feedback mechanisms can be improved to measure follow-up adherence after a health check, as this model currently does not allow this.

Rating

CRITERIA 10 OBJECTIVE

To design the Machine-Enabled model to be flexible and scalable, allowing it to adapt to changing health needs and expand as necessary. This model is effectively able to achieve this through:

MODULAR SERVICE DESIGN

- Machines can be easily relocated to different sites based on community needs and events, ensuring they serve the areas with the highest demand.
- The technology used in the machines can be updated and scaled to accommodate additional health checks and services as needed.
- Software and hardware upgrades are relatively easy to implement, for example, to incorporate a test for respiratory conditions, a simple breathing device can be used to plug onto the machine, requiring relatively low maintenance cost.

COLLABORATIVE PARTNERSHIPS

- Local Collaborations: Form partnerships with local healthcare providers, community organisations, and businesses to support scalability.
- Resource Sharing: Leverage these partnerships for resources, venues, and additional services as the program expands.

Rating

6.4.3 Pilot Design: Option 3 - Machine-Enabled Checks Summary

Machine-Enabled Health Checks

Machine Based Checks in the Latrobe Valley will allow a large degree of flexibility and adaptability, with limited staffing costs and ease-of-use

LENS	Option 3: Machine-Enabled Health Check	Rating
1. Focus on High-Impact Chronic conditions	• Provides comprehensive health checks targeting chronic conditions effectively across different locations.	◑
2. Integration with Existing Healthcare Services	• Good integration potential but requires effective data sharing and follow-up mechanisms.	◕
3. Cultural and Diversity Competence	• Moderate competence with multilingual interfaces but needs community-specific adjustments.	◕
4. Service Location Accessibility	• Highly accessible by placing machines in high-traffic areas and community hubs.	●
5. Socioeconomic Factors	• Addresses economic barriers with free or low-cost health checks but requires targeted outreach.	◕
6. Community Engagement and Trust	• Good engagement through convenient services but may face trust issues related to technology.	◑
7. Effective Communications Plan	• Adequate communication strategies but needs enhancement to ensure broader awareness and usage.	◕
8. Sustainability and Funding	• Moderate sustainability with initial investment and maintenance costs, requiring reliable funding.	◕
9. Monitoring and Evaluation	• Effective monitoring with built-in data collection but requires systematic evaluation processes.	◕
10. Adaptability and Scalability	• Highly adaptable and scalable by increasing the number of machines and expanding locations.	●
*Ability to Address RCA	• Most mitigation strategies noted in RCA can be addressed through this model	◕
	Overall Score	◕

Legend: ○ Non-Existent ◔ Poor ◑ Satisfactory ◕ Good ● Excellent

6.4.4 Pilot Design: Option 4 – M-Health

M-Health

M-Health initiatives harness mobile technology to provide personalised health information and services to the Latrobe Valley community, supporting self-management of health

Solution Summary

- LHA can act as an advocate and developer of an innovative directory of available app and website-based health checks. This directory will not involve designing or owning any app but will compile various existing health applications tailored to the needs of the Latrobe Valley community on a single webpage.
- The directory will integrate existing mobile health apps (e.g., My Health and Heart Health Check App) into the current healthcare system, ensuring seamless data sharing and continuity of care.
- The directory will provide information on app functionalities, user guides, and integration support, making it easy for healthcare providers and patients to adopt and utilise these technologies effectively.

Requirements For Success:

- Collaboration with GPHN
- Integration of mobile health apps into health systems
- Support and resource provision for training
- Community education on app usage
- Support from providers - advocacy
- Continuous monitoring and feedback
- Technical support and updates

Important Note: This pilot evaluation differs from the initial long-list M-Health option. It evolved through workshop co-design into a comprehensive directory of existing health apps, leveraging the availability of these apps to streamline access for the community.

Innovative Execution

The innovation within this model lies in the opportunity for wide integration of highly capable apps within the region, providing continuous health monitoring and education through a user-friendly directory. By integrating the directory with local healthcare systems, local providers can act as advocates and promote the directory for patients to use. This model addresses the digital divide by offering an option for users, ensuring that the benefits of mobile health technology are accessible to all community members. LHA can develop this directory to be an online resource, hosted on their or a partner's website, and can also create a physical version for distribution within the community, utilising QR codes and easy to use links.

Root Cause Analysis Barriers

Through the root cause analysis, mitigation strategies were developed, relevant mitigation strategies that can be employed for m-health checks are detailed in the table below:

Barrier Category	Mitigation Strategies
Psychological Barriers	Educational Materials, Peer Testimonials
Systemic and Structural Barriers	Clear Signage, Integrated Health Records, Relevant Services
Socioeconomic and Cultural Barriers	Flexible Hours and Locations, Cultural Sensitivity, Community Partnerships
Accessibility Barriers	Make Access Easy, Digital Access Points, Telehealth Integration
Health Literacy and Education Barriers	Simple Language, Visual Aids, Educational Materials, Follow-Up Communication

Click to View Root Cause Mapping

6.4.4 Pilot Design: Option 4 - M-Health Criteria 1 & 2

1. Focus on High-Impact Chronic conditions
2. Integration with Existing Healthcare Services

M-Health initiatives harness mobile technology to provide personalised health information and services to the Latrobe Valley community, supporting self-management of health

CRITERIA 1 OBJECTIVE

Ensure the M-Health Directory includes applications that effectively address the most prevalent and high-impact chronic conditions in the Latrobe Valley, such as cardiovascular diseases, diabetes, and respiratory illnesses.

HEALTH MONITORING TOOL

- Include apps that specifically target high-impact conditions identified through local health data, ensuring they provide relevant and effective interventions.
- Include applications that are based on robust clinical evidence and have demonstrated efficacy in managing and improving outcomes for chronic conditions.
- Include apps that are easy to use and navigate, ensuring they cater to users with varying levels of digital literacy and health knowledge.

USIBILITY AND RELEVANCE

- Ensure the applications provide culturally sensitive content that resonates with the diverse population of the Latrobe Valley, enhancing user acceptance and engagement.
- Ensure the apps are designed to engage users in proactive health management, offering features such as reminders for medication adherence, monitoring of health metrics, and personalised health tips.

Rating

CRITERIA 2 OBJECTIVE

M-Health applications should be integrated into the LHA website to ensure easy access and coordinated care, enhancing the overall health management process.

DATA SHARING

- Develop a user-friendly webpage on the LHA website that serves as a centralised directory for various health check apps, providing easy access for users.
- Ensure that the directory allows for seamless access to the apps, with clear instructions and links for downloading or accessing each app.
- Ensure users can easily find and use apps that offer real-time data access for health checks.

COORDINATION WITH EHALTHCARE PROVIDERS

- Encourage local healthcare providers to endorse and recommend the use of the M-Health directory to their patients, fostering a coordinated approach to health management.
- Promote the use of apps that support coordinated care plans and reminders to ensure ongoing management of chronic conditions.

REFERRAL AND FOLLOW UP

- Enable automatic referrals to specialists based on app data and risk assessments, ensuring timely medical interventions (best practice).
- Provide follow-up alerts for both patients and providers to ensure timely medical actions and continuity of care.

Rating

6.4.4 Pilot Design: Option 4 - M-Health Criteria 3 & 4

3. Cultural and Diversity Competence

4. Service Location Accessibility

M-Health initiatives harness mobile technology to provide personalised health information and services to the Latrobe Valley community, supporting self-management of health

CRITERIA 3 OBJECTIVE

M-Health applications address cultural and diversity competence by offering multilingual support and culturally tailored health information, enhancing engagement with diverse communities. This model is effectively able to achieve this through:

MULTILINGUAL INTERFACE

- Apps included in the directory should provide health information and instructions in multiple languages, ensuring accessibility for non-English speakers.
- LHA should assess apps within the directory and provide information on what languages are included or not in the directory.
- Notifications and alerts in the user's preferred language to increase engagement and compliance.

CULTURALLY RELEVANT EDUCATION AND MATERIALS

- Health education materials are tailored to reflect cultural contexts, improving comprehension and relevance.
- Inclusion of culturally specific health practices and recommendations in the apps to ensure relevance.
- Mechanisms for user feedback to continuously improve the cultural relevance of the content.

Although these guidelines may be out of scope for LHA, they have been included to demonstrate best practice. Where out of scope, LHA may act as an advocate for users and communicate with app owners.

Rating

CRITERIA 4 OBJECTIVE

M-Health applications enhance service location accessibility by providing health services directly on users' mobile devices, removing geographic and logistical barriers. This model is effectively able to achieve this through:

ANYWHERE ACCESS

- Ensure users can access health services from all devices to enhance accessibility for those with low technological literacy and older devices.
- Include apps that do not require physical presence, making health services more convenient and accessible.
- Provide apps that can be used at any time, fitting health management into users' schedules.

NO TRAVEL REQUIRED

- Eliminates the need for travel to healthcare facilities, saving time and costs.
- Reduces the burden on healthcare infrastructure by managing routine care remotely.
- Minimises exposure to infections and other health risks associated with clinic visits.

Rating

6.4.4 Pilot Design: Option 4 - M-Health Criteria 5 - 8

5. Socioeconomic Factors
6. Community Engagement and Trust
7. Effective Communications Plan
8. Sustainability and Funding

M-Health initiatives harness mobile technology to provide personalised health information and services to the Latrobe Valley community, supporting self-management of health

CRITERIA 5 OBJECTIVE

M-Health applications address socioeconomic barriers by providing affordable or free health services, ensuring that financial constraints do not prevent access to essential health tools. This model is effectively able to achieve this through:

FREE APP

- Ensure the directory includes a variety of free or low-cost health apps that can be used by most smartphones, making healthcare accessible regardless of financial situation.

Rating

CRITERIA 6 OBJECTIVE

M-Health applications build community engagement and trust by offering personalised, user-friendly health services that are easily accessible and continuously supported. This model is effectively able to achieve this through:

USER FRIENDLY DESIGN

- Include apps designed to be intuitive and easy to navigate, encouraging regular use.
- Apps should offer personalized user experiences based on health data and preferences.

Rating

CRITERIA 7 OBJECTIVE

A comprehensive communications plan for M-Health applications ensures community awareness and engagement, driving adoption and consistent use of the health tools. This model is effectively able to achieve this through:

MULTI-CHANNEL OUTREACH

- Promote the directory through social media, local media, community events, and healthcare providers to reach a broad audience.
- Conduct campaigns to demonstrate app benefits and usage, ensuring community members understand how to effectively use the tools available.

Rating

CRITERIA 8 OBJECTIVE

The sustainability of M-Health applications is supported through diverse funding sources and strategic partnerships, ensuring long-term viability and continuous operation. This model is effectively able to achieve this through:

COST-EFFECTIVE OPERATION

- Secure funding from various sources, including government grants, local businesses, and community contributions, to support the directory's development and maintenance.
- Maintain low operational costs by leveraging existing website infrastructure and ensuring efficient resource use.
- Establish strategic partnerships with healthcare providers to support the directory's ongoing development and promotion.

Rating

6.4.4 Pilot Design: Option 4 - M-Health Criteria 9 & 10

9. Monitoring and Evaluation

10. Adaptability and Scalability

M-Health initiatives harness mobile technology to provide personalised health information and services to the Latrobe Valley community, supporting self-management of health

CRITERIA 9 OBJECTIVE

Establish robust monitoring and evaluation mechanisms to track the effectiveness of the M-Health Directory and the applications it includes, ensuring continuous improvement based on user feedback and health outcomes.

DATA ANALYTICS

- Implement systems for collecting regular feedback from users about their experiences with the M-Health Directory and the applications included. This can include surveys, focus groups, and user reviews.
- Monitor usage patterns of the directory and the individual applications to identify trends, areas for improvement, and successful features. This can be done through data collected from the webpages performance.

REGULAR REPORTING

- Provide regular reports to stakeholders, including community members and healthcare providers, on the performance and impact of the M-Health Directory.

CONTINUOUS IMPROVEMENT

- Use the data collected from monitoring and evaluation to make informed decisions about updating the directory, adding new applications, and improving existing ones.
- If necessary, feedback and reports can be provided to app owners to enable continuous improvement on their end.

Rating

CRITERIA 10 OBJECTIVE

Design the M-Health Directory to be flexible and scalable, allowing for the addition of new applications and features as technology evolves and community needs change.

SCALABILITY

- Ensure the directory is built on a robust and scalable platform that can accommodate the addition of new applications and increased user demand over time.
- Facilitate the integration of new and emerging M-Health technologies, ensuring that the directory remains current and relevant.

FEEDBACK INTEGRATION

- Continuously adapt based on community needs and preferences to ensure relevance and effectiveness.
- Educate users about new applications and features added to the directory, ensuring they are aware of and can benefit from the latest resources.

Rating

6.4.4 Pilot Design: Option 4 - M-Health Summary

M-Health

M-Health initiatives harness mobile technology to provide personalised health information and services to the Latrobe Valley community, supporting self-management of health

LENS	Option 4: M-Health	Rating
1. Focus on High-Impact Chronic conditions	• Provides continuous monitoring and management of chronic conditions through mobile technology.	●
2. Integration with Existing Healthcare Services	• Excellent integration with healthcare services through seamless data sharing and digital follow-ups.	●
3. Cultural and Diversity Competence	• Moderate competence with multilingual support but requires further community-specific customisation.	◕
4. Service Location Accessibility	• Extremely accessible, allowing users to access health services anywhere with a mobile device.	●
5. Socioeconomic Factors	• Addresses economic barriers by offering free digital health services but requires efforts to bridge the digital divide, but does not actively reach harder to reach groups.	◑
6. Community Engagement and Trust	• Moderate engagement but may face challenges with digital literacy and trust in technology.	◑
7. Effective Communications Plan	• Adequate communication strategies but needs robust campaigns to ensure widespread adoption and usage.	◑
8. Sustainability and Funding	• High sustainability due to low operational costs and potential for broad-reaching, cost-effective implementation.	●
9. Monitoring and Evaluation	• Excellent monitoring and evaluation capabilities with continuous data collection and analysis.	●
10. Adaptability and Scalability	• Highly adaptable and scalable with the ability to update app functionalities and expand user base easily.	◕
*Ability to Address RCA	• Some mitigation strategies noted in RCA can be addressed through this model	◑
	Overall Score	◕

Legend: ○ Non-Existent ◔ Poor ◑ Satisfactory ◕ Good ● Excellent

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07

RISK

7.1 Risk Analysis: Methodology

Pilot implementation risks are assessed through five key risk lenses to ensure all risk factors are well considered and evaluated

Understanding the risks involved with **four pilot options** is **vital**.

A comprehensive understanding and evaluation of risks enables informed decision-making and aids selection of an option to pursue further.

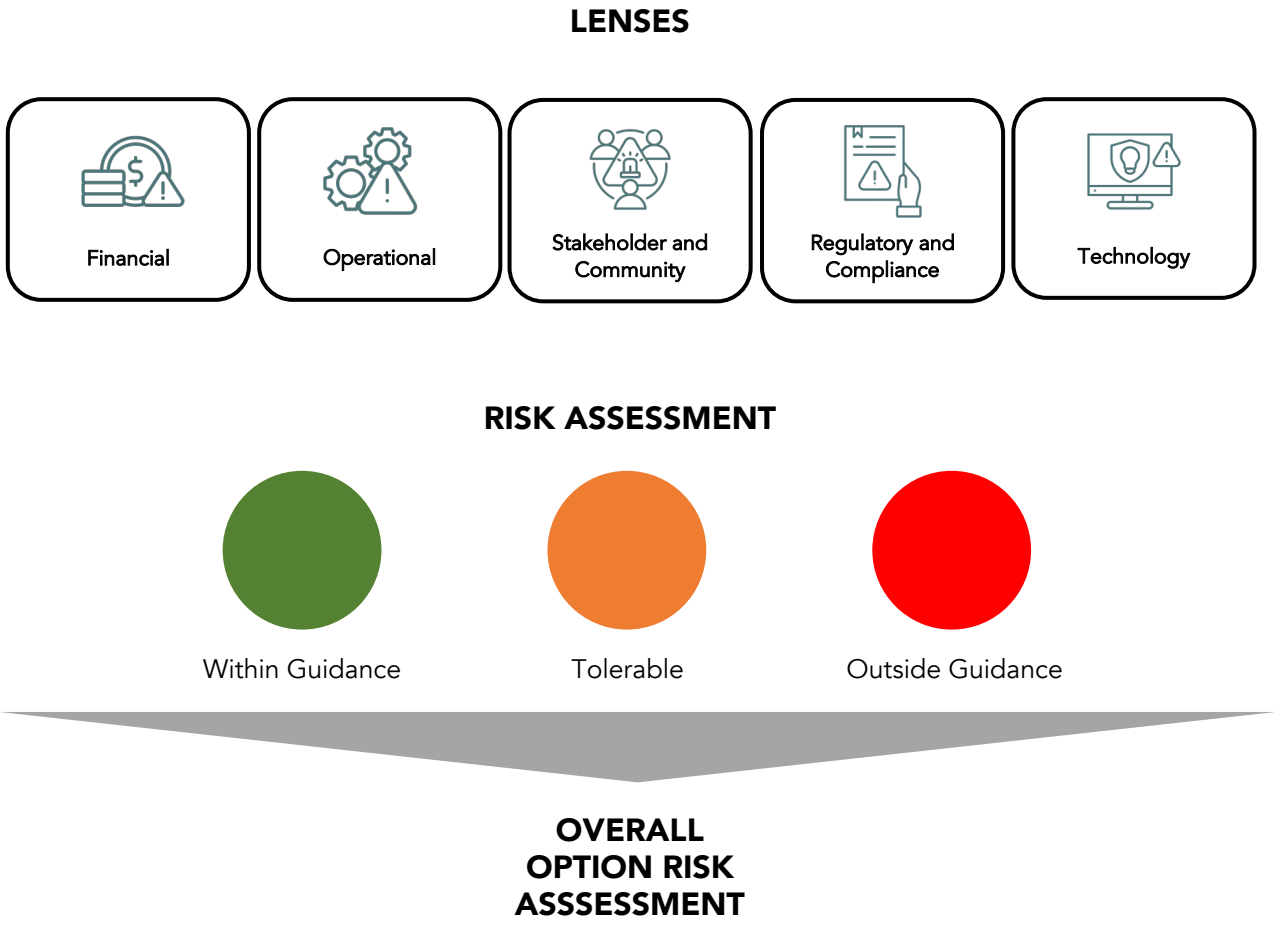
To **assess risk levels** across each aspect of the identified options, the following risk lenses were identified:

- Financial
- Operational
- Community
- Stakeholder
- Regulatory and Compliance

A **risk assessment** was **generated to summarise risks** and a **rating provided**, defined by the following:

- **Within Guidance:** Risk that is deemed tolerable and can be comprehensively understood and wholly mitigated.
- **Tolerable**: Risk that is tolerable given understanding of the relevant context and potential benefits and can be mitigated in-part.
- **Outside Guidance:** Risk that is deemed intolerable, and/or cannot be comprehensively understood and/or mitigated.

Risk Assessment Methodology



7.2 Risk Analysis: Criteria

Options Analysis risk criteria establish an understanding of the associated risks of each option

Risk Criteria

Risk criteria help to understand the risks each option carries, and to develop an overall risk evaluation. This risk framework incorporates each option's contextual information, potential benefits, and the extent to which identified risks can be mitigated.

Risk Criteria	Description of component	Within guidance	Tolerable	Outside guidance
Financial	The potential for financial instability or unsustainability in funding and maintaining the health intervention model. This can include risks related to securing initial funding, ongoing operational costs, financial management, potential cost overruns, and the ability to attract and retain funding sources over the long term.	• Stable and diverse funding source opportunities with strong financial management practices.	• Generally stable funding but with some reliance on less secure sources and occasional budget overruns.	• Unreliable funding sources, frequent budget overruns, and poor financial management leading to critical funding gaps.
Operational	The potential for disruptions in the execution of the health intervention models due to logistical, technical, or human resource-related issues. This can include risks related to the availability and functionality of health machines, the effectiveness of mobile health units, the reliability of digital health applications, and the competency and availability of personnel required to operate and maintain these services.	• Established operating models with clear protocols, reliable supply chains, and effective contingency plans.	• Manageable operational issues with occasional disruptions and partially effective contingency plans.	• Frequent disruptions with significant impacts on service delivery and inadequate contingency plans.
Community	The potential for the health intervention models to be rejected or underutilised by the target community. This can stem from a lack of trust in the services, cultural or social resistance, perceived or actual ineffectiveness, privacy concerns, or simply a lack of awareness and engagement within the community.	• Ability to achieve strong community engagement, high levels of trust, and excellent stakeholder coordination.	• Generally positive engagement and coordination with occasional challenges.	• Poor community engagement, low trust, and frequent coordination issues with stakeholders.

7.2 Risk Analysis: Criteria (cont.)

Options Analysis risk criteria establish an understanding of the associated risks of each option

Risk Criteria

Risk criteria help to understand the risks each option carries, and to develop an overall risk evaluation. This risk framework incorporates each option's contextual information, potential benefits, and the extent to which identified risks can be mitigated.

Risk Criteria	Description of component	Within guidance	Tolerable	Outside guidance
Stakeholder	The potential for failures or challenges associated with the engagement and cooperation of key stakeholders and partners. This can encompass issues related to securing commitments from partners, maintaining effective communication and collaboration, aligning stakeholder interests, and managing conflicts or disagreements that may arise during the project.	• Able to achieve strong engagement and cooperation from all stakeholders, with minimal conflicts ensuring smooth collaboration.	• Generally positive stakeholder engagement with occasional issues. Some conflicts managed effectively but requiring attention.	• Inability to achieve partner collaboration and support, conflicts arise which hinder project success.
Regulatory and Compliance	Involves the potential for the health intervention models to face challenges in meeting local, state, or federal regulations and standards. This can include risks related to obtaining necessary approvals and certifications, adhering to data protection laws, meeting healthcare standards, and ensuring compliance with any changes in health policy or regulations.	• Able to achieve full compliance with regulations and proactive adaptation to policy changes.	• General compliance with occasional lapses and reactive adaptation to policy changes.	• Frequent non-compliance with regulations and poor adaptation to policy changes causing major disruptions.

7.3.1 Risk Analysis: Option 1

Option risk evaluation by lens incorporating both implementation and steady states

Place-Based Pop-Up Health Check

RISK	Option 1: Place-Based (Pop-Up) Health Check	Rating
Financial	• Moderate financial risk with initial setup costs for equipment and ongoing operational expenses. • Funding is needed for staffing, site rentals, and equipment maintenance. • Potential for community sponsorships and partnerships to offset costs.	
Operational	• Generally low operational risk due to the simplicity of setup and flexible deployment. • Potential logistical challenges in consistently setting up and dismantling pop-up sites. • Dependence on weather and availability of suitable locations.	
Community	• High acceptance due to the convenience and accessibility of local pop-up sites. • Positive community engagement through visibility and direct interaction. • Risk of underutilisation if not well-publicised or trusted by the community.	
Stakeholder	• Strong potential for stakeholder engagement with local health services, community organisations, and volunteers. • Coordination with multiple partners can be challenging but manageable. • Risk of misalignment in goals and communication gaps.	
Regulatory and Compliance	• Generally compliant with local health regulations and standards. • Need for appropriate permits and adherence to public health guidelines. • Risk of non-compliance if regulations are not closely followed.	
	Overall Score	

Legend: Within guidance Tolerable Outside guidance

7.3.2 Risk Analysis: Option 2

Mobile (Pop-Up) Health Checks

Option risk evaluation by lens incorporating both implementation and steady states

RISK	Option 2: Mobile (Pop-Up) Health Checks	Rating
Financial	• High initial and ongoing operational costs. • Potential for diverse funding sources, including government grants and community partnerships. • Risk of financial instability if funding is not secured.	
Operational	• Proven operational effectiveness with flexibility to serve various locations. • Potential logistical challenges in scheduling and routing the bus. • Dependence on vehicle maintenance and availability of qualified staff.	
Community	• High acceptance due to visibility and direct community engagement. • Positive feedback from similar programs highlights community trust. • Risk of underutilisation if not well-publicised or trusted by the community.	
Stakeholder	• Strong engagement with healthcare providers, community organisations, and local governments. • Effective coordination required to align stakeholder goals and schedules. • Risk of conflicts or miscommunication affecting program success.	
Regulatory and Compliance	• Compliance with healthcare regulations and standards is essential. • Need for appropriate vehicle permits and adherence to public health guidelines. • Risk of non-compliance if regulations are not closely followed.	
	Overall Score	

Legend: Within guidance | Tolerable | Outside guidance

7.3.3 Risk Analysis: Option 3

Option risk evaluation by lens incorporating both implementation and steady states

RISK	Option 3: Machine-Enabled Health Checks	Rating
Financial	• Moderate initial costs for purchasing and installing machines. • Ongoing maintenance and support costs can be significant. • Risk of financial strain if funding is not consistently available.	
Operational	• Potential technical issues and regular maintenance needs. • High reliability with proper protocols, but risks associated with machine malfunctions. • Dependence on technical support for troubleshooting and repairs.	
Community	• Moderate acceptance with potential privacy concerns. • Requires community education to build trust in the technology. • Risk of low engagement if users do not understand or trust the machines.	
Stakeholder	• Requires strong technical support and engagement from healthcare providers. • Coordination with technology providers is crucial for success. • Risk of misalignment in goals and expectations.	
Regulatory and Compliance	• Compliance with medical device regulations and data protection laws. • Regular updates and audits required to maintain compliance. • Risk of non-compliance if regulations are not closely followed.	
	Overall Score	

Legend: Within guidance | Tolerable | Outside guidance

7.3.4 Risk Analysis: Option 4

M-Health (App)

Option risk evaluation by lens incorporating both implementation and steady states

RISK	Option 4: Mobile-Phone Based Health Checks (App)	Rating
Financial	• Cost-effective with low operational costs and high scalability. • Funding needed for app development, maintenance, and updates. • Potential for diverse funding sources, including in-app purchases and advertisements.	
Operational	• Low operational disruption with established mobile platforms. • Dependence on user digital literacy and reliable internet access. • Potential technical support required for app-related issues.	
Community	• Moderate acceptance with digital literacy barriers. • Requires targeted education and support to build trust and engagement. • Risk of low utilisation if users are not tech-savvy or lack internet access.	
Stakeholder	• Requires engagement from tech providers and healthcare professionals. • Coordination needed to ensure integration with existing healthcare systems. • Risk of misalignment in goals and expectations.	
Regulatory and Compliance	• Compliance with data protection laws is essential. • Continuous updates needed to adhere to changing regulations. • Risk of non-compliance if regulations are not closely followed.	
	Overall Score	

Legend: Within guidance | Tolerable | Outside guidance

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08

EVALUATION SUMMARY

8.1 Evaluation Summary: Evaluation & Risk Lenses

Summary table of all four options across evaluation lenses, evaluation score, and risk lenses

		OPTION 1	OPTION 2	OPTION 3	OPTION 4
		Place-Based (Pop-Up) Health Check	Mobile (Pop-Up) Health Checks	Machine-Enabled Health Checks	M-Health (App)
EVALUATION LENSES	1. Focus on High-Impact Chronic conditions	◕	●	◑	●
	2. Integration with Existing Healthcare Services	◕	●	◕	●
	3. Cultural and Diversity Competence	◕	●	◕	◕
	4. Service Location Accessibility	◕	●	●	●
	5. Socioeconomic Factors	◑	●	◕	◑
	6. Community Engagement and Trust	◕	●	◑	◑
	7. Effective Communications Plan	◕	◕	◕	◑
	8. Sustainability and Funding	◑	◕	◕	●
	9. Monitoring and Evaluation	◕	●	◕	●
	10. Adaptability and Scalability	◑	●	●	◕
	11. *Ability to Address RCA	●	●	◕	◑
	SCORE	◕	●	◕	◕
RISK LENSES	**1. Financial**	🟢	🟠	🟠	🟢
	2. Operational	🟠	🟢	🟠	🟢
	3. Community	🟢	🟢	🟠	🟠
	4. Stakeholder	🟢	🟢	🟠	🟠
	5. Regulatory and Compliance	🟢	🟠	🟢	🟠
	SCORE	🟢	🟢	🟠	🟠

Legend: ◔ Poor ◑ Satisfactory ◕ Good ● Excellent | 🟢 Within guidance 🟠 Tolerable 🔴 Outside guidance

8.2 Evaluation Summary: Pilot Options Summary

Summary table of all seven options across evaluation and risk lenses

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
	Place-Based (Pop-Up) Health Check	Mobile (Pop-Up) Health Checks	Machine-Enabled Health Checks	M-Health (App)
Evaluation Lenses	The Place-Based (Pop-Up) Health Check model scores **"excellent"** in community engagement and accessibility by utilising familiar community spaces. It integrates effectively with existing healthcare services and addresses relevant cultural and socioeconomic factors, focusing on high-impact chronic conditions, making it a viable and impactful option.	The Mobile Pop-Up Health Checks scored **"excellent"** in the most criteria, and effectively address geographical and accessibility barriers by bringing services to underserved areas. It integrates well with existing systems and is culturally inclusive, providing flexibility and adaptability to meet diverse community needs.	Machine-Based Health Checks offer a cost-effective, accessible solution by placing kiosks in high-traffic areas. It scores "**good**" in technological integration and convenience, providing flexible health screenings for a broad demographic, though it may lack personal interaction.	Mobile Phone Health Checks provide highly accessible, personalised health services, integrating seamlessly with existing systems and supporting continuous engagement. It promotes self-management and health literacy, addressing critical needs. The overall rating for this option was **"good".**
Risk Lenses	Logistical challenges and follow-up care consistency are primary risks. Ensuring funding and managing privacy concerns are also critical. Despite these, most risks are manageable **within acceptable limits**, especially with ongoing community and business support.	Significant initial investment and ongoing maintenance costs, along with staffing and coordination challenges, are the primary risks. These are **within acceptable limits**, particularly with potential funding from partnerships and grants.	Technological trust and maintenance are primary risks. Ensuring user trust and regular maintenance are critical. These risks are **manageable** with support and education initiatives and strong promotional efforts	The digital divide and user engagement are primary risks. Addressing digital literacy disparities and maintaining engagement require comprehensive programs. These risks are **manageable** with targeted education and community promotion.
Conclusion	This is an ideal **supporting option** for option 2. It extends the reach and accessibility of healthcare services, fostering community engagement and trust. This model should be developed alongside the mobile platform to maximise impact, using the van's resources to set up and support temporary health check stations in strategic locations.	This option **is highly suitable** to progress. It aligns well with the evaluation criteria and addresses critical health needs. With manageable risks and significant potential for community impact, this model should be prioritised and implemented first. It forms the core of the integrated approach, setting the foundation for other supportive health services.	Machine-Based Health Checks are a suitable **supporting option** to enhance option 2's capacity. It provides efficient, accessible health screenings and are particularly useful during high-demand events. This model should be integrated to support and expand the mobile health services, maximising the efficiency and reach of the integrated approach.	This option **falls outside the primary scope of this project**. LHA can support these initiatives as needed, ensuring community members benefit from digital health resources. The focus of this project will remain on the community-based model for early detection and intervention of chronic conditions.

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09

RECCOMMENDATION

9.1 Recommendation: Mobile Health Check Integrated Model

The Mobile Health Check is recommended to provide comprehensive health screenings and preventive services in underserved areas, supported by Place-Based (Pop-Up) Health Checks and Machine-Based Health Checks to extend reach and increase efficiency

Recommendation

The Latrobe Health Assembly (LHA) can immediately leverage existing resources to implement community-based health check projects. The primary focus will be on deploying a Mobile Health Check (Bus or Van), supplemented by Machine-Based Health Checks and Place-Based (Pop-Up) Health Checks. This strategy ensures comprehensive, accessible, and flexible healthcare services, significantly improving health outcomes in the Latrobe Valley. M-Health (App) Initiatives are acknowledged but are out of scope for this project due to their inability to detect conditions in a community-based setting, this can be owned and managed by another organisation, with LHA providing advocacy support as needed.

Commence immediately, with ongoing operations

Option 2 – Mobile (Pop-Up) Health Checks

Deploy a Mobile Health Check unit to provide a variety of health screenings and preventive services directly to community members, focusing on underserved areas, with necessary equipment and trained staff to increase healthcare access and engagement. Form strategic partnerships to operate as a shared service throughout the region.

Undertake in parallel

Commence in parallel as a supportive capability

Option 1 – Place-Based (Pop-Up) Health Check

The Mobile Health Check unit will be used to set up stationary health check stations in strategic community locations, such as schools, workplaces, and community centers. This involves dropping off necessary equipment from the unit and setting up temporary health check points while the unit continues its mobile operations.

Undertake in parallel

Commence within 12 months, integrated within ongoing operations

Option 3 – Machine-Enabled Health Checks

Once the operations from the Mobile Health Check unit have been established, it is recommended that LHA work with the Latrobe Health Services (LHS) to equip the unit with their self-service health check kiosks. This will allow for quick and convenient health assessments, particularly at events where staffing may be a limiting factor for high volume health checks.

9.2 Recommendation: Integrated Model

It is recommended to pursue an integrated model with the Mobile Health Check as the primary focus, supported by Place-Based Health Checks and Machine-Based Health Checks to ensure comprehensive, accessible, and efficient healthcare delivery

Recommendation: Integrated Model

Deploy a Mobile Health Check unit to provide comprehensive health screenings and preventive services in underserved areas, supported by Place-Based Health Checks and Machine-Based Health Checks to extend reach and increase efficiency, with funding and partnerships secured to ensure sustainability and community engagement.

Primary Focus: Mobile (Pop-Up) Health Checks :

- Mobility and Accessibility: The unit can travel to remote and underserved areas, providing essential health services directly to the community.
- Comprehensive Health Services: Equipped with medical equipment for a variety of health screenings and preventive services, ensuring a wide range of care.
- Community Engagement: Builds trust and rapport within the community through consistent presence and reliable healthcare delivery.

Integration of Place-Based Health Checks:

- Utilisation of Existing Infrastructure: Leverages community spaces such as schools, workplaces, and community centers to set up temporary health check stations.
- Enhanced Reach: Extends the health services provided by the mobile unit, making healthcare more accessible to individuals in familiar, convenient locations.
- Community Integration: Fosters stronger community ties and encourages regular health checks by integrating services into everyday community settings.

Implementation of Machine-Enabled Health Checks:

- Efficiency and Convenience: Self-service health kiosks provide quick and efficient health assessments, reducing wait times and increasing the number of individuals served.
- Cost-Effective: Reduces the need for extensive staffing, making it a cost-effective solution for high-demand events and busy periods.
- Technological Integration: Enhances the overall health service framework by incorporating advanced health screening technology, supporting the mobile and place-based models.

Benefits of the Integrated Model

- **Comprehensive Health Services:** Combining mobile, machine-enabled, digital, and place-based health checks provides a robust, multi-faceted approach to health service delivery.
- **Increased Accessibility:** The mobile nature of the bus and the flexibility of the integrated options ensure that health services are accessible to all community members, including those in remote areas.
- **Enhanced Engagement:** The visible presence of the bus and the support for digital health tools foster continuous engagement and health monitoring.
- **Scalability:** The model can be scaled up based on community needs and feedback, allowing for the addition of more services and health checks as required.
- **Cultural Competence:** Tailored services and culturally relevant health information ensure that the diverse needs of the community are met.

9.3 Recommendation: Integrated Mobile Health Checks – Innovative Design

The integrated Mobile Health Check model is innovative through its combination of mobile services, advanced screening technology, strategic partnerships, and flexible community-based health strategies for comprehensive and efficient healthcare delivery

Innovative healthcare delivery models are essential for addressing the diverse and complex health needs of communities, particularly in underserved and remote areas. The integrated Mobile Health Check model proposed by the Latrobe Health Assembly (LHA) in this report exemplifies this innovation by combining mobility, advanced technology, strategic partnerships, and community-based strategies. This approach ensures comprehensive, accessible, and efficient healthcare delivery, setting a new standard for community health initiatives.

Strategic Execution and Mitigation of Barriers

The innovation lies in the strategic execution and mitigation of barriers identified in the root cause analysis. By addressing communication gaps, enhancing community engagement, and fostering effective partnerships, the program ensures a holistic and effective approach.

Fragmented Health System Integration

The program will focus on creating effective partnerships within the fragmented health system in the Latrobe Valley. By integrating services and fostering collaboration among various health programs, the Integrated Mobile Health Check will provide a seamless and comprehensive healthcare experience.

Data-Driven Approach

Leveraging data analytics to monitor health trends, evaluate program impact, and continuously improve service delivery ensures that the program remains effective and responsive to community needs.

Root Cause Analysis Integration

Utilising the detailed root cause analysis to inform every step of the implementation ensures that the program addresses the specific barriers that have hindered similar initiatives in the past. This includes understanding community-specific needs and tailoring services accordingly.

INNOVATION ELEMENTS

Sustainability and Scalability

The model's design allows for scalability, ensuring it can be replicated in other regions. Its sustainability is supported by diverse funding sources, including government grants, local health service partnerships, and community contributions.

Effective Communication and Community Engagement

Innovative communication strategies should be employed to ensure widespread awareness and participation. This includes targeted messaging, use of local media, social media campaigns, and partnerships with community leaders to advocate for the service.

Adaptive Service Delivery

The ability of the bus to transform and provide different types of health checks—mobile, machine-based, and place-based—depending on the location and community needs, demonstrates a high level of adaptability and responsiveness.

Innovative Integrated Care

By combining mobile, machine-based, and place-based health checks, the model offers a comprehensive healthcare solution. This integrated approach ensures that community members receive consistent, high-quality care tailored to their specific needs.

9.3 Recommendation: Integrated Mobile Health Checks – Innovative Execution

The integrated Mobile Health Check model is innovative through effective execution and implementation, where barriers identified within this project can be effectively mitigated to ensure program success

The innovative approach to implementing the Integrated Mobile Health Check model lies not only in its design but also in its execution. The discussions and ideas from the workshops and stakeholder consultations have provided a comprehensive understanding of the local context and challenges. These guidelines will ensure the project is effectively executed to maximise benefits for both health services and the community, addressing past issues that have hindered similar initiatives.

Collaborative Ownership and Funding Synergies

Health initiatives have previously struggled due to the operational burden falling on a single organisation, leading to fragmented services and inconsistent delivery.

Innovative Implementation: Establish a partnership among LCHS, LHA, LRH, and GRPHU to share ownership and responsibilities. This collaboration distributes the operational burden and fosters collective investment, enhancing sustainability and operational efficiency, and ensuring that no single entity is overwhelmed.

Community Engagement

Mistrust and lack of effective communication between healthcare providers and the community have resulted in low participation rates and poor health outcomes.

Innovative Implementation: Maintain active engagement with community members, regularly gathering feedback through surveys, focus groups, and community meetings. Continuous community feedback loops enable responsive service adaptation, fostering trust and ensuring the model meets evolving community needs, thereby improving participation and health outcomes.

Mobile Health Checks as a Base

Many health initiatives have failed due to their inability to reach necessary demographics, being confined to locations that are inaccessible to some community members.

Innovative Implementation: Utilise the Integrated Mobile Health Check primarily for health screenings and preventive services. Its mobility allows it to effectively reach a majority of the population. Implementing a strategic roster shared between services ensures the unit rotates through these communities, mitigating accessibility barriers.

Effective Communication

Past health initiatives have often failed due to lack of awareness and engagement caused by ineffective communication strategies.

Innovative Implementation: Develop and implement a comprehensive communication strategy that includes newsletters, social media, and community outreach. Effective communication mitigates past failures by ensuring the community is well-informed and actively involved in the health initiatives, thereby increasing participation and impact.

Flexible Scheduling

Geographical barriers and inconsistent service availability have limited healthcare access in previous initiatives.

Innovative Implementation: This model can implement a flexible scheduling system that allows the unit to serve various community needs, from regular health checks to special events and consultations. Use data from community health assessments to prioritise high-need areas and schedule visits accordingly. Data-driven scheduling ensures services are delivered where and when they are most needed, enhancing the unit's impact and efficiency.

Additional Services

Healthcare resources have been underutilised and services fragmented in the past.

Innovative Implementation: Enable the unit to be hired out for community consultations, specialised clinics, and other health-related services. This flexible use maximises the utility of the unit, ensuring it remains a valuable community asset, adaptable to various healthcare needs, and addressing the inefficiency and missed opportunities for comprehensive care seen in previous programs.

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APPENDICES

Appendix A: Workshop Results - Workshop 1 Activity

During workshop 1, participants were presented the current state findings, which were validated then prioritised through collaborative activities

Questions for activity 1:

1. What are the priority health challenges for the valley?
2. What constraints do community health programs face?

Activity 1	Method
Identify the Latrobe Valley's health challenges and constraints	• Definitions on butcher's paper • 3 x groups

Questions for activity 2:

Regional Data Analysis	Map Infrastructure & Service Gaps	Local & Global Scan
What health and demographic considerations are most important for designing this initiative? (.e.g., focus on high impact diseases, address behavioral factors, etc.,)	What infrastructure and service considerations are most important for designing this initiative? (e.g., service location, flexibility needs, etc.,)	What best practice considerations are most important for designing this initiative based on other initiatives you've been a part of or heard of? (e.g., what has worked in the past, communications techniques, service design, integration, etc.,)

Activity 2	Method
Identify the top evaluation criteria for program design for a pillar (10 each max)	• Definitions on butcher's paper • 3 x groups

Appendix A: Workshop Results - Workshop 1 Results

Workshop 1 was conducted on the 3rd of May, where participants were presented a current state snapshot of the Latrobe Valley and co-designed the region's health challenges and constraints and designed evaluation criteria across 3 pillars of healthcare provision

Results: Activity 1

Challenges	Constraints
• Diabetes • Cardiovascular Disease • Multiple chronic conditions (Asthma, arthritis) • Food insecurity • Unemployment • Shelter housing • Socio-economic makeup • Health literacy • Mental health (individual backgrounds, PTSD, generational behaviour) • Professional bias in healthcare (not a safe environment) • Youth health services • Gendered roles (large older male workforce with behaviours that affect health/female carers do not prioritise own health) • First Nations (culturally safe/relevant engagement) • No one size fits all population groups • Stigma of the Latrobe Valley • Responding to diversity • Messaging adapting to events in the broader community • New industries entering the valley region (opportunity to leverage social license) – Mens Shed	• Number of services • Geographic location (travel time, distance, public transport) • Waiting lists • Hours of services • GPS/online GPS promotion • GP consistency (lack of relationship, distrust) • Access & availability of services • Funding – even for successful programs • Lack of full utilisation of nursing workforce (nurses in schools/preventative youth care) • Addressing needs of different groups • How to make health a priority/what is the motivation for community to look after their health • How to give control back to people

Results: Activity 2

Regional Data Analysis	Infrastructure & Service Gaps	Local & Global Scan
• Demographic groups – not one size fits all • Focus on low SES group – target them all, also hard to reach ones • Targeted chronic conditions? Or include all? Do we group them together based on how they are detected? • Accessibility: health literacy, safety, finance • Health literacy – education • What? So what? Now what?	• Transport – public, specialist transport • Availability of services f.ex times/suitability • Location • Space at service locations • Entitlements (vouchers, MBS billing, NDIS)	• Funding sustainability for the longer term • Improve the combining of current efforts/resources (communication, topics, duplications) • Measures of success to demonstrate success and monitor • Co-design to create buy-in in community (fear of change) • Focus on change management (f.ex industry change in region) • Focus on reaching majorities – normalising effect for minorities

Appendix A: Workshop Results - Workshop 2 Activity

During workshop 2, participants were provided with a list of constraints, challenges, and design criteria from workshop 1 to enable them to collaboratively design multiple early detection models for a defined age group in the Latrobe Valley

Age Groups:
18-35
35-65
65+

Health program (e.g., pop up health check) for age group (e.g., 20-40)	
Design Criteria	**Design Element**
Scope of detection	*Heart disease, blood pressure, diabetes*
Test duration	*10 minutes*
Physical location	*In shopping centre*
Level of technology literacy	*Low*
Outcome and output	*Health report sent to phone, email, and straight to GP*
Treatment	*Nurses to run health check, GP's involved in follow up*
Description	
xx	

Activity	Method
Create 3 – 4 community-based models for early detection of chronic conditions for a given age group	• Utilise design criteria to create a tailored initiative for your given age group • 4 x groups

Appendix A: Workshop Results - Workshop 2 Results

Workshop 2 was conducted on the 16th of May, where participants were presented a long list of options and option development criteria; the participants formed groups and used the criteria to develop the following options

Results: Programs

Age Group	Program	Scope	Duration	Location	Tech Level	Outcome/Output	Treatment	Description	Additional Notes
18-35	Place-Based Health Checks for Trades	Diet and lifestyle related conditions (diabetes, heart disease)	5-10 mins	Trade school, trade sites	Medium	Report via tech, education material	Nurses (TAFE/Uni training nurses)	Program aimed at prevention, through brief health checks and education for tradies and labourers	Incentive: T-shirts, socks, badge of honour Health checks at training location, can utilise student nurses at the same location
	Healthy Living	Lifestyle risk prevention	Group setting – 1 hour	Schools, TAFE, university	High	Outcome is adoption of healthier behaviours and health literacy	Site visits with lived experience (e.g., drugs or alcohol)	Group activities focused on promoting healthy living and prevention strategies in educational settings	Share relatable stories, have a notable figure who the audience respect speak
	Health Program for Disengaged Youth	Depression and future chronic conditions related to depression	-	Sporting clubs, schools, tafe	High	Improved health literacy, pathway to move forward and engage with community	Education, questionnaire, counsellors (career/personal), mentors	Program targeting youth who are disengaged in education, workforce, or have experienced something such as a sports injury who may be inclined to develop depression	Disengaged youth tend to have higher rates of depression and much higher rates of suicide – this program can focus on helping them learn about health and their options
	Maternal Child Health Check	General health	10-15 mins	Maternal and child health app – in person	Medium	Health report, resources for new mothers	MCH nurse	General health checks integrated with maternal and child health services – when child is due for check up, get mother a check-up too	-
35-65	Integrated App	Integrated app	10-15 mins	Sports grounds, recreation centers, schools, playgrounds	Medium	Traffic-lighted call-to-action with contacts	-	Health screening through an integrated app available at community locations	Integrate Cancer Council/Heart Foundation/Diabetes Australia online screenings in plain/multiple/audio languages
	Health Bus	Adaptive based on requirements and service using it	10-15 mins	Mobile (EV) branded	Low	Traffic-lighted call-to-action: Red - book appointment, Yellow - contact details	Nurse/medical students	Mobile clinic providing blood level and pressure checks in a recognisable, branded vehicle	Recognised and branded bus to be used by multiple health service providers for different purposes – shared resource
65+	Mobile Clinic (re-fit chitty chitty jab jab)	Heart disease, blood pressure, diabetes, or other identified needs	Adaptable	Mobile (queue at shopping centres, RSL, post office, remote/smaller towns)	Low	Report (traffic light)	Nurse practitioner on board for instant support	Mobile clinic offering regular health checks at various community locations	Connectivity, access to telehealth in bus, consider timing to align with other mobile services
	Pop-up Health Check (Farmer)	Diabetes, blood pressure, heart disease	15 mins or take-home paper test	Grain store/supply, stockyards	Low	Piece of paper, easy to interpret	Student nurse	Pop-up health checks in agricultural locations, offering easy-to-interpret results	Rotating roster of locations (every 4 weeks), offer tea and biscuits
	Outreach Health Checks	HB, BP, diabetes	15 mins	Clubs (golf, bowls, tennis, caravan shows, grey nomads)	-	-	-	Outreach program providing health checks at recreational clubs and events	-
	Screening via Multicultural Services	Heart disease, blood pressure, diabetes	15 mins	Multicultural services, LHS attending groups, AMS, neighbourhood house	Low	Paper report (multilingual)	Nurses, student nurses	Health screenings integrated with multicultural services and community groups	-

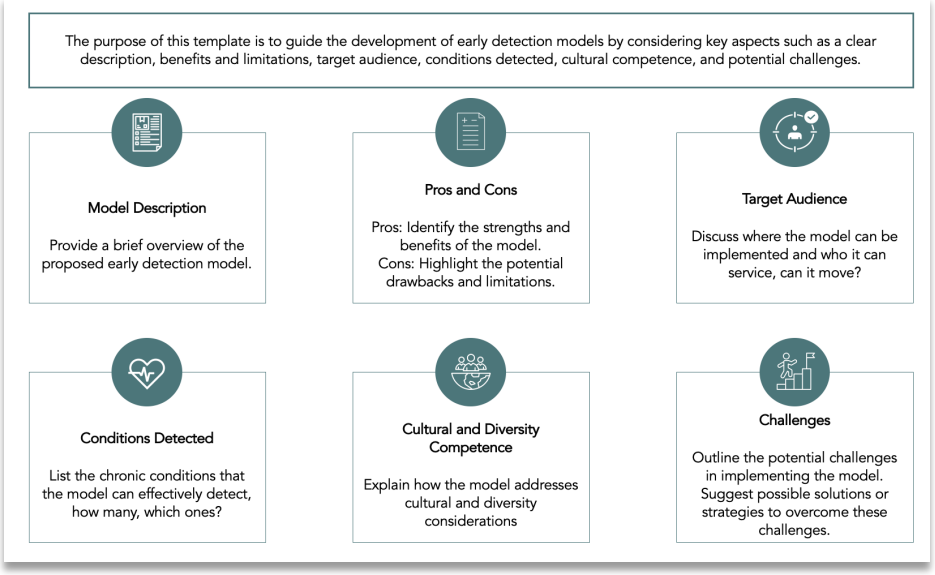
Appendix A: Workshop Results - Workshop 3 Activity

During workshop 3, participants were presented with a prioritised short list of options, with case studies detailing effective design of each, they were then presented with 6 design criteria and asked to collaboratively design the short-listed options against these criteria

Short-Listed Options

1	Place-Based Pop-Up Health Check	• Stationary pop-up clinics offering health screenings and preventive care across the Latrobe Valley.
2	Mobile (Pop-Up) Health Checks	• Mobile health units in the form or a bus or van, shared between services which travels to communities, places, and events.
3	Machine-Enabled Health Checks	• Health check machine that enable self-administered or assisted health checks at various locations.
4	M-Health	• Mobile technologies delivering personalised health information and monitoring to individuals.

Design Criteria



Activity

Mobile Pop-Up Health Check	
Options Description	
Pros	
Cons	
Target Community Members / Demographics	
Chronic Conditions Detecting	
Cultural & Diversity Competence	
Challenges to be Address	

Activity	Method
Design Options	• 4 x groups – 1 Option per group

Appendix A: Workshop Results - Workshop 3 Results

Workshop 3 was conducted on the 30th of May, where participants were presented a short list of options and option development criteria; the participants formed groups and used the criteria to develop the Place-Based Pop-Up Health Check

Option 1: Place-Based Pop-Up Health Check	
Options Description	Pop-up health checks conducted at various locations such as vacant stores, sporting events, farmers markets, and community houses.
Pros	Accessible, convenient, provides free resources and incentives (food, tea, biscuits), situational convenience, integrated with existing technology (e.g., My Health App).
Cons	Potentially high operational costs, logistical issues in setting up at multiple locations, variable foot traffic.
Target Community Members / Demographics	Everyone excluding under 18, targeting communities in small, medium, and large townships.
Chronic Conditions Detecting	Cardiovascular diseases, diabetes, respiratory conditions, risk screening questionnaires for cancers, eating disorders, and falls.
Cultural & Diversity Competence	Building trust with community houses, providing translators for specific groups, ensuring a non-judgmental environment, offering culturally sensitive care.
Challenges to be Address	Ensuring consistent participation, managing logistics, maintaining privacy and data security, providing follow-ups and support for facilitating appointments.
Additional Comments	**Venues:** Vacant stores, sporting events, stock yards, local libraries, events, farmers markets, racecourses, workplaces, community houses, food banks. **How to Bring In:** Drop-in, situational convenience, free stuff (merch), food (tea & biscuits), calendar (confidence in location), regular schedule, market campaign, social media. **Outcome:** Readable and simple take-home report, actionable report with timeframes and follow-up, integrated with existing technology (e.g., My Health App), hard and soft copies available, support for facilitating appointments, free of charge.

Appendix A: Workshop Results - Workshop 3 Results

Workshop 3 was conducted on the 30th of May, where participants were presented a short list of options and option development criteria; the participants formed groups and used the criteria to develop Mobile Pop-Up Health Check

Option 2: Mobile Pop-Up Health Check	
Options Description	A bus fully equipped to conduct health checks, can also be used by other services to offer varied services.
Pros	Technology can be added to enhance, can be used/rented by various organisations, access to various demographics and locations (including remote), single setup, shared ownership, ability to use students as service providers, scalable.
Cons	Expensive setup, reliant on organisations committing, needs a lead agency/governance, staffing issues, requires a driver (opportunity to partner with LV bus lines).
Target Community Members / Demographics	Those not currently engaged in health, anyone, very dependent on service using the bus.
Chronic Conditions Detecting	Diabetes, cardiovascular diseases, skin conditions, smoking-related conditions, mental health.
Cultural & Diversity Competence	Ensure representation and consultation with membership/governance, marketing considerations, appropriate training for all bus users (online in setup), accessibility considerations in bus design, including eco-friendly bus.
Challenges to be Address	Correct marketing that suits all parties, identifying partners and commitment, funding sustainability, lead agency coordination, staffing (especially after hours), risk/safety considerations, setting boundaries of rentals, location parking, policy and procedures, booking system.
Additional Comments	**Innovation:** Can be rented by various organisations, offers various health services, partnership approach for setup and maintenance, embedded in student learning, community-driven approach, addresses various barriers.

Appendix A: Workshop Results - Workshop 3 Results

Workshop 3 was conducted on the 30th of May, where participants were presented a short list of options and option development criteria; the participants formed groups and used the criteria to develop the Machine Enabled Health Check

Option 3: Machine Enabled Health Check	
Options Description	Machine-facilitated health check.
Pros	Ease of use, can be combined with bus locations, offers software options, specific to Latrobe, self-sufficient with limited resources, availability of use.
Cons	Security concerns, trust issues, lack of education/follow-up, resistance/GP engagement, potential misuse of information.
Target Community Members / Demographics	Main audience is 35+, also targeting 18-35, visually engaging in different locations.
Chronic Conditions Detecting	Respiratory, cardiovascular, potential for cancer, diabetes.
Cultural & Diversity Competence	Ability to reach diverse audiences, address literacy issues, ensure the machine meets cultural needs, availability in multiple languages.
Challenges to be Address	Reaching certain demographics, privacy and data security, trust, motivation to use machines, follow-up after machine healthcare, communication and marketing, collaboration between organisations, lack of engagement, fear of results/denial.
Additional Comments	This option is good for future proofing, since it is a machine hardware can be easily added and software updated allow for additional checks. You can place these machines into buses, or outside of buses, and have the follow up to the initial check (if needed) in the bus. There is also opportunity for integration with existing technology and telehealth, it is not hard to do.

Appendix A: Workshop Results - Workshop 3 Results

Workshop 3 was conducted on the 30th of May, where participants were presented a short list of options and option development criteria; the participants formed groups and used the criteria to develop the Mobile Technology Health Check

Option 4: Mobile Technology Health Check	
Options Description	Digital HIA app promotion with an "App Catalogue" of government-approved apps and TGA-approved sources, including use instructions, updated by HIA.
Pros	Utilises all existing services, directing not inventing (marketing and promotion), cost-effective, strong marketing tool for early detection and prevention.
Cons	Technology may not reach 1 in 5 families, not all apps are to be trusted (requires TGA approval), lack of awareness of services.
Target Community Members / Demographics	Everyone, as there is an e-solution for every condition.
Chronic Conditions Detecting	Wide range of conditions, leveraging My Health Record for trusted information.
Cultural & Diversity Competence	Consult organisations to ensure cultural relevance, cooperation from various organisations critical.
Challenges to be Address	Changing behaviours, ensuring trust in technology, effective marketing and promotion, addressing digital divide.
Additional Comments	Eye care is already funded and cost-effective, technology should be used as a strong marketing tool for early detection and prevention, My Health Record provides a trusted source

Appendix A: Workshop Results - Workshop 4 Activities

Workshop 4 was conducted on the 2nd of June, where participants were presented the short-listed models developed in workshop 3, and then divided into 4 groups to co-design the pilot options in greater detail

During Workshop 4, participants co-designed the short-listed options in greater detail, then voted through prioritising which models they would like to see piloted in the Latrobe Valley, the 2 activities are depicted below:

Step 1

Each workshop member is provided with a preference ballot paper

Step 2

Using a 1-4 preference system, place 1 next to your most preferred, and 4 against your least preferred

NOTE

If you have additional notes, you can write them on the back of the ballot paper

Now that we have all provided input on the 4 options, we need to choose which to prioritise to help us design the final pilot

Participants will be provided the following poll card:

Appendix A: Workshop Results - Workshop 4 Results For Option 1

Workshop 4 resulted in the detailed design of option 1, Place-Based Pop-Up Health Check

Option 1: Place-Based Pop-Up Health Checks

Options Description	• A place-based clinically facilitated pop-up health check service • A supported experience for members of the community, requiring no health literacy • The outcome is a readable and simple take-home report (hard copy and soft copy), actionable with timeframes, integrated with existing technology (e.g., My Health App), for facilitating appointments • Operates mid-week and Saturdays during normal trading hours
Target Community Members / Demographics	• Everyone excluding those under 18 • Targeting communities in medium and large townships • Community members that do not have a regular GP
Chronic Conditions Detecting	• Cardiovascular diseases • Diabetes • Respiratory conditions • Risk screening questionnaires for cancers, eating disorders, and falls
Cultural & Diversity Competence	Building trust with community houses Providing translators for specific groups Final report to be in multiple languages Ensuring a non-judgmental environment, offering culturally sensitive care
Challenges to be Addressed	• Ensuring consistent participation • Managing logistics • Maintaining privacy and data security • Providing follow-ups and support for facilitating appointments • Source staff • Missing of isolated cohorts • What's in it for me? Give something in exchange

Service Location	Conducted at various locations such as: • Vacant stores • Sporting events (local football) • Stock yards • Farmers markets • Community houses • Events (Farm World) • Workplaces • WES • Government center • Headspace
Mitigation of Service Accessibility barriers	• Needs a trusted advisor/conduit • Go to employers/Probus/Men's Shed
Engagement & Promotion	• Follow-Up for appointments • Targeted pop ups (youth, CALD, homeless) • Limit amount of locations and promote a few well • Pop-up calendar heavily advertised
Sustainability	• Educate children and members of family as a long-term vision • Link with technology to build longer-term relationships • Big employers could support (inc. financially) • Automatic reminder for regular check
Funding	5-year funding cycle application
Scalability	• Focus on follow up (nurse on call, pass on report to service provider) • Can cover larger crowds than bus
Integration with existing healthcare services	• Pop-up supports existing services with follow-up • Provides a copy of reports to existing providers • Students get placement credits by going through LHA
Additional notes	How to Bring In: Drop-in, situational convenience, free stuff (merch), food (tea & biscuits), calendar (confidence in location), regular schedule, market campaign, social media.

Appendix A: Workshop Results - Workshop 4 Results For Option 2

Workshop 4 resulted in the detailed design of option 2, Mobile Pop-Up Health Check

Option 2: Mobile Pop-Up Health Checks

Options Description	• A fully equipped bus to conduct facilitated and self-service health checks • Can also be used by other services to offer varied services • Can engage with the community - external to the bus and internal for more privacy • The outcome is a readable and simple take-home report (hard copy and soft copy) actionable report with timeframes, integrated with existing technology (e.g., My Health App), support for facilitating appointments • Operates mid-week and weekends during normal extended trading hours
Target Community Members / Demographics	• Members that are not currently engaged in health, or prioritise health • Member that have limited ease of access to transport • Everyone excluding those under 18 • Targeting communities in small and medium townships • Community members that do not have a regular GP
Chronic Conditions Detecting	• Diabetes • Cardiovascular diseases • Skin conditions • Smoking-related conditions • Mental health
Cultural & Diversity Competence	• Ensure representation and consultation with membership/governance • Marketing considerations • Appropriate training for all bus users (online in setup) • Accessibility considerations in bus design, including eco-friendly bus
Challenges to be Address	• Correct marketing that suits all parties • Identifying partners and commitment • Funding sustainability • Lead agency coordination • Staffing (especially after hours) • Risk/safety considerations • Location parking, and storage • Requirement for policy and procedures • A booking system
Service Location	Conducted at various locations such as: • Sporting events (local football) • Stock yards • Farmers markets • Community houses • Food Bank • Events (Farm World) • Workplaces/building sites • Schools • Outside of GP practice • Key locations that align with the times when people are out and about • Rotational visits to ensure everyone can be reached • Partner with local radio and newspapers for promotions

Mitigation of Service Accessibility barriers	• Make use of services so its not obvious what people are going for • Ramps for physical accessibility • Staffing, have different staff and trusted members of the community staffed when visiting different hard-to reach groups • Information available in different languages
Engagement & Promotion	• Screen inside bus with rotating information • Information on other services • Marketing around eligibility—different visas—not Medicare eligible • Potential to integrate with other services, e.g., homelessness • Opportunity to provide education on tech—apps available
Sustainability	• LRH • Who takes ownership—administration • Monash medical students could deliver services • Someone on board that can do specialist referral
Funding	• Workplace contributions • GPHN • LRH • LCC • LCHS • Peak Bodies • Access through services and grants • Mixed funding method
Scalability	Flexibility—different vehicles for different options Different staff—multi-discipline Link in with other services, e.g., GP
Integration with existing healthcare services	• Integrate with many partners in the community, and opportunity to expand to Gippsland wide • Sub-regional hospitals • Social services • GPs • Pharmacists

Appendix A: Workshop Results - Workshop 4 Results For Option 3

Workshop 4 resulted in the detailed design of option 3, Machine-Based Health Check

Option 3: Machine-Based Health Checks

Options Description	• A health check machine that is placed in various locations and has various functionalities activated depending on the health conditions that are being detected • SiSu health machines, in partnership with LHS, refitted and shelled with new branding so it is fit-for-purpose • Machine allows for self administered tests, which provide a printed or emailed report with key health indicators • Email follow-up information to provider • Tests & questions are age specific • A gateway to get start focusing on health
Target Community Members / Demographics	• Main audience is 35+, also targeting 18-35, visually engaging in different locations • Target those who do not engage with primary health services • Since the machine(s) can be moved around, we can place them in various locations targeting different groups • Some suggestions include community house, workplaces, agriculture events, sporting events, schools, on health buses (if exists) • Those that wouldn't get screened otherwise • Time poor people

Chronic Conditions Detecting	• Want to detect the most common chronic conditions in the valley
	  • Respiratory conditions – peak flow
	  • Cardiovascular conditions
	  • Potential for cancer – would be in the future and depend on availability of technology
	  • Diabetes
	  • Mental health

Cultural & Diversity Competence	• Ability to reach diverse audiences • Address literacy and language barriers (multiple language options) • The language used by the machine should be culturally appropriate
Challenges to be Address	• Reaching certain demographics • Privacy and data security • Trust • Motivation to use machines • Follow-up after machine healthcare • Communication and marketing • Collaboration between organisations • Lack of engagement • Fear of results/denial • Safety of the machine • Who is cleaning the machine? • One-on-one facilitation/explanation for those that need it • Cannot be audible results

Service Location	Placed at various locations such as: • Sporting events (local football) • Events • Farmers markets • Community houses • Workplaces • Shops • Schools • Bunnings
Mitigation of Service Accessibility barriers	• Those that would not previously be served • Those that don't want human interaction/intervention • Time poor people • Don't need to book in
Engagement & Promotion	• Go where the people are (schools/TAFEs/football grounds) • Direct engagement in events/organizations/schools/workplaces
Sustainability	• One organization needs to manage/maintain the machines • Booking system for locations
Funding	• Workplace contributions • Community events sponsorships • LHS can be involved
Scalability	• Increase questions for prevention/early detection
Integration with existing healthcare services	• Connect/link to a pharmacy/health professional to intervene if required • Place basic directions for follow-ups

Appendix A: Workshop Results - Workshop 4 Results For Option 4

Workshop 4 resulted in the detailed design of option 4, Mobile-Phone Based Health Check

Option 4: Mobile-Phone Based Health Checks

Options Description	• Valley-wide deployment and advocacy for My Health App • This would be more of a communications and advocacy piece • Create valley wide collaboration to get users to start adopting My Health App • App has many features which can help in early detection of chronic conditions, people just need to know about it, and be taught how to properly use it • Potential to work with government to build specific capabilities for the valley • Advocacy from mobile bus • Focus on retention and monitoring • Text reminder to use • Have control of own data – make sure this is communicated
Target Community Members / Demographics	• Everyone, as there is an e-solution for every condition • To reach everyone, especially those who are hard to reach, strategic promotion and marketing efforts are needed • Tech-savvy, young demographic—already more inclined – who can advocate for the older people in their family
Chronic Conditions Detecting	• Wide range of conditions, leveraging My Health Record for trusted information • The app can refer you to your closest service for all major conditions in the valley
Cultural & Diversity Competence	• Consult organisations to ensure cultural relevance, cooperation from various organisations critical • Work with community houses, and other social services to train trusted advisors in the community to become advocates
Challenges to be Address	• Changing behaviours • Ensuring trust in technology • Effective marketing and promotion • Getting people to push and advocate for the platform • Addressing digital divide • Issues with information storage (not trusting) • Skeptical/tech-worriers • Health issues prevent phone usage • Could there be a voice (Siri/Google)
Service Location	• Existing services/providers • At home • Away from home • Kiosk, supermarket

Mitigation of Service Accessibility barriers	N/A
Engagement & Promotion	• Promo via Latrobe City • Gamification • Campaign to have family members encourage others to use the app
Sustainability	• Traceability is needed for sustainability (continued use)
Funding	N/A
Scalability	• More services need to commit and sign up to make it viable
Integration with existing healthcare services	• Use app before entering health bus

Appendix A: Workshop Results - Workshop 4 Results

Back to Pilot Design Methodology

Participants in workshop 4 voted for their most preferred model to pilot in the Latrobe Valley, with some participants leaving additional comments on their ballot papers

Workshop 4 Voting Summary:

- The Mobile Health Check received the highest number of 1st preference votes, indicating it was the most favoured option among participants.
- The Place-Based Pop-Up Health Check had a strong showing as well, particularly with a high number of 2nd preference votes.
- The Machine-Based Health Check and Mobile Phone Health Check (App) received fewer 1st preference votes, with the Mobile Phone Health Check (App) receiving the highest number of 4th preference votes, indicating it was the least favoured overall.

Option	Preference			
	1	2	3	4
Place-Based Pop Up	13	12	7	3
Mobile Health Check (Bus)	18	9	7	1
Machine Based Health Check	4	8	10	11
Mobile Phone Health Check (App)	7	2	9	15

Workshop 4 Participant Comments:

Some participants left comments on their slips, and here are some of their thoughts and suggestions:

- *Consider the impacts of vaping and energy drinks on youth in pre-screening and prevention efforts.*
- *Favour a combination of place-based and mobile services, with increased health literacy through the MyHealth app.*
- *Support for a mobile bus using self-serve machines and the MyHealth app for facilitated and independent checks.*
- *Address engagement strategies for reaching those not currently involved.*
- *Suggest integrating machine health checks with LHA My Food Swaps program.*
- *Combine strengths from multiple options for a more effective solution.*
- *Mobile buses are easily identifiable and can integrate machine-based and mobile app solutions, unlike harder-to-manage place-based pop-ups.*
- *Caution against making solutions overly complex.*
- *A blend of options 1 and 2 is favoured, with options 3 and 4 seen as supplementary and promotable.*
- *Use mobile services for outreach and advertising, providing flexibility for time-limited individuals.*
- *"Health check heroes" can promote diversity and inclusivity at health check locations.*
- *Systemic change and fresh thinking are needed for impactful innovation, including early education and systemic incentives for regular health checks.*
- *Emphasise awareness and education on regular health checks from a young age to ensure sustainability and address underlying health issues.*

Appendix B: Root Cause Analysis Mapping To Options

Back to Pilot Design Methodology

Root cause analysis revealing the reasons why people in Latrobe are not accessing health services, enabling NMC and LHA to design a model that effectively addresses these fundamental issues, ensuring better health engagement and outcomes for the community

Root Cause	Description	Mobile Health Check	Place-Based (Pop-Up) Health Checks	Machine-Based Health Checks	M-Health Initiatives
Mistrust As A Barrier to Health Engagement					
History of Negative Experiences	Negative experiences with healthcare services leading to mistrust	✓	✓	✗	✗
Lack of Empathy and Understanding	Insufficient training in communication skills and patient-centered care	✓	✓	✗	✗
Experiences of Discrimination or Prejudice	Discrimination or prejudice impacting the quality of care received	✓	✓	✗	✗
Cultural and Language Barriers	Lack of cultural competence and diversity training among healthcare providers	✓	✓	✗	✗
Prioritisation Barriers					
Lack of Immediate Health Symptoms	Chronic diseases developing silently without perceived urgency	✓	✓	✗	✓
Other Responsibilities and Needs	Prioritizing caregiving roles and economic stability over personal health	✓	✓	✗	✓
Short-Term Thinking	Immediate economic survival needs overshadowing long-term health planning	✓	✓	✗	✓
Accessibility Barriers					
Geographic Barriers	Long distances and limited public transportation options to healthcare facilities	✓	✓	✗	✗
Economic Barriers	High out-of-pocket costs and lack of insurance coverage	✓	✓	✓	✗
Lack of Availability	Inconvenient operating hours and overburdened systems	✓	✓	✗	✗
Technology Inequity	Lack of infrastructure and technology literacy	✓	✓	✓	✓

Appendix B: Root Cause Analysis Mapping To Options

Back to Pilot Design Methodology

Root cause analysis revealing the reasons why people in Latrobe are not accessing health services, enabling NMC and LHA to design a model that effectively addresses these fundamental issues, ensuring better health engagement and outcomes for the community

Root Cause	Description	Mobile Health Check Van	Place-Based (Pop-Up) Health Checks	Machine-Based Health Checks	M-Health Initiatives
Navigation and Systemic Barriers					
Complexity of the Healthcare System	Multiple confusing processes and lack of clear guidelines	✓	✓	✗	✗
Communication Issues with Health Services	Insufficient communication between primary care providers and specialists	✓	✓	✗	✗
Healthcare Literacy	People not knowing what to look for or how to navigate the healthcare system	✓	✓	✗	✓
Health Literacy Barriers					
Low Levels of Education	Families prioritizing immediate financial needs over long-term educational investments	✓	✓	✓	✓
Lack of Exposure and Opportunity to Learn	Limited awareness of the importance of education and health literacy	✓	✓	✓	✓
Lack of Motivation or Interest	Misconceptions about the importance of preventive care and economic pressures taking precedence	✓	✓	✓	✓
Continuity of Care Barriers					
Fragmentation of Healthcare Services	Difficulty navigating multiple providers and complex referral processes	✓	✓	✗	✗
Inconsistent Communication	Receiving information from multiple sources leading to confusion	✓	✓	✗	✗
Inadequate Care Coordination	Changing treatment plans and inconsistent provider relationships	✓	✓	✗	✗
Psychological Barriers for Treatment					
Fear of Diagnosis	Fear of bad news, stigmatization, and lifestyle changes	✓	✓	✗	✓
Denial of Health Issues	Perception of immunity to chronic conditions and underestimation of severity	✓	✓	✗	✓
Mental Health Barriers	Depression, anxiety, and cognitive overload preventing engagement	✓	✓	✗	✓
	RATING:	**23/23**	**23/23**	**9/23**	**13/23**

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