

A Clinical Pathway Tool for New Zealand – Initial Feasibility Study

The National Health IT Board has received the report from the Patients First Programme and are very supportive of the work undertaken by the Project and Panel around the evaluation and the outcome.

Having considered the report, the NHITB's findings and recommendations are:

1. The NHITB acknowledge and accept the recommendation of the Panel of Adopting an international evidence base and toolset that is localisable
 - a. This is a direction of travel over the next 3-5 years. Clinicians should not wait for a nationally available pathway tool but should keep progressing with pathways and over time we will work toward a consistent pathway toolkit and approach.
 - b. As we move toward a national approach to supporting clinical pathways initial priority will be around national services as defined by the National Health Board.
2. Local initiatives should continue and should include the relevant clinical and funder related dialogue regarding pathway planning and consider using existing toolsets.
3. Any local initiatives to develop pathways should be based on international evidence and gain national clinical support.
4. The NHITB has asked the Patients First Programme to progress the adoption of an international approach to clinical pathways by working with the clinical networks and other health organisations and to report back by February 2011 with a plan and recommendations as to the best approach for implementation.

The report is now available to the sector and we encourage clinicians and organisations to read through its recommendations and considerations to help inform local planning around the evolution of pathways.

The National Health IT Board
1 November 2010



19 August 2010

Murray Milner - Chair
Graeme Osborne - Director
National Health IT Board
P O Box 5013
WELLINGTON

Dear Murray and Graeme,
Clinical Pathways feasibility study – findings and recommendations

We are pleased to submit the Patients First report from the reference Panel on the findings of the Clinical Pathway feasibility study commissioned by the National Health IT Board. This has been a robust process with a clear result and we have been privileged to have the calibre and continuity of such a strong and diverse panel contributing to the process.

We endorse the recommendations of the panel and echo their majority view ***“That a clinical pathway tool that is adopted nationally, and that also allows for local variations, will deliver improvements in the quality of health care for patients”***. The problems such an implementation would help address are:

1. Inconsistency of decision making.
2. Difficulty spreading the best models of care.
3. Achieving systematic quality improvement.

The Panel recommends an international clinical pathway tool with a comprehensive set of pathways as the preferred approach option for further investigation.

There is currently a unique opportunity in the sector to positively influence co-ordinated change around care delivery, especially around equity of access. Given the level of sector demand, a decision to not proceed at a national level will not stop progress with clinical pathways, but will miss the strong benefits that a nationally coordinated approach would bring.

When the project was instigated, the focus was on an assessment of available tools. However, the panel quickly came to the realisation that there was more value in assessing the options for a national approach to clinical pathway implementation in New Zealand. This was a course-correction that we fully support and were pleased that the National Health IT Board endorsed it as a scope change for the project.

We believe that the current trajectory of a fragmented approach to implementing clinical pathways, whilst supporting local and regional activity for those who can afford to invest in it, will drive inequity of access and differing levels of quality. We strongly encourage the sector to take this report as a signal and strong base from which to develop a national response to implementing clinical pathways. What evidence does exist strongly indicates the key determinant of successful pathway implementation being around the approach taken to implementation and governance. This will need to be a strong focus of the next stage.

The excellent work that the Canterbury Initiative has undertaken should be acknowledged and we should engage with the Canterbury Team early in the next steps so we can balance the learnings about clinical ownership and governance with an international tool and evidence base.

The Panel anticipates that significant benefits would be achieved from successfully implementing the recommended approach option. The main areas of benefit expected include:

- Consistently treating the right person in the right way, at the right place, and at the right time.

- The systematic spread of best evidence care across different levels of the health system (local-national, local-local etc.).
- Improved patient experiences: knowing what to expect at each step, consistency across care settings, and greater certainty.
- Improved job satisfaction among health care providers stemming from better working relationships and cooperation.
- More effective and efficient planning and allocation of resources, particularly in treating high volume conditions.
- An appropriate balance of the international best evidence with local requirements and the patient/community context.

We believe that the implementation of pathways can be done in a way that complements existing technology such as clinical decision support tools.

One of the key differences (and reasons given for the panel choosing the approach option they did) was the ability to traverse and model service delivery at National, Regional and local levels. The greatest area of benefit we foresee in the immediate future of clinical pathways in New Zealand is its adoption for national services. We recommend that any project that is chosen as the phase 1 rollout of the initiative should be based on such a service – and not one that is autonomous to a specific locality or region.

We recommend that the National Health IT Board:

1. **Acknowledge and accept the recommendation** of adopting an international evidence base and toolset that is localisable
2. **Release a joint communication** with Patients First to the sector outlining the findings, next steps and timeframes.
3. **Proceed to a business case** following the recommendations of the panel as a guide

We would like the opportunity to present these findings and discuss the implications at the next meeting of the National Health IT Board.

Yours faithfully,

Dr Harry Pert
President, RNZCGP
Co-sponsor – Patients First

Dr Bev O’Keefe
Chair, General Practice New Zealand
Co-sponsor – Patients First

cc Health Sector Panel Members
Andrew Terris, Patients First



A CLINICAL PATHWAY TOOL FOR NZ

Initial Feasibility Study: Final Report

Commissioned by the National Health IT Board
Part of the Patients First Programme

August 2010
Final Version

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1.0 Introduction

1.1 This Report

This report presents the findings of the Clinical Pathway Tool Feasibility Study, and constitutes 'Output 3' of the contract 09002NHITB (Schedule 1) between the Patients First Programme and the National Health IT Board.

The specific contracted requirements satisfied by this report are:

- a) To list the clinical pathway tools currently available and in use.
- b) To present the framework used for evaluating clinical pathway type tools, including identifying the requirements that provide the greatest opportunity for improvement in the quality of patient care along the total health continuum.
- c) To present the results of an independent panel evaluation of the clinical pathway approach option most suitable for NZ, using the results of an evaluation of sample representative tools as an input.

Note that the original contract stipulated an evaluation of the market leaders of clinical pathway tools, but a change in focus was formally agreed (23/6/10) to an evaluation of clinical pathway approach options. The main reasons for this change were to focus on options for effectively managing clinical pathways between providers in the NZ context, and to allow panel members to engage in dialogue with colleagues on 'if and how' pathways should be implemented, ahead of what tool should be used.

In addition to the specific contracted requirements, this report also:

- Defines the main problems that exist today, and how a clinical pathway tool would help to address each.
- Provides a set of implementation considerations for use as inputs to any future planning work on the recommended approach option.
- Identifies the main benefits expected from implementing the recommended approach option along with potential measures.
- Recommends the immediate next steps towards implementing the recommended approach option.

1.2 Clinical Pathway Tool Definition

The definition of a clinical pathway tool used in this feasibility study is of high importance given the range of potential interpretations that exist. From consultation with the sector involving secondary and primary clinicians, a clinical pathway tool is defined to be:

“A method of defining a set of steps, regardless of care setting, that best describe a patient journey through the healthcare system to best use the available multi-disciplinary resource, and application of best evidence base to aid in decisions at each point of intervention.”

This definition is broader in scope than some, which may refer only to a single condition, or to a clinical decision support tool. While the term “tool” is used in this document, the focus of the evaluation is more on the clinical pathway content and usability, than on specific technology aspects. As such, references to a clinical pathway tool in this document should be read as the elements of a clinical pathway solution.

The clinical pathway tool envisaged in this project would offer a shared framework that:

- Provides an effective method to guide the planning and delivery of optimal care.
- References best-practice, evidence-based content.
- Can be applied at national, regional, and local levels.
- Applies across disciplines and care settings.
- Supports effective collaboration in the on-going development of Clinical Pathways.

2.0 Project Overview

2.1 Project Purpose

The underlying hypothesis for this feasibility study was:

“That a clinical pathway tool that is adopted nationally, and that also allows for local variations, will deliver improvements in the quality of health care for patients (safety, timeliness, efficiency, equity, effectiveness and patient-centricity¹).”

This feasibility study aimed to test the stated hypothesis as far as possible with the time and resources available.

2.2 Scope Exclusions

The following items were excluded from the scope of this feasibility study:

- Formal selection of a clinical pathway tool or a preferred vendor.
- Validation of information gathered from vendor websites or information provided directly by vendors.
- A sector-wide consultation process to provide input.

2.3 Project Approach

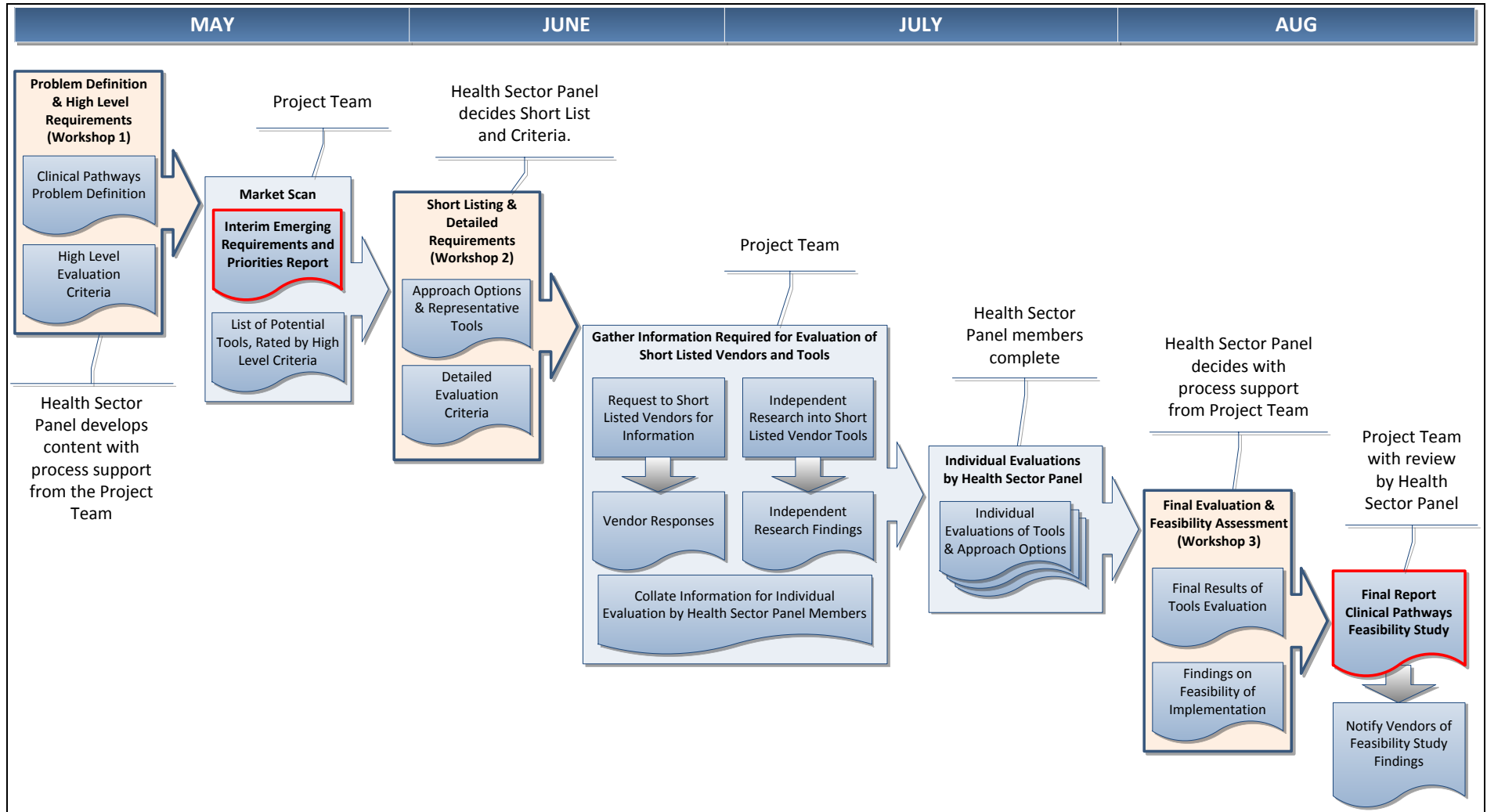
Project Roles

Group	Responsibilities
Project Sponsors	<p>The role of the project sponsors was to:</p> <ul style="list-style-type: none"> • Approve the appointment of the Health Sector Panel. • Resolve escalated issues from the project team. <p>The co-sponsors were Dr Harry Pert (The Royal New Zealand College of General Practitioners, President) and Dr Bev O’Keefe (General Practice NZ, Executive Chair).</p>

Group	Responsibilities
Health Sector Panel (the Panel)	<p>The role of the Panel was to:</p> <ul style="list-style-type: none"> • Define the problems that a clinical pathway tool is intended to address. • Select a short list of clinical pathway approach options and a representative tool for each. • Evaluate the representative tools and selected approach options to determine their suitability for the New Zealand health sector. • Make final recommendations on a preferred approach option and the level of confidence in the original hypothesis. <p>If the panel was not able to reach consensus on an important issue, then the majority view was carried. The panel members for this project are listed with a brief description in Appendix A: Health Sector Panel Members.</p>
Project Team	<p>The role of the Project Team was to:</p> <ul style="list-style-type: none"> • Support the activities of the Panel. • Facilitate the required workshops. • Obtain information on clinical pathway tools from desktop research and through requests to vendors. • Prepare the evaluation framework. • Present information in a format suitable for review and evaluation by the Panel. • Document the evaluation results. • Prepare all project deliverables. <p>The project team was comprised of Cameron Inskip and Don Guthrie from Maven International Ltd. Additional support was provided by Andrew Terris (Patients First Programme, Programme Manager).</p>

¹ This definition of quality comes from the 2001 “Crossing The Chasm” report from the Institute of Medicine (IOM) in Washington, DC.

Overview of the Project Approach



3.0 Problem Definition

The main problems identified by the Panel in the NZ health sector today that a clinical pathway tool would help to address are:

1. Inconsistency of decision making.
2. Difficulty spreading the best models of care.
3. Achieving systematic quality improvement.

Each of these problems is defined in more detail in the sub-sections below including an explanation of how a clinical pathway tool would help.

3.1 Inconsistency of Decision Making

The problem is that...

There is a lack of a shared patient-centred perspective and also inconsistency in decision-making across the health care system. This ranges from clinical decisions for diagnosis and treatment, through to resource allocation, service planning and capacity planning at a system level.

This affects...

Patients, Communities/Populations, Clinicians, Funders, Provider Organisations.

The impacts are...

- Inequity of access and quality of care, resulting in sub-optimal outcomes for patients and populations. This can result in individuals and communities losing confidence in the system.
- Inability to plan effectively at a system level, and an individual patient level, contributing to inefficient use of resources.
- Inefficient use of clinician time and skill-sets that can result in frustration and workforce retention issues.

The causes are...

- Lack of appropriate and accessible information to support evidence-based decision making.

- Not enough patient participation and communication about the patient and care process between different groups in the system.
- Unclear boundaries for decision-making, and decisions made with narrow perspectives and conflicting assumptions.

A clinical pathway tool would...

- Provide a consistent information base to underpin patient-centric decision-making across the system, and facilitate communication between different groups (e.g. between clinicians and provider organisations).
- Put information into a relevant structure that can be readily used by patients, clinicians, planners and funders (same information provided in a relevant way).
- Make it easier to balance international best evidence with local requirements and individual patient/community context.

3.2 Difficulty Spreading the Best Models of Care

The problem is that...

Improved approaches to best evidence care (clinical and financial) developed in different places are not consistently shared and adopted across the system. Also, the costs of establishing and maintaining best evidence care tend to be underestimated along with the cost of learning across the system. Local pilots and innovation flourish, but there is no systematic evaluation and adoption across the country.

This affects...

Patients, Communities/Populations, Clinicians, Funders, Provider Organisations.

The impacts are...

- Inequity of access and quality of care, resulting in sub-optimal outcomes for patients and populations.

- There is significant duplication of effort and resource use in a) reinventing the wheel around best care; b) inefficient individual care and treatment decisions; and c) poor decision making on resource allocation at a system level. This can result in individuals and communities losing confidence in the system.
- Individual and local approaches to planning and care are entrenched, sometimes at the expense of system level thinking.
- Frustration from clinicians not being able to easily access relevant information, and the perpetuation of poor practice in some clinical decisions and settings.

The causes are...

- Lack of a systematic approach needed to disseminate improvements.
- Some clinician cultures/behaviours place an emphasis on autonomy, causing a reluctance to accept evidence and take direction.
- Funding models do not support systematic evaluation and adoption across the country.

A clinical pathway tool would...

- Support the systematic spread of best evidence care by providing a common framework/repository of local and international evidence, supported by quality review processes and governance.
- Support appropriate local flexibility and consideration of individual patient/community context.
- Make it easier for clinicians to understand local care pathways.

3.3 Achieving Systematic Quality Improvement

The problem is that...

Many areas of the health system lack the basis for continuous quality improvement. It can be difficult to prove a systematic approach to care is being followed, to effectively conduct clinical audits as part of good clinical governance, and also to know if patients are being treated in the right place/level in the system.

This affects...

Patients, Communities/Populations, Clinicians, Funders, Provider Organisations.

The impacts are...

- A perpetuation of sub-optimal practices in some clinical decisions and settings.
- Inequity of access/quality of care, resulting in sub-optimal outcomes for patients/populations.
- The effectiveness of clinical governance initiatives can be hampered.
- Resources are not always allocated to areas of highest need.
- It is difficult to ascertain effectiveness at a local and overall health system level.

The causes are...

- Limited planning of preferred clinical pathways in some locations/services, and also recording and feedback of actual pathways and practices followed.
- Some cultures/behaviours place an emphasis on autonomy, causing a reluctance to accept and implement evidence.
- Some locations/services lack established clinical governance mechanisms.

A clinical pathway tool would...

- Provide a basis for a systematic approach to quality improvement by supporting effective clinical governance mechanisms.
- Allow identification of how actual practice varies from an outlined pathway, and whether that is leading to poor or improved outcomes (Note that achieving effective comparisons is likely to require a degree of integration with clinical information and referral systems).
- Provide a guide to what place/level in the system a patient should be treated at.

4.0 Market Scan & Shortlisting

4.1 Approach for the Market Scan

Market Scan Objectives

The market scan had two main objectives:

1. Identify the clinical pathway tools that were available and in use.
2. Provide the necessary inputs for the Panel to identify a shortlist of clinical pathway approach options and select representative tools.

Note that the second objective above was originally to support the shortlisting of the market leader tools. However, a change in focus was requested by the Panel to a focus on clinical pathway approach options and this was formally agreed to by the National Health IT Board.

Basic Approach and Caveats

An initial market scan of clinical pathways tools was conducted over five days using desktop research methods, predominantly via the web. The starting point for the research was an initial list of candidate products identified by the panel, all of which were included in the research.

The market scan research was split into two phases:

- a) Identification of a 'long list' of candidate tools through a Google search using a wide variety and combination of search terms (clinical pathways, evidence-based, primary, secondary, etc.).
- b) Capture of summary information about the long list of products (sourced predominantly from vendor websites and publications), and allocation of ratings where sufficient information was available.

No attempt was made to verify the accuracy of information provided on vendor websites due to the time and scope limitations of this project.

High-level Evaluation Criteria

The panel developed a set of high-level evaluation criteria for a clinical pathway tool to guide the market scan and subsequent shortlisting:




1. References best-practice, evidence-based content and is regularly reviewed and updated through a robust process for reviewing and updating clinical pathways that includes local feedback.
2. Supports systematic improvement incorporating New Zealand (local and regional) experience.
3. Supports appropriate local care pathways and consideration of individual patient context.
4. Has been evaluated and shown to be effective in the planning and provision of optimal care (including patient participation), at an individual patient and system level.
5. Can be applied across a broad range of conditions, disciplines and care settings at national, regional, and local levels.
6. Provides for ease of access and usability for different groups.
7. Provides appropriate information to patients, supporting self-care and participation in decision making.
8. Ability to integrate with clinical information systems.

4.2 Results of the Market Scan

Presentation of Market Scan Results

The complete results of the market scan are provided in a separate document titled Appendix B: Clinical Pathway Tools Identified. A summary of the ratings for identified tools against the high-level evaluation criteria is provided over-page.

A Guide to the Ratings Symbols Used

Symbol	Interpretation
	Meets the high level criteria statement.
	Does not meet the high level criteria.
	Partially meets the criteria, or not enough information available to make an assessment.

Summary of Market Scan Ratings for Identified Tools

High-level Evaluation Criteria	Pathway Related Tools													
	Map of Medicine	Health Connect	Predict & Equipe	BPAC Tools	HealthPathways	eGuidelines UK	Clin-eguide	D1 Pathway	Eclipsys	Health Navigator	Gaston	ZynxEvidence	MAXIMS	EHS CIS
1. References best-practice, evidence-based content and is regularly reviewed and updated through a robust process for reviewing and updating clinical pathways that includes local feedback.	●	●	○	●	○	●	●	○	○	●	●	●	○	●
2. Supports systematic improvement incorporating New Zealand (local and regional) experience.	●	○	○	○	●	●	●	○	○	○	○	○	○	●
3. Supports appropriate local care pathways and consideration of individual patient context.	●	●	○	●	●	●	○	○	○	○	○	○	○	○
4. Has been evaluated and shown to be effective in the planning and provision of optimal care (including patient participation), at an individual patient and system level.	●	●	○	○	●	○	○	○	○	○	●	○	○	○
5. Can be applied across a broad range of conditions, disciplines and care settings at national, regional and local levels.	●	○	○	○	○	○	○	○	○	○	○	○	○	○
6. Provides for ease of access and usability for different groups.	●	○	○	●	○	○	●	○	○	○	○	○	○	○
7. Provides appropriate information to patients, supporting self-care and participation in decision making.	●	○	○	○	○	●	○	○	○	○	●	●	○	○
8. Ability to integrate with clinical information systems.	●	○	●	○	●	○	○	○	●	○	○	○	○	○

4.3 Shortlisting of Approach Options

Approach for Shortlisting

After reviewing the results of the Market Scan, the Panel decided that it was not possible to determine the 2-3 best tools at this stage for further evaluation because:

- a) There was significant incomplete information on many international tools that would have introduced a bias in selection towards local tools.
- b) There needed to be further investigation of the merits of the different clinical pathway approach options to help focus the selection of leading tools.

The Panel recommended an amended approach for the remainder of the feasibility study whereby **the focus was moved to evaluating the approach options for implementing clinical pathways**. The Panel also suggested that a representative tool for each approach option be selected and evaluated as an input to evaluating the approach options.

This amended approach was formally agreed to between the Patients First Programme and the National Health IT Board. Benefits noted around the change in approach included:

- Focussing the dialogue on what options exist for effectively managing clinical pathways between providers in the NZ context.
- Panel members would be able to engage in far better dialogue with colleagues if the focus was determining the right approach.

Results of Shortlisting

The Panel identified three main approach options for implementing a clinical pathway tool in NZ along with a representative tool for each:

1. Implement an **international** clinical pathway tool with a comprehensive set of pathways 'out of the box' that require local adaptation and integration (e.g. Map of Medicine).
 - Overseas-sourced content and design.
 - Large scale.
 - Mature.
 - Multi-tiered solution.
2. Expand and scale a **district-developed** clinical pathway tool nationally, building on existing pathway content and integration (e.g. HealthPathways).
 - NZ-sourced content and design,
 - Smaller scale.
 - Less mature.
 - Single-tier.
3. Adopt an **integrated** clinical pathway system that combines an electronic health record, clinical pathways and decision support inside a single system (e.g. Group Health).
 - A single fully integrated clinical system.
 - Adopted across the health system.

The National Health IT Board felt that a lot of work had already been done by others in NZ around investigating the third option, and that there was limited value in investigating it further at this stage.

It was formally agreed with the National Health IT Board that **only options one and two would be evaluated** within the scope of this feasibility study, using the Map of Medicine and HealthPathways respectively as the representative tools.

5.0 Approach for the Panel Evaluation

5.1 Evaluation Principles

A set of evaluation principles were developed to guide the evaluation:

- The evaluation will be clinician-led.
- The evaluation will follow an agile approach and will not involve a high degree of restrictive process compliance, such as would apply if this were a procurement project.
- All short listed clinical pathway tool vendors will be treated equally, and the evaluation of both tools and approach options will be objective and unbiased.
- The results will clearly identify the results of the Panel's assessment of each short listed tool and approach option.
- The evaluation process will support the Panel in determining the feasibility of implementing an approach option, and the capture of any other material findings.

5.2 Overview of the Evaluation Process

1. Criteria were developed for evaluating the shortlisted tools and approach options with input and review by the Panel (the high-level criteria from the market scan were used as the start point).
2. A request for information was developed and this was sent to the relevant vendors for each of the shortlisted representative tools. Vendors were given 4 weeks to provide a written response to the request for information.
3. The vendor responses were sent to the Panel for evaluation, along with a worksheet to record individual evaluation scores and comments. The worksheet contained three major sections:
 - a. Scoring of each representative tool based on the information provided in the vendor response.
 - b. Assessment of the feasibility of each of the approach options represented by the tools.
 - c. Identification of risks associated with either or both of the approach options.The Panel were given 10 days to complete their evaluations.
4. The individual evaluation results were collated and presented back to the Panel in a workshop. The presentation included:
 - a. Individual scores/ratings for each panel member.
 - b. A summary of representative comments that had been noted in support of scores.
 - c. Some analysis showing totals, averages, and the distribution of scores for each section.
 - d. A list of all the risks identified.
5. The panel discussed the evaluation results, and engaged in discussion on the relative merits of the two approach options.
6. The Panel voted for a preferred approach option by writing their choice on a piece of paper along with the main reasons.

5.3 Categories for Evaluating Representative Tools

The Panel was asked to score each of the representative tools based on the written vendor responses in the following information categories:

- About the Solution Provider: Provide an overview of the organisation or organisations that own or have a close association with the Tool (Note that this introductory section was not scored).
- Clinical Pathway Tool Overview: Provide an overview of the Clinical Pathway tool and associated services and processes that explains what it is, who would use it and how, the problems that it is designed to solve, and the technology on which it is based.
- Clinical Pathway Content: Provide an overview of your approach and method for developing and maintaining clinical content.
- Quality Improvement: Provide an overview of your approach and method for improving clinical pathway content, tool functionality, and any other aspects of your solution based on tool usage, user feedback or treatment outcomes.
- Functionality, Access & Usability: Provide an overview of the user experience in accessing your tool.
- Localisation and Patient Context: Provide an overview of how localisation of Pathways and content is managed.
- Governance: Provide an overview of how governance is managed.
- Commercial: Provide an overview of the commercial model which would apply to a national New Zealand implementation of the Clinical Pathway tool, including any options that may exist for different pricing or implementation models.
- Implementation: Describe how an implementation of the Clinical Pathways tool at a national level may be achieved.

Note that the actual vendor information requests contained more detailed guidance on what information to include for each of the listed categories.

5.4 Criteria for Evaluating Approach Options

The Panel was asked to express their level of confidence in each of the approach options for the following questions:

- Is feasible to build and implement successfully?
- Represents a complete solution which meets the key requirements of functionality and content?
- Would provide growing pathway content that is kept current and relevant into the future?
- Would be readily adopted and supported by key health sector participants in NZ?
- Would be effective in improving the quality of care?
- Would be a good value for money investment in New Zealand's health infrastructure?
- Provides an effective method for developing, adapting and planning optimal care?
- References best-practice, evidence-based content?
- Can be applied at national, regional and local levels?
- Applies across disciplines and care settings, including primary and secondary care?
- Supports effective collaboration in the on-going development of Clinical Pathways?

6.0 Evaluation Results for Representative Tools

6.1 Guide to the Scoring of Responses

The Panel was provided with the table that is shown below to help score the vendor responses in each information category.

10	A well thought out and comprehensive response providing strong evidence of the respondent's performance, ability and capacity to 'add value' to the requirements and giving rise to a <u>high confidence</u> level in their response meeting requirements.
9	
8	A well thought out and <u>comprehensive response</u> providing strong evidence of the respondent's performance, ability and capacity to deliver against the requirements and giving rise to <u>confidence</u> in their response meeting requirements.
7	
6	<u>Acceptable response</u> with evidence provided that requirements are mostly met, but which leaves <u>some cause for concern that requirements will not be met.</u>
5	
4	<u>Poor response</u> with little evidence and leaves <u>significant cause for concern that requirements will not be met.</u>
3	
2	No supporting evidence provided, comments similar to 'noted', comments similar to 'refer executive summary' and <u>serious concerns</u> identified.
1	
0	<u>Nil Response</u>

6.2 Results for Each Information Category

This section provides the (anonymous) individual scores of each panel member for each information category, along with themes from comments.

Clinical Pathway Tool Overview

"Provide an overview of the Clinical Pathway tool and associated services and processes that explains what it is, who would use it and how, the problems that it is designed to solve and the technology on which it is based."

Scoring Results

Tool									Average
HealthPathways	6	5	8	4	4	7	9	6	6.1
Map of Medicine	7	7	8	9	9	8	8	9	8.1

Main Themes

Tool	Strengths	Weaknesses
Health Pathways	<ul style="list-style-type: none"> Clinician engagement. Primary care focus. Many conditions covered. 	<ul style="list-style-type: none"> Focus on referrals. Lack of evidence base. Content unstructured. Relies on clinician and DHB resource.
Map of Medicine	<ul style="list-style-type: none"> Strong evidence-base. Comprehensive processes. Economic and editorial rationales for pathway selection. Proven in large scale usage. 	<ul style="list-style-type: none"> National commitment required. Weighted to UK experience. Potential for inflexibility.

Clinical Pathway Content

“Provide an overview of your approach and method for developing and maintaining clinical content.”

Scoring Results

Tool									Average
HealthPathways	4	6	8	4	4	6	8	5	5.6
Map of Medicine	8	7	8	9	9	8	8	9	8.3

Main Themes

Tool	Strengths	Weaknesses
Health Pathways	<ul style="list-style-type: none"> Many pathways developed. Rich content, locally relevant. High level of collaboration. 	<ul style="list-style-type: none"> Evidence base unclear. No explanation of consensus decision process.
Map of Medicine	<ul style="list-style-type: none"> Many pathways developed. Strong evidence search & review processes. Clear provenance details. Clear process for consensus. 	<ul style="list-style-type: none"> Local innovation may be inhibited by strength of core. Acceptance by local practitioners uncertain.

Quality Improvement

“Provide an overview of your approach and method for improving clinical pathway content, tool functionality, and any other aspects of your solution based on tool usage, user feedback or treatment outcomes.”

Scoring Results

Tool									Average
HealthPathways	5	6	8	6	4	6	8	6	6.1
Map of Medicine	7	7	6	8	6	8	7	8	7.1

Main Themes

Tool	Strengths	Weaknesses
Health Pathways	<ul style="list-style-type: none"> Responsive to local needs. Feedback response process. Schedule for pathway review. 	<ul style="list-style-type: none"> Resourcing for review and updates. Maturity - not proven. Not tested against standardised patients.
Map of Medicine	<ul style="list-style-type: none"> Feedback response process. Integration with other pathways. Review and update commitment. Governance. 	<ul style="list-style-type: none"> Does not appear to include consideration of outcomes evaluation. Agility – time to localise.

Functionality, Access & Usability

“Provide an overview of the user experience in accessing your tool.”

Scoring Results

Tool									Average
HealthPathways	6	6	7	7	6	8	6	7	6.6
Map of Medicine	7	8	6	9	8	8	7	9	7.8

Main Themes

Tool	Strengths	Weaknesses
Health Pathways	<ul style="list-style-type: none"> Integration with Practice Management tools. Tree structure easily understood. 	<ul style="list-style-type: none"> Primary-Secondary referral focus. No patient interface. Inconsistent presentation of information.
Map of Medicine	<ul style="list-style-type: none"> Patient journey representation. Role based practitioner access. Public access option. 	<ul style="list-style-type: none"> Complicated by wider coverage. Specific information on integration to NZ patient administration and clinical systems is limited.

Localisation & Patient Context

“Provide an overview of how localisation of Pathways and content is managed.”

Scoring Results

Tool									Average
HealthPathways	5	5	7	6	5	7	8	6	6.1
Map of Medicine	6	6	7	7	7	8	5	7	6.6

Main Themes

Tool	Strengths	Weaknesses
Health Pathways	<ul style="list-style-type: none"> Flowcharts good and include local funding. 	<ul style="list-style-type: none"> Designed as local, regional and national needs work. System ‘export’ limited to West Coast. Patient access limited to info sheets. Cultural considerations?
Map of Medicine	<ul style="list-style-type: none"> Localisation available and proven. Regional and local views. 	<ul style="list-style-type: none"> Size and complexity means significant localisation effort = cost. Distance from the UK ‘core’, NZ influence? Cultural considerations?

Governance

“Provide an overview of how governance is managed.”

Scoring Results

Tool									Average
HealthPathways	5	5	8	5	4	6	9	5	5.9
Map of Medicine	7	7	7	8	6	8	8	7	7.3

Main Themes

Tool	Strengths	Weaknesses
Health Pathways	<ul style="list-style-type: none"> • Good local governance linkages. 	<ul style="list-style-type: none"> • National governance model untested. • Limited involvement of professional groups.
Map of Medicine	<ul style="list-style-type: none"> • Well-developed tiered model. • Proven in NHS and Wales. • Involvement of professional bodies. 	<ul style="list-style-type: none"> • External governance model needs translation and acceptance. • Strong national leadership and commitment required.

Commercial

“Provide an overview of the commercial model which would apply to a national New Zealand implementation of the Clinical Pathway tool, including any options that may exist for different pricing or implementation models.”

Scoring Results

Tool									Average
HealthPathways	5	6	8	2	Nil	6	8	4	5.6
Map of Medicine	7	8	5	8	Nil	8	8	7	7.3

Main Themes

Tool	Strengths	Weaknesses
Health Pathways	<ul style="list-style-type: none"> • Low price for tool and content. • NZ/Public ownership of content. 	<ul style="list-style-type: none"> • Current resourcing model sustainable? • Model for national level would need work.
Map of Medicine	<ul style="list-style-type: none"> • Clear and detailed information. • Train the trainer model for local ownership. 	<ul style="list-style-type: none"> • NZ health 'lock-in' to commercial vendor. • Appears expensive, but comparison is difficult.

Implementation

“Describe how an implementation of the Clinical Pathways tool at a national level may be achieved.”

Scoring Results

Tool									Average
HealthPathways	4	5	8	2	3	6	8	5	5.1
Map of Medicine	7	6	6	8	6	8	7	8	7.0

Main Themes

Tool	Strengths	Weaknesses
Health Pathways	<ul style="list-style-type: none"> Clinically-led, ‘bottom up’ ethos. Value in collaboration, not just the pathway outcome. Foundation of NZ local content. 	<ul style="list-style-type: none"> National deployment would be a major step up. Gaining support from other regions.
Map of Medicine	<ul style="list-style-type: none"> Thorough approach. Proven across multiple sites in UK. 	<ul style="list-style-type: none"> Top-down approach. Long time to implement – 100 pathways in four years may not work. Little information on the Australian experience.

6.3 Summary of the Tool Results

The Map of Medicine received higher average scores than HealthPathways for each of the information categories that were scored. The spread of average panel member scores for HealthPathways ranged from 4.3 to 8.0. The spread for Map of Medicine ranged from 6.6 to 8.3.

Overall, six panel members scored the Map of Medicine higher, while two panel members scored HealthPathways higher.

6.4 Indicative Costs Provided

Indicative implementation costs were provided by the vendors for each of the representative tools. This information is regarded as commercial in confidence as part of the terms and conditions of the vendor responses so cannot be provided in this report. It will however be provided to the National Health IT Board as part of the detailed vendor responses that will accompany this report.

It should be noted that the costs provided by the vendors were not equivalent in terms of the scope of services and implementation support. Given that this project is an initial feasibility study, very limited guidance was given to the vendors on how to develop and present cost estimates.

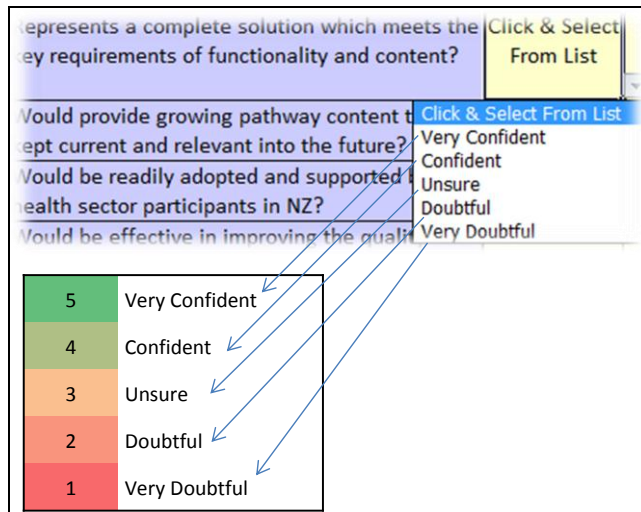
It is recommended that any future cost investigation should provide hard costing parameters and relevant sector metrics to vendors to help with a like-for-like comparison.

7.0 Evaluation Results for Approach Options

7.1 Guide to the Rating System

The Panel were asked to express their level of confidence in each of the evaluation criteria as it applied to the approach options. This was done using a 'drop-down' selection in the evaluation spreadsheet. The confidence ratings ranged from very doubtful to very confident, and have been converted to numerical values for the presentation of results.

The confidence rating scale and the numerical conversions are illustrated in the diagram below.



Recap of the Approach Options Evaluated

The approach options in scope for evaluation by the Panel (as explained in 4.3 Shortlisting of Approach Options) were:

- 1. International Option**
 Implement an international clinical pathway tool with a comprehensive set of pathways 'out of the box' that require local adaptation and integration (e.g. Map of Medicine).
 - Overseas-sourced content and design.
 - Large scale.
 - Mature.
 - Multi-tiered solution.
- 2. District-developed Option**
 Expand and scale a district-developed clinical pathway tool nationally, building on existing pathway content and integration (e.g. HealthPathways).
 - NZ-sourced content and design,
 - Smaller scale.
 - Less mature.
 - Single-tier.

7.2 Results by Evaluation Criteria

This section presents the confidence ratings of panel members for each of the approach options against the evaluation criteria. Note that only seven members of the panel submitted an evaluation of the approach options (one less than for the representative tools).

Implementation Feasibility

Is feasible to build and implement successfully?

Option								Average
International	4	3	5	3	5	3	4	3.9
District-developed	4	4	3	3	4	4	3	3.6

Complete Solution

Represents a complete solution which meets the key requirements of functionality and content?

Option								Average
International	5	3	4	4	4	3	4	3.9
District-developed	3	3	2	3	3	4	2	2.9

Future Relevance

Would provide growing pathway content that is kept current and relevant into the future?

Option								Average
International	5	5	5	4	4	4	4	4.4
District-developed	3	3	3	3	4	4	3	3.3

Adoption and Support

Would be readily adopted and supported by key health sector participants in NZ?

Option								Average
International	3	3	5	3	4	3	3	3.4
District-developed	4	4	3	3	3	4	4	3.6

Quality Improvement

Would be effective in improving the quality of care?

Option								Average
International	4	4	5	5	4	4	5	4.4
District-developed	4	4	3	4	4	4	3	3.7

Value for Money

Would be a good value for money investment in New Zealand's health infrastructure?

Option								Average
International	4	3	5	3	5	4	4	4.0
District-developed	4	3	3	3	4	4	3	3.4

Optimal Care

Provides an effective method for developing, adapting and planning optimal care?

Option								Average
International	4	4	4	5	5	4	4	4.3
District-developed	4	3	3	3	4	4	3	3.4

Evidence-Based

References best-practice, evidence-based content?

Option								Average
International	5	4	5	5	5	4	5	4.7
District-developed	3	2	3	3	4	3	2	2.9

Multi-tier

Can be applied at national, regional and local levels?

Option								Average
International	4	3	5	3	5	3	4	3.9
District-developed	3	3	4	3	4	4	3	3.4

Care Settings

Applies across disciplines and care settings, including primary and secondary care?












Option								Average
International	4	5	5	4	5	4	5	4.6
District-developed	4	2	5	2	5	3	4	3.6

Collaboration Support

Supports effective collaboration in the on-going development of Clinical Pathways?

Option								Average
International	4	4	5	4	5	4	5	4.4
District-developed	4	5	5	4	4	4	4	4.3

The table below shows the net rating of approach options for each criterion by panel members. The bar charts in the centre column reflect the degree to which an option received higher net ratings across the panel, while the numbers to the right reflect the net ratings of options for each panel member (a zero score indicates both options were rated equally by a panel member). Green shading represents a net rating in favour of the International Option (with a margin of 'x'); while conversely, blue represents a net rating in favour of the District-developed Option.

Evaluation Criteria	International District Dev.	Net Rating of Approach Options by Panel Members						
Is feasible to build and implement successfully?		0	1	2	0	1	1	1
Represents a complete solution which meets the key requirements of functionality and content?		2	0	2	1	1	1	2
Would provide growing pathway content that is kept current and relevant into the future?		2	2	2	1	0	0	1
Would be readily adopted and supported by key health sector participants in NZ?		1	1	2	0	1	1	1
Would be effective in improving the quality of care?		0	0	2	1	0	0	2
Would be a good value for money investment in New Zealand's health infrastructure?		0	0	2	0	1	0	1
Provides an effective method for developing, adapting and planning optimal care?		0	1	1	2	1	0	1
References best-practice, evidence-based content?		2	2	2	2	1	1	3
Can be applied at national, regional and local levels?		1	0	1	0	1	1	1
Applies across disciplines and care settings, including primary and secondary care?		0	3	0	2	0	1	1
Supports effective collaboration in the on-going development of Clinical Pathways?		0	1	0	0	1	0	1

7.3 Summary of the Approach Option Results

The International Approach Option received higher average confidence ratings than the District-developed Option for 10 of the 11 evaluation criteria. The evaluation criteria that received the highest net confidence ratings in favour of the International Option were: evidence-based content; completeness of the solution; future relevance; and application across disciplines and care settings.

The District-developed Option narrowly received a higher confidence rating for the criterion relating to adoption by key health sector participants, and was very close for collaboration in development of pathway content and feasibility to implement.

Overall, six panel members expressed a higher level of confidence in the International Option, while one panel member expressed higher confidence in the District-developed Option.

7.4 Main Risks Identified for Each Approach Option

As part of their evaluation of approach options, panel members each identified the main risks associated with each option. At the final evaluation workshop, the Panel was presented with the full list of risks (some were duplicates). They were then asked to each identify the ‘five most significant’ and the ‘two least significant’ risks. The table that follows summarises the main risks identified by the panel as a result of this exercise.

Risk	International	District-developed
1. Over emphasis on the tool versus the process of engagement and change creates a perception of enforced change.	Yes	No
2. Ethos of ‘bottom-up’ and ‘invented here’ act against a nationwide solution.	Yes	Yes
3. Processes around the maintenance of current evidence are not robust.	No	Yes
4. Clinician support of chosen pathway approach is not sufficient to justify the cost.	Yes	Yes
5. The commitment to fund erodes over time.	Yes	Yes
6. Bottom-up approach limits the scale of adoption and therefore the size and speed of benefit.	No	Yes
7. Chosen solution becomes unsupported.	Yes	Yes
8. Excessive localisation and duplication of pathways may result in a lack of consistency, as well as more complicated monitoring and maintenance.	Yes	Yes
9. Absence of a transparent process around the development and use of evidence precludes adoption outside of the original group.	No	Yes
10. The balance between international best-evidence, local requirements, and individual patient/community context is difficult to achieve.	Yes	Yes

8.0 Panel Recommendations

8.1 Recommended Approach Option

The Panel recommends (by seven votes to one) an international clinical pathway tool with a comprehensive set of pathways as the preferred approach option for further investigation. The reasons given by each panel member for their choice are listed separately in the table below.

Panel Reasons for an International Clinical Pathway Tool Approach
<ul style="list-style-type: none"> • Health system level utility. • Significant robust evidence and quality improvement processes. • Multi-professional development and use. • Patient access.
<ul style="list-style-type: none"> • Clear evidence based process over time. • Well-developed and supported. • Ability to localise.
<ul style="list-style-type: none"> • Better design and scope. • Proven over time.
<ul style="list-style-type: none"> • Provides a framework for a move to national consistency that is comprehensive but also allows local adaptability.
<ul style="list-style-type: none"> • Completeness of pathways (range, number and sector coverage). • Commercial model provides investment certainty. • Evidence based and relative maturity. • Ability to localise. • Patient version available.
<ul style="list-style-type: none"> • Evidence based. • Prioritisation process. • Multi-tiered and can be scaled. • Internationally compatible. • More resources and potentially more sustainable in the long term.
<ul style="list-style-type: none"> • More mature and comprehensive at this point in time.

Panel Reasons for a District-developed Clinical Pathway Tool Approach

- Local ownership.
- Evolution will result in a greater degree of adoption and compliance.
- Evolution will reflect need across the sector (e.g. patient access, secondary to primary referral).

8.2 Implementation Considerations

The Panel recommends that any future planning on the recommended approach option take into account the implementation considerations presented in this section.

Funding

- A strong national funding component is more likely to achieve a sustainable implementation over the long term (it will enable all regions and districts to participate; it avoids the risk of a short term funding crisis in a district stopping participation etc.).
- While national funding will help establish the overall infrastructure, regional and local funding will help ensure everyone has 'skin in the game' and also help drive gains out of changes in pathways.
- There should be incentives at a local level to encourage participation and use (e.g. reimbursement of time to participate in clinical governance meeting), and these costs need to be funded.
- Funding the tool alone will not be enough, the implementation costs and on-going costs (training, communications, monitoring, on-going development, governance, etc.) also need to be funded.

Governance

- The clinical pathways solution for NZ needs to be clinically owned with a primary focus on improving the quality of health care for patients (i.e. it is a quality initiative, not an IT project).
- The NZ health service environment is different from the UK so there will need to be a multi-tiered governance model, and a national starting point for adaptation of pathways.
- The NZ organisation that heads national governance needs to have a strong relationship and ability to participate effectively in an international governance group.
- The recently formed Health Quality Safety Commission could potentially take a lead governance role at a national level.

Localisation

- A prioritisation process may be required to determine which pathways should be implemented in the first instance (NZ Health Targets, high-needs areas, improving equity of access, etc.).
- The process of localisation should combine clinical pathway design, resource/capacity optimisation and benefits realisation within a quality improvement/evaluative learning approach.
- Appropriate adaptation of international pathway content as required will be an important task to fit with the NZ context (fit with local service availability, cultural context, etc.).
- The NZ Guidelines Group is a candidate for leading national-level adaptation of content, including picking up NZ evidence and content.
- Need to balance local innovation with standardisation across the system (e.g. start with international pathway then adapt and spread locally where the evidence supports this).

Encouraging Use

- Demand already exists for structured care pathways as evidenced by the large number of DHBs participating in the Canterbury workshops to learn their approach, along with the Central TAS, Midland and GAIHN interest in this area.
- Achieving clinical leadership will require engagement with the right professional bodies and the visible support of clinical leaders.

- Health providers in each region need to be convinced of both the need and the benefits by clinical leaders whom they respect.
- Sector support is likely to hinge upon concurrent cross-sector clinical engagement to bring groups together (e.g. pathway workshops between primary and secondary clinicians).
- Reference to the strong evidence base will help support adoption.
- A cascading communications plan with the necessary resources to implement it will help provide consistent messages.

Rollout Approach

- Start with a clear national commitment up front followed by a staged-rollout with early adopters and suitable partners (avoid pilots with a deferred commitment of national support).
- Given the sector demand for clinical pathways, criteria may be required to prioritise the rollout based on registrations of interest (e.g. level of clinical support, readiness, national relevance).
- Establish the required governance model (international, national, local) early ready to support the staged rollout.
- There should be strong regional/district leadership of each rollout with appropriate national support and governance.
- Adopt a train-the-trainer approach with people working locally and in regions as part of a national system.
- Monitoring and evaluation mechanisms (including benchmark data) need to be resourced and part of the up-front design, with the intent to create 'fast learning loops' and timely responses to research.
- The existence of systems that support electronic transfer of care will greatly aid in monitoring adherence to clinical pathways, and with developing evidence-based improvements to pathways.
- The rollout approach should be consistent with successful evidence-based health implementation frameworks², including effective integration with supporting information technology.
- Need to consider how clinical pathway content will be integrated with existing patient support information.

² Greenhalgh T. Robert G. Bate P. Macfarlane F. Kyriakidou O. (2005) Diffusion of Innovation in Health Service Organisations.

Existing Initiatives / Stakeholders

- *Colleges and Professional Bodies*: Essential in achieving the required clinical leadership for the implementation and beyond.
- *District Health Boards*: Essential to have their support and participation in the rollout, particularly given their role in planning and funding services.
- *IT Solution Vendors*: Essential implementation partners for integrating clinical pathway content with existing patient management and clinical systems (including decision support).
- *NZ Guidelines Group*: Strong fit with work being done around bundles of care. Potential candidates for localisation of pathways.
- *National Information Clinical Leadership Group*: Strong design and rollout link to work being done around eTransfers of care.
- *Best Practice Advocacy Group*: Potential implementation partners around pathway development for best practice in primary care.
- *NZ Formulary*: Potential implementation partner.
- *Non-government Organisations*: Support will be important for educating patients and also in the delivery of some pathways.
- *Better, Sooner, More Convenient Primary Care*: Most of the successful candidates identified support for clinical pathways within their responses. The supporting business case is signed-off and ready to go making these strong early rollout candidates.
- *HealthPathways*: Early engagement would be beneficial to explore integration opportunities and also the lessons learned. If there was local support to proceed, then Canterbury could be an early adopter and implementation partner in a staged rollout.
- *Regional Pathway Proposals*: Regions who have already expressed an interest in clinical pathways (e.g. The TAS/Central Region DHBs proposal) are potential candidates for early implementers in a staged rollout. Criteria may be required to prioritise the rollout based on registrations of interest (e.g. national relevance).
- *National Services*: Pathways will be a useful tool for supporting national services and nationally coordinated services (e.g. cancer, cardiac surgery, paediatric specialities).
- *Other Potential Implementation Partners*: A range of organisations across the sector have the ability to influence the overall success of

a national pathway initiative (e.g. ACC are a potential funder, private hospital participation would increase the benefits expected).

Areas for Further Investigation

- Mechanisms for integrating service demand, capacity and resources into clinical pathway development.
- Mechanisms for local groups to consider available evidence and for an international tool to integrate changes to pathways that reflect local needs.
- The 'fit' of an international clinical pathway tool approach option with Whānau Ora and ethnic provider models of care delivery.
- The robustness of the software development kit for international clinical pathway tools, and the ability to integrate with the commonly used clinical and patient management systems in NZ.
- Ability to monitor compliance with a pathway, and support for continuous clinical audit at different levels of the system.
- Ability to monitor and inform quality improvements against targets.
- Relevant learning around the success of international tool rollouts (e.g. the Welsh implementation of the Map of Medicine).
- Level of support that an international tool would provide for service ordering (request for assistance from another provider).

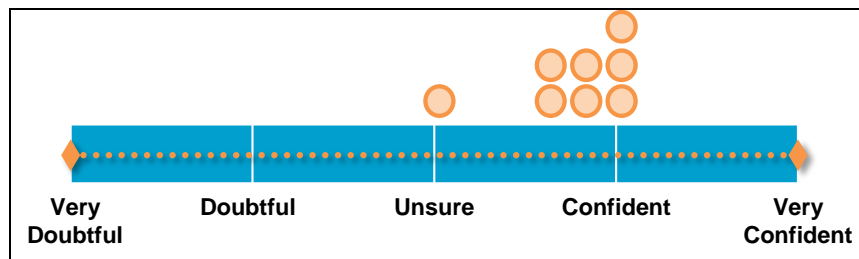
8.3 Feasibility of a Clinical Pathway Tool for NZ

Underlying Hypothesis

After working on implementation considerations, the Panel was asked to express their level of confidence in the original project hypothesis:

“That a clinical pathway tool that is adopted nationally, and that also allows for local variations, will deliver improvements in the quality of health care for patients (safety, timeliness, efficiency, equity, effectiveness and patient-centricity).”

The diagram that follows summarises the results with each coloured dot reflecting the view of an individual panel member.



Comments on Feasibility

The main comments expressed by the Panel on the feasibility results were:

- The many implementation considerations and risks identified by the panel are reflected in the results and, if we assumed a successful implementation, then the level of confidence would be higher.
- The time is right for a nationally coordinated implementation of a clinical pathway tool, in terms of existing sector demand (initiatives in BSMC primary care; cancer control; national services, etc.), and an increasing focus on clinically led, evidence based change (clinical networks, the Quality & Safety Commission, etc.).
- Given the level of sector demand, a decision to not proceed at a national level will not stop progress with clinical pathways, but will miss the strong benefits from a nationally coordinated approach.

8.4 Expected Benefits

The Panel anticipates that significant benefits would be achieved from successfully implementing the recommended approach option. The main areas of benefit expected, along with some potential measures, are listed in the table below.

Expected Benefit	Potential Measures
Consistently treating the right person in the right way, at the right place, and at the right time.	<ul style="list-style-type: none"> • Use of, and adherence to, clinical pathways. • Improvements in health outcomes, particularly for injuries and conditions covered by clinical pathways.
The systematic spread of best evidence care across different levels of the health system (local-national, local-local etc.).	<ul style="list-style-type: none"> • Clinical review processes incorporating pathways that identify gaps in practices, and adopt evidence based responses. • Top-down, bottom-up and sideways spread of clinical pathways.
Improved patient experiences: knowing what to expect at each step, consistency across care settings, and greater certainty.	<ul style="list-style-type: none"> • Patient empowerment. • Patient and clinician ability to track the patient along a clinical pathway. • Clear responsibilities.
Improved job satisfaction among health care providers stemming from better working relationships and cooperation.	<ul style="list-style-type: none"> • Teamwork assessment. • Workforce engagement. • Staff retention.

Expected Benefit	Potential Measures
<p>More effective and efficient planning and allocation of resources, particularly in treating high volume conditions.</p>	<ul style="list-style-type: none"> • Use of pathway related data at different levels of the system as inputs to planning. • Improvements in treating high volume conditions.
<p>An appropriate balance of the international best evidence with local requirements and the patient/community context.</p>	<ul style="list-style-type: none"> • Functional, multi-tier governance model for clinical pathways. • Equity of access. • Patient satisfaction.

8.5 Next Steps

The Panel recommends that the main messages from the feasibility study be communicated to the sector as soon as is practicable, and that work commence on a cost benefit analysis for the preferred approach option.

Communicate the Main Messages

Given the current level of sector interest and activity around clinical pathways, the Panel recommends that the National Health IT Board promptly communicate the key messages of this initial feasibility study, and also make available the detailed findings.

Prepare a Clinical Pathways Business Case

The Panel recommends a robust analysis of expected costs and benefits prior to making a final decision on whether to proceed with the recommended approach option. Work on a national level clinical pathways business case should commence promptly in partnership with areas that are prepared to move, and be designed to:

- increase sector engagement, particularly of key stakeholders;
- investigate areas where more certainty is required; and
- pursue the most expedient method for the required funding.

The Panel recommends the following scope components and, approximate sequencing of activity, for a national level clinical pathways business case:

1. Initial engagement with key stakeholders including potential owners, funders, implementers and early adopters (HealthPathways, New Zealand Guidelines Group, Health Quality Safety Commission, Accident Compensation Commission, Best Practice Advocacy Centre, Formulary Group etc.).
2. Conduct an international literature search around clinical pathways adoption, effectiveness, and learning. Also search for alternate tools to Map of Medicine that potentially meet the criteria for the preferred approach option.
3. Conduct further targeted investigation into the important unknown areas identified by the Panel within section 8.2 Implementation Considerations, with involvement from relevant stakeholder groups as appropriate.
4. Identify models for governance, planning and funding that will support adoption, and the long term success of the preferred approach option.
5. Identify a preferred implementation approach and the expected costs of this.
6. Consider the opportunity costs and implications of not pursuing a nationally coordinated approach (momentum in the sector, costs across the sector, improvements in quality of care etc.).

Appendix A: Health Sector Panel Members

Name	Health Sector Roles
Andrew Stenson	<ul style="list-style-type: none"> Group Manager - Business Performance – RNZCGP.
Chris Mules	<ul style="list-style-type: none"> Director - Health Services Planning National Health Board, MoH (focus on clinical networks, long term planning, new models of care, and service configuration). BSMC Evaluation Panel – MoH
Dr David Kerr	<ul style="list-style-type: none"> GP Director PHARMAC Director and Chair, Ryman Healthcare Clinical Leader Mental Health Involved in Canterbury Initiative
Dr Denise Nicholson	<ul style="list-style-type: none"> GP Clinical Editor for Health Pathways for The Canterbury Initiative. <p><i>Note that Denise attended the 1st workshop only as a substitute for Dr David Kerr who was unavailable.</i></p>
Elizabeth Plant	<ul style="list-style-type: none"> President of the Pharmaceutical Society of New Zealand Inc. Chief Pharmacist - Taranaki DHB National Health IT Board Member Safe Medication Management Steering Committee member NHB Clinical Leadership Group
Dr Jim Vause	<ul style="list-style-type: none"> Chair NZ Guidelines Group GP Clinical Leadership Group - NZ Health IT Board Executive of RNZCGP Cornerstone Assessor RNZCGP RNZCGP Quality Advisory Board

Name	Health Sector Roles
Dr John Childs	<ul style="list-style-type: none"> National Clinical Director - Cancer Programme - MoH ADHB - Radiation Oncologist National Cancer Treatment Advisory Group National Screening Advisory Committee Sponsor - Cancer Information Project – MoH National Cancer & Palliative Care Information Group
Philip Gander	<ul style="list-style-type: none"> Founding Director – Synergia Ltd NIHI Research (People Centric Health Informatics) Programme Advisor to GAIHN and National Maori PHO Coalition (Whānau Ora) BSMCs <p><i>Note that Philip did not participate in evaluation and voting activities due to a conflict of interest, but did participate in discussions at the request of the panel.</i></p>
Dr Ros Gellatly	<ul style="list-style-type: none"> GP GP Liaison – NMDHB Ministry of Health, NHBBU, Clinical Advisor Primary/Secondary Interface, Electives Team RNZCGP Professional Practice Expert Advisory Group Marlborough PHO Clinical Governance Group Clinical Leadership Group - NZ Health IT Board
Shelley Frost	<ul style="list-style-type: none"> Director of Nursing - Pegasus Health Deputy Chair GPNZ Deputy Chair - Canterbury DHB Clinical Board PPP Governance Group Canterbury Clinical Network transitional leadership Board (BSMC) New Zealand Health Quality and Safety Commission (Interim Board)