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# SNOMED CT Case Studies



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# Case Studies

## Health Pathways

HealthPathways is an evidence-based clinical pathway designed to **improve GP confidence in managing complex conditions, improve referral appropriateness, and reduce unnecessary care**. It was originally developed in 2008 by the Canterbury Initiative (New Zealand) and now has 40 deployments in New Zealand, Australia and the UK. Over 600 clinical pathways have been developed collaboratively by general practitioners, specialists, nurses, and allied health professionals across all sectors and are then tailored to the local context. HealthPathways uses SNOMED CT concepts, synonyms and hierarchies.

HealthPathways is widely used in Australia due to the popularity among general practitioners and its ease of use. The Mackay (Queensland) HealthPathways went live in June 2015, a joint implementation by the Northern Queensland Primary Health Network and the Mackay Hospital and Health Service.

## Referral Findings

Following the deployment of SNOMED CT–embedded HealthPathways there had been **reductions in diabetes and cardiology referrals** from both primary care and specialist referral sources, and the **percentage of appropriate referrals for diabetes had increased significantly**.

## Economic Impact

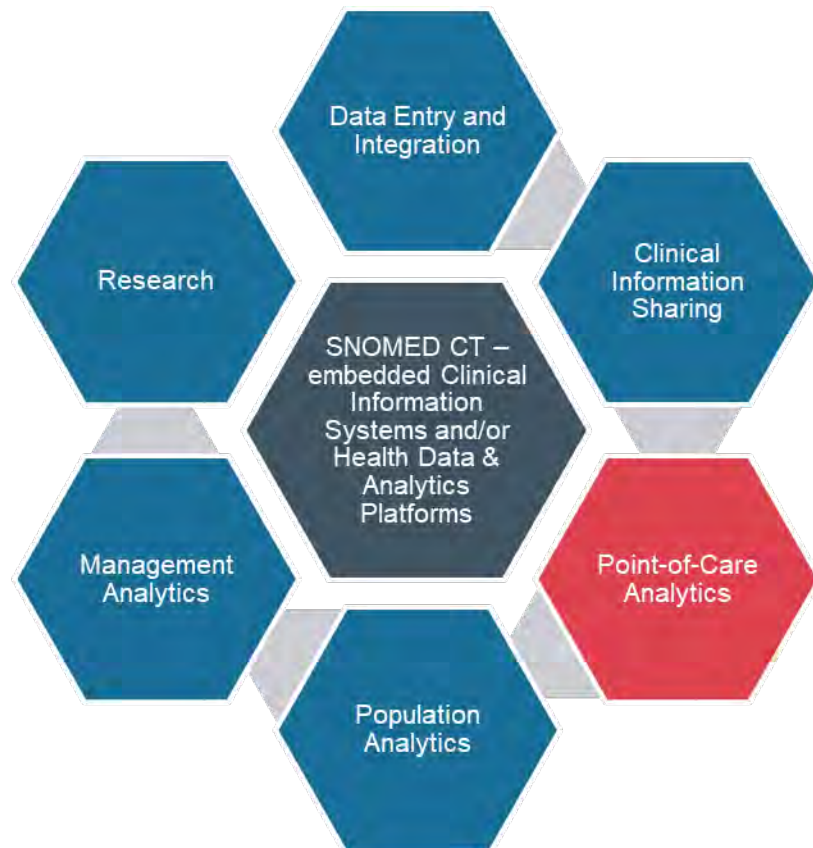
There was early evidence in Mackay of **reduced demand for specialist services**. The short-term impact was the **reduction in waiting lists by up to 67%** for fully implemented pathways such as Diabetes. The researchers predict that if the Diabetes gold-standard implementation was replicated across other disease groups an **average annual systemic cost saving of approximately \$110,500 per pathway** is possible. Further, it was estimated that a gold-standard implementation is required for just 4 Pathways before the program is cost-saving, and 6 gold-standard HealthPathways implementations will pay off the initial investment within a year.

For the detailed Northern Queensland PHN and MacKay Hospital and Health Service Case Study see Appendix 5 [here](#)



# Case Study #6

## Care Pathways Economic Analysis



**phn**  
NORTHERN QUEENSLAND



Queensland Government

Mackay Hospital and Health Service

> **Table of Contents**

# Case Study #6

## Care Pathways Economic Analysis

### Australia – HealthPathways Economic Analysis in Mackay, Queensland

- HealthPathways is an evidence-based clinical pathway that enables general practitioners (GPs) to better manage the interface between primary care, community services, and hospital services. It was originally developed in 2008 by the Canterbury Initiative (New Zealand) and now has 40 deployments in 3 countries (i.e. New Zealand, Australia and UK).
- The pathways (i.e. over 600 clinical pathways have been developed to date) are developed collaboratively by general practitioners, specialists, nurses, and allied health professionals across all sectors and are tailored to the local context. The HealthPathways search function uses **SNOMED CT** concepts, synonyms and hierarchies.
- HealthPathways is designed to improve GP confidence in managing complex conditions, improve referral appropriateness, and reduce unnecessary care – all patient service outcomes.
- HealthPathways is widely used in Australia due to the popularity among general practitioners and its ease of use. The Mackay (Queensland) HealthPathways went live in June 2015, a joint implementation by the Northern Queensland Primary Health Network and the Mackay Hospital and Health Service. An economic evaluation of the Mackay HealthPathways implementation was conducted by the Australian Centre for Health Services Innovation in 2018<sup>1</sup>.
- The researchers analyzed every outpatient specialist appointment referred from primary care between January and March in 2015 (pre-Pathways) and 2017 (post-Pathways) for diabetes (full implementation), cardiology (partial implementation), respiratory (partial implementation) and urology (no implementation: the control group).

1. Blythe et al., "HealthPathways: An Economic Analysis of the Impact of Primary Care Pathways in Mackay, Queensland", 2019. See <https://www.healthpathwayscommunity.org/News/Latest-Community-News/ArticleID/1356/Information-systems-supporting-integrated-care>

# Case Study #6

## Care Pathways Economic Analysis

### Australia – HealthPathways Economic Analysis in MacKay, Queensland (continued)

#### Referral Findings

- The analysis found that following implementation there had been **reductions in diabetes and cardiology referrals** from both primary care and specialist referral sources. Further, the analysis found that the **percentage of appropriate referrals for diabetes had increased significantly** following the introduction of HealthPathways. For the other disease groups the change in **appropriate** referrals was not significant.

#### Economic Impact

- The report concluded that given the difference in patterns between diabetes (full implementation) and urology (the control group), there was early evidence for the long term effectiveness of HealthPathways in Mackay through **reduced demand for specialist services**. The short-term impact is the **reduction in waiting lists by up to 67%** for fully and successfully implemented pathways such as Diabetes.
- The report speculates that if the Diabetes gold-standard implementation was replicated across other disease groups an **average annual systemic cost saving of approximately \$110,500 per pathway** is potentially possible. Further, it was estimated that a gold-standard implementation is required for just 4 Pathways before the program is cost-saving, and 6 gold-standard Pathways will pay off its initial investment within a year in system-wide savings.
- As of November 2018, there was 36 different disease groups supported by HealthPathways, and a long-term change to practice involving comprehensive use of HealthPathways could **potentially save upwards of \$3,600,000 annually in Mackay alone** after deducting the costs of maintaining the program. HealthPathways has now been deployed across Queensland.

# Case Study #6

## Care Pathways Economic Analysis

### HealthPathways – Other Selected Studies

1. Canterbury District Health Board (New Zealand), “Case Study-Improving Patient Flow from Gynecology Services to the Whole of System”. See study URL at <https://researchbibliography.streamliners.co.nz/bibliography/NYP4IDP6>
2. Holland et al, “A multifaceted intervention to improve primary care radiology referral quality and value in Canterbury, NZ”, New Zealand Medical Journal, 2017. See <https://www.nzma.org.nz/journal-articles/a-multifaceted-intervention-to-improve-primary-care-radiology-referral-quality-and-value-in-canterbury>
3. Andrews et al, “Evaluation of 3D HealthPathways”, Synergia, 2018. See <https://www.ccdhb.org.nz/about-us/integrated-care-collaborative-alliance/3d-hb-health-pathways/healthpathways-report-final-26-june-2018.pdf>
4. McGeoch et al., “Is HealthPathways Effective – An Online Survey of Hospital Clinicians, General Practitioners and Practice Nurses” New Zealand Medical Journal, 2015. See <https://www.nzma.org.nz/journal-articles/is-healthpathways-effective-an-online-survey-of-hospital-clinicians-general-practitioners-and-practice-nurses>
5. Norid et al, University of Sydney, “HealthPathways Sydney Evaluation” March 2019. See study URL at [https://researchbibliography.streamliners.co.nz/bibliography/?topic=HealthPathways+Evaluation&type=report&page=1&page-len=1&sort=date\\_desc](https://researchbibliography.streamliners.co.nz/bibliography/?topic=HealthPathways+Evaluation&type=report&page=1&page-len=1&sort=date_desc)





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