

UNIVERSITY  
*of*  
OTAGO

*Te Whare Wānanga o Otāgo*  
NEW ZEALAND

# Centre for Health Systems and Technology (CHeST)

## A brief introduction

Professor Tim Stokes  
Co-Director, CHeST

# Outline

- Why CHeST is important and where we fit in
- Our aims
- How we work:
  - CHeST five key themes
- Proposed activities
- Getting in touch
- Five theme leaders:
  - 5 short presentations

# Why CHeST is important

- New Zealand lacks a research centre with the inter-disciplinary expertise and partnerships to drive effective health system integration.
- Focus on integrated care implementation, a defining health system and technology (HS&T) challenge of our time.
- CHeST acts as a platform to draw together and focus different parts of the University of Otago on HS&T and related integration implementation questions.
- CHeST to be developed as a research hub bringing together academic, community, clinical and policy expertise from across New Zealand and internationally.
- CHeST builds on the success of its predecessor (Centre for Health Systems, PSM).

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- **New Zealand Health Research Strategy 2017-27 has strong focus on funding and building research capacity in HS&T research ....**

# NEW ZEALAND HEALTH RESEARCH STRATEGY

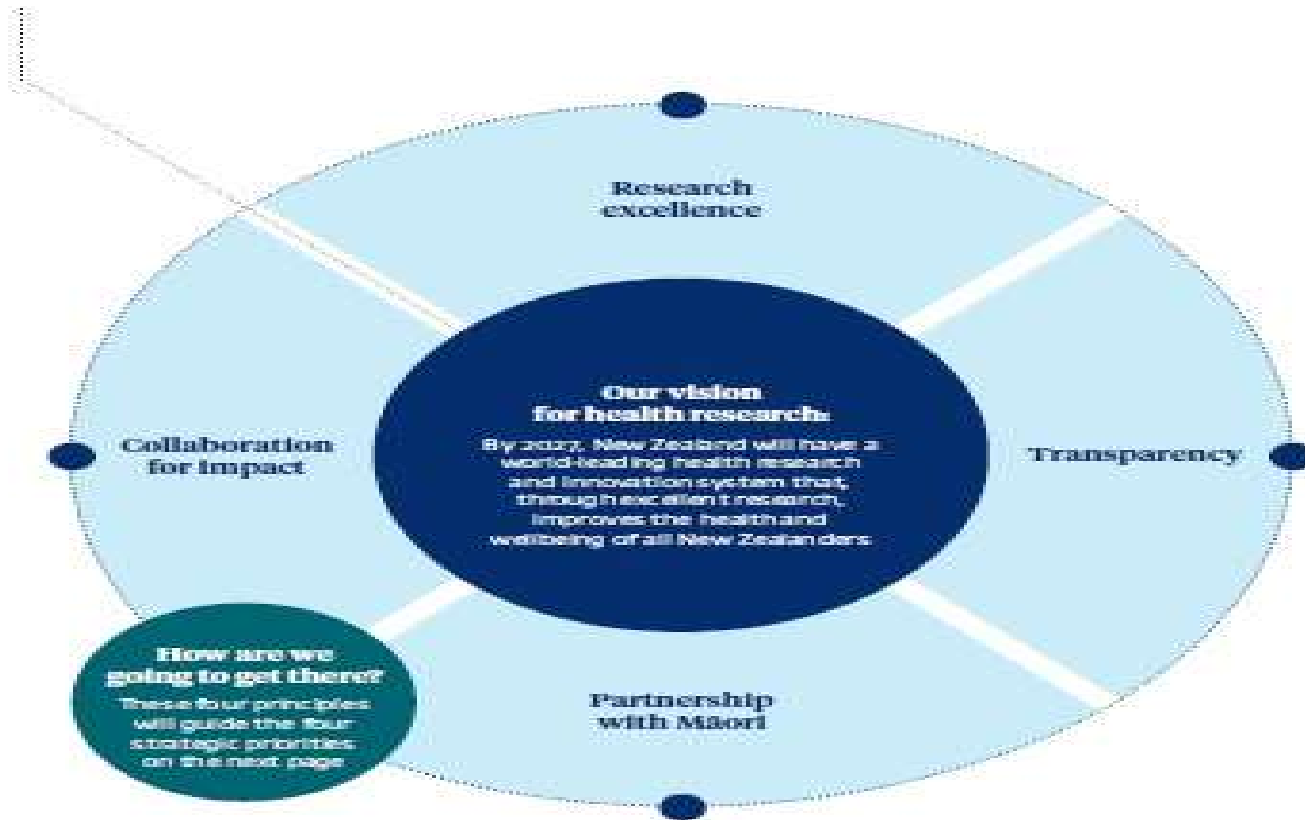
2017-2027

EXCELLENCE  
COLLABORATION  
TRANSLATION  
IMPACT



<http://www.health.govt.nz/publication/new-zealand-health-research-strategy-2017-2027>

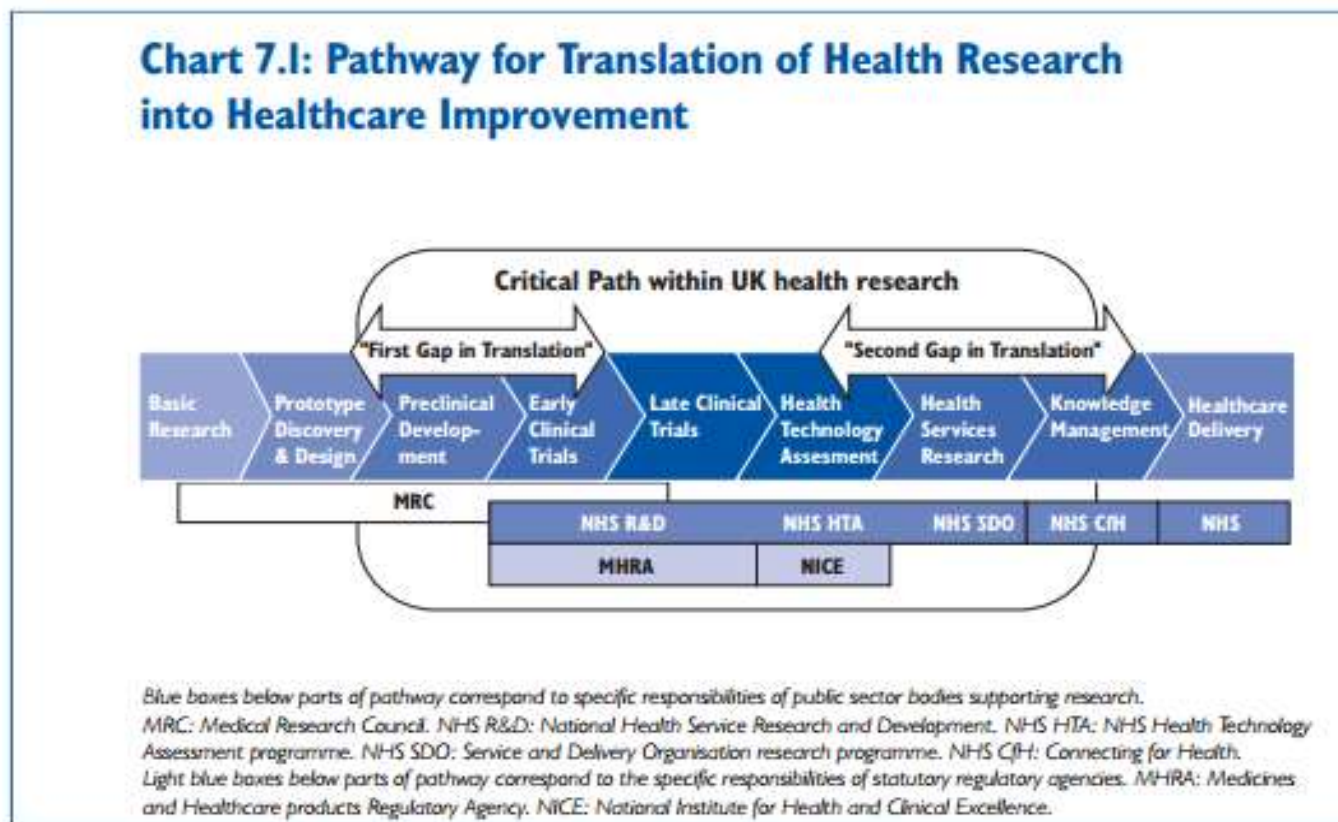
# Where are we heading?



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## SP3 Build and Strengthen pathways for translating research findings into policy and practice



*Cooksey: Review of UK Health Research funding. HM Treasury (2006)*



## SP3 Build and Strengthen pathways for translating research findings into policy and practice

There is a lack of research specifically aimed at translating research findings into policy and practice. Health services research, implementation research, behavioural studies, evaluation and technology assessments have received relatively little investment. New Zealand currently has limited capacities in these areas.

## Our aims

- Facilitate and promote research into health systems improvement.
- Bring together and coordinate the activities of those with health systems interests, and build a multi-disciplinary, cross-campus grouping with national and international links.
- Partner with DHBs, PHOs and other providers in projects of mutual interest that will benefit the health system and services.

# The Centre for Health Systems and Technology (CHeST)

Health Care and Health  
Service Delivery

Health System  
Architecture,  
Management and  
Performance

Health Quality, Safety  
and Community  
Engagement

Health Workforce

Health Technology

Prof Tim Stokes  
Dept of General  
Practice & Rural Health  
DSM

Prof Robin Gauld  
Otago Business School /  
Division of Commerce

Assoc Prof Sarah Derrett  
Dept of Preventive and  
Social Medicine  
DSM

Assoc Prof Jo Baxter  
Kōhatu – Centre for  
Hauora Māori  
DSM

Prof Stephen MacDonell  
Dept of Information  
Science  
Otago Business School

Evaluating new ways of  
delivering health services for  
acute & chronic clinical  
conditions across the  
primary-community-  
secondary care interface,  
implementation science.

Health system structures,  
resource allocation,  
management & governance,  
performance, & economics

Quality, safety, patient  
centred services, health &  
disability services,  
preventing adverse events &  
improving outcomes, &  
community engagement

Health workforce  
intelligence, equity &  
diversity of the health  
workforce, new roles &  
scopes of practice, & Māori  
health workforce  
development

Health sector engagement in  
technology development,  
models and measures of  
health technology adoption  
and efficacy

## Cross-cutting themes

Health care and System integration, Implementation science, Translational research, Role of Technology in supporting health care in the 21<sup>st</sup> Century, Performance measurement & evaluation

# The Centre for Health Systems and Technology

## Vision Mātauranga

### Associate investigators

Dr Erin Penno (Otago Business School), Professor Peter Crampton (Health Science Division), Professor Barry Taylor (Dunedin School of Medicine), Professor Carlo Marra (School of Pharmacy), Professor Pauline Norris (School of Pharmacy), Professor Leigh Hale (School of Physiotherapy), Assoc Professor Debra Waters (School of Physiotherapy & Dept of Medicine), Dr Trudy Sullivan (Dept Preventive & Social Medicine), Andrew Gray (Dept Preventive & Social Medicine), Dr Emma Wyeth (Dept Preventive & Social Medicine), Dr Rick Audas (Dept Women & Children's Health), Dr Richard Greatbanks (Dept of Management), Professor Ralph Adler (Dept Accountancy & Finance), Assoc Professor Paul Hansen (Dept Economics), Stuart Barson (Dept Preventive & Social Medicine), Gareth Rees (Dept Preventive & Social Medicine), Dr Jude Sligo (Dept Preventive & Social Medicine), Dr Sharon Leitch (Dept General Practice & Rural Health), Dr Carol Atmore (Dept General Practice & Rural Health), Dr Helen Harcombe (Dept Preventive & Social Medicine), Dr Ari Samaranayaka (Dept Preventive & Social Medicine), Dr Rose Richards Hessel (Dept Preventive & Social Medicine), Faumuina Assoc Professor Faafetai Sopoaga (Dept Preventive & Social Medicine), Emma Tumilty (Bioethics Centre), Professor Murray Thomson (Department of Oral Sciences), Professor Holger Regenbrecht (Department of Information Science), Dr Fiona Doolan-Noble (Dept General Practice & Rural Health), Dr Lauralie Richard (Dept General Practice & Rural Health), Pauline Dawson (Department of Women's & Children's Health), Dr Jack Dummer (Department of Medicine), Dr Lincoln Wood (Department of Management)

### Existing external relationships

Southern DHB, Counties Manukau DHB, Canterbury DHB, South Island Alliance, Alliance South, All South Community Health Council, Ministry of Health, Accident Compensation Corporation, Health Care Quality & Safety Commission, Health Workforce NZ, World Health Organisation, EuroQol Research Foundation, Commonwealth Fund, National Institute for Health and Care Excellence, National Institute for Health Research, National Heart Foundation, Bowel Cancer New Zealand, Koputai Lodge Trust

# CHeST Proposed activities

- Focus on cross-cutting research themes.
- Collaborative applications for external funding.
- Annual research symposiums on selected topics.
- Periodic theme research meetings.
- Establish a network for inter-disciplinary HST postgraduate students.
- Leading workshops for local and national external partners.

**PROPOSED ACTIVITIES TO ACHIEVE OUTCOMES**

	<b>PROPOSED ACTIVITIES TO ACHIEVE OUTCOMES</b>			
<b>OUTCOMES</b>	<b>Year One</b>	<b>Year Two</b>	<b>Year Three</b>	<b>Year Four</b>
<b>Build Theme coherency and focus</b>	Organise bi-monthly meeting; hold at least one day-long symposium; develop competitive research funding applications and EOI responses	Organise bi-monthly meeting; hold at least one day-long symposium; develop competitive research funding applications and EOI responses	Organise bi-monthly meeting; hold at least one day-long symposium; develop competitive research funding applications and EOI responses	Organise bi-monthly meeting; hold at least one day-long symposium; develop competitive research funding applications and EOI responses
<b>Submit funding applications</b>	Aim for one CHeST application, developed from focused Theme meetings	Aim for 3-4 CHeST applications, developed from focused Theme meetings	Aim for 3-5 CHeST applications, developed from focused Theme meetings	Aim for 3-5 CHeST applications, developed from focused Theme meetings
<b>Tender for contract work. E.g. with DHBs and other agencies</b>	Win at least one contract	Win at least one contract	Win at least one contract	Win at least one contract
<b>Attract PhD students</b>	1 student specifically attached to CHeST	2 students specifically attached to CHeST	4 students specifically attached to CHeST	5 students specifically attached to CHeST
<b>Strong virtual, media and public presence</b>	Revamp existing CHeST website (Health Science and Commerce Divisions will assist with this); establish promotions and marketing materials and campaign	Ensure high impact in research and other activities, including working with and influencing public policy makers	Ensure high impact in research and other activities, including working with and influencing public policy makers	Ensure high impact in research and other activities, including working with and influencing public policy makers

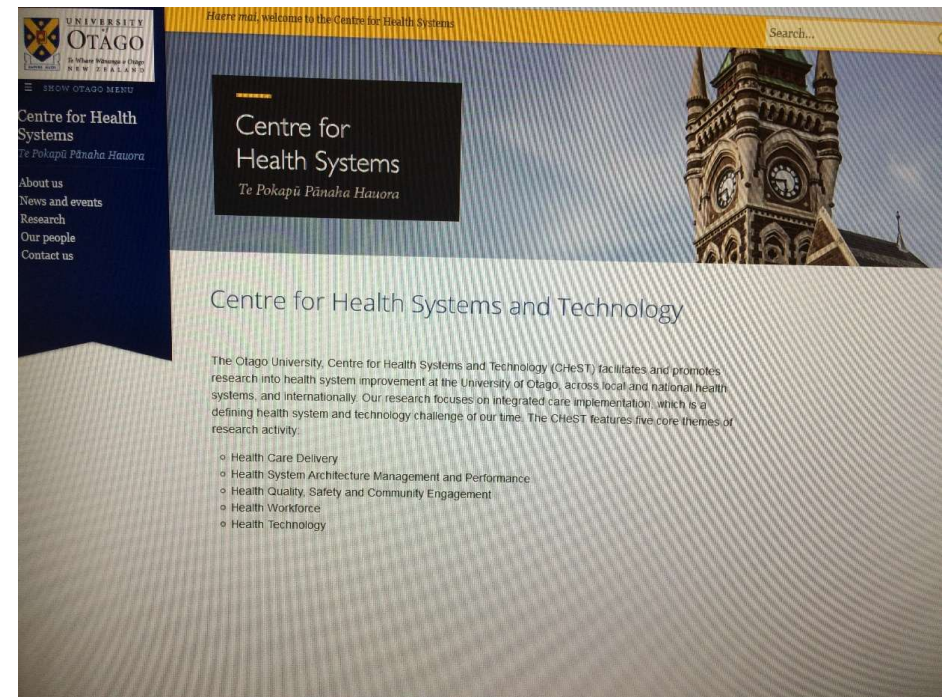
# Activities completed/underway

- Regular monthly meeting of CHeST Steering Group.
- CHeST Inaugural Meeting on
  - 5<sup>th</sup> July 2017.
- CHeST Inaugural Symposium
  - Implementing Integrated Care
  - 29<sup>th</sup> August, 2017



# Activities continued ...

- Website development underway



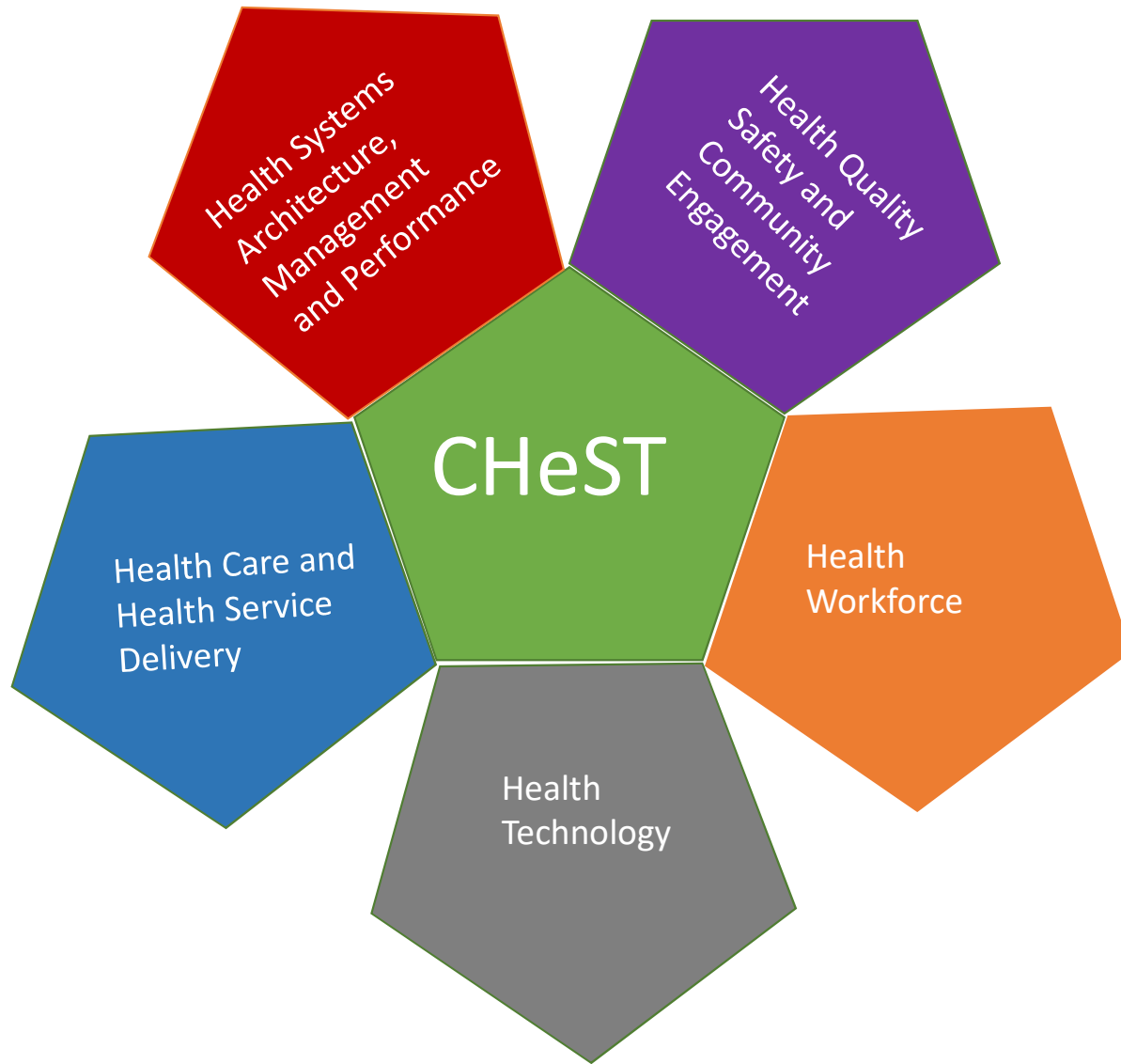


# Keeping in contact

- [chest@otago.ac.nz](mailto:chest@otago.ac.nz)
- [www.otago.ac.nz/healthsystems](http://www.otago.ac.nz/healthsystems)
- [https://twitter.com/chest\\_Otago](https://twitter.com/chest_Otago)
- Dr Gagan Gurung, Postdoctoral Fellow with CHeST



**FIVE  
THEMES,  
FIVE  
LEADS,  
FIVE  
MINUTES  
EACH ...**

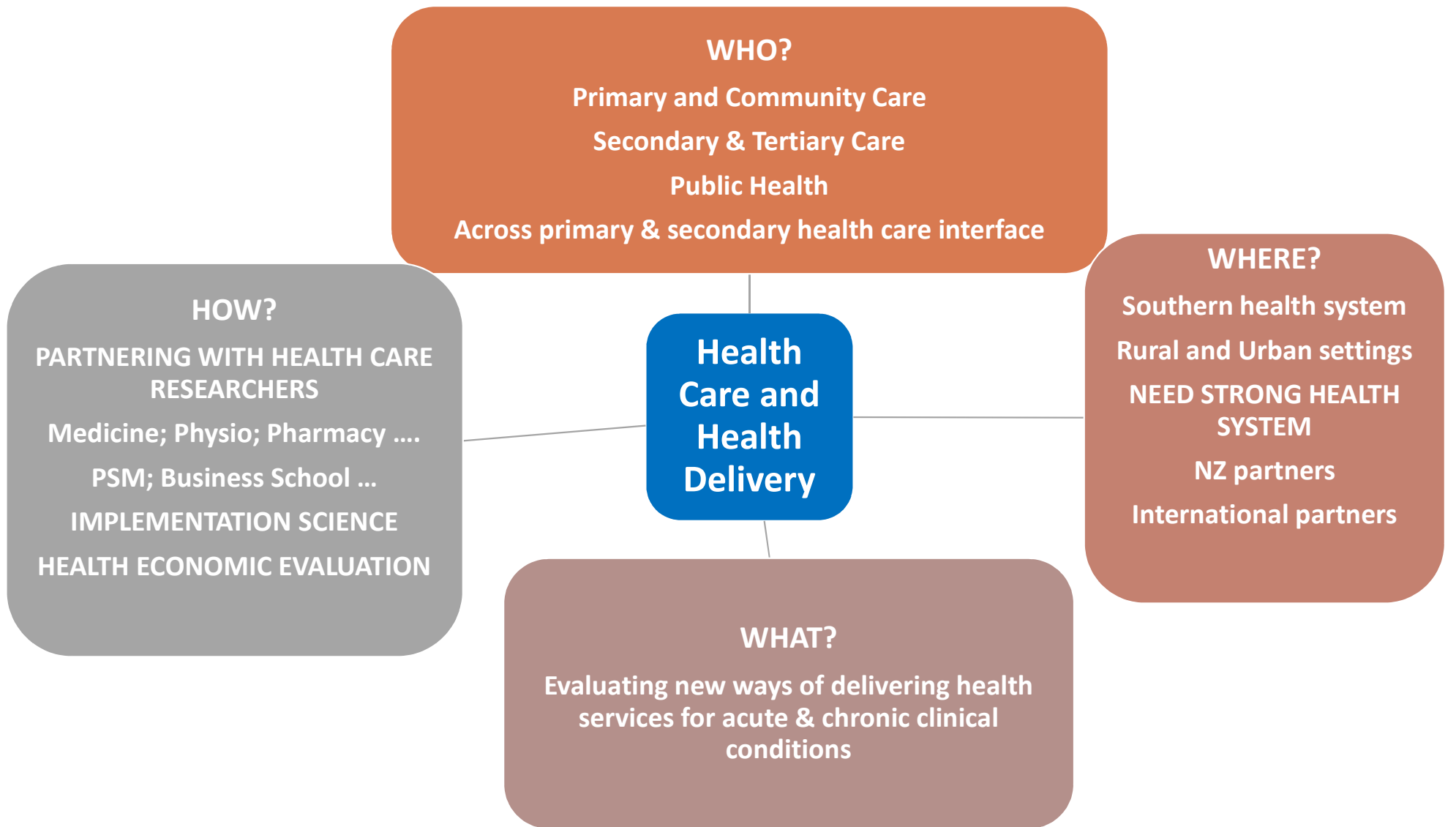


# Health Care and Health Service Delivery

Professor Tim Stokes

Theme Lead





# Delivering better care for people with severe Chronic Obstructive Pulmonary Disease (COPD) in the Southern Region (HRC Partnership Grant)



- DGPRH (TS: PI); Department of Medicine; Southern DHB
  - Dr Jack Dummer; Simon Donleavy (first named decision maker)
- *Study 1a*
  - *Health care utilisation of people with severe COPD: a retrospective case note review study*
- *Study 1b)*
  - *Health care needs of people with severe COPD: interview study with patients*
- *Study 2:*
  - *The barriers and enablers to the provision of high quality, person-centred and integrated care for people with severe COPD: interview study with providers and planners*
- *Study 3:*
  - *Developing evidence-based recommendations for clinical practice and care delivery for people with COPD in Southern Region: adapted UK NICE quality standard methodology*

# Community Exercise for long term management of diabetes and multimorbidity (HRC Project Grant 2017 -)



- HRC Health Delivery Stream Funding
  - Professor Leigh Hale, Dean, Physiotherapy School, PI
- Community Exercise Programme is a complex intervention
- Not a “black box” RCT:
  - Embedded qualitative process evaluation as recommended by UK MRC using implementation science theory (Consolidated Framework for Implementation Research: CFIR)
    - Prof Tim Stokes, DGPRH, DSM
  - Embedded health economic evaluation
    - Dr Trudy Sullivan, PSM, DSM

# Health Systems Architecture, Management and Performance



Professor Robin Gauld

Theme Lead

# WHO?

Primary, secondary, public health  
Public, private sectors  
Domestic / International

## HOW?

Draw together skills of Business School  
and Health Sciences  
Apply these to key questions of care  
integration in partnership with  
providers, policy makers and other  
CHeST themes

Health  
system  
architecture  
and  
performance

## WHERE?

Southern health system  
NZ  
International partners

## WHAT?

System design and balance  
New models of care  
Redesign of current models  
Service specific issues  
Health service specific issues – eg Health Pathways  
Methods for performance assessment



# Health Quality, Safety & Community Engagement



Associate Professor Sarah Derrett

Theme Lead

# Health Quality, Safety, & Community Engagement

- Focus of this CHeST theme is: **Quality, safety, patient centred services, health & disability services, preventing adverse events & improving outcomes, & community engagement**

# Health Quality, Safety, & Community Engagement

Community  
Health  
Council



- Focus of this CHeST theme is:

Quality, safety, patient centred services, health & disability services, preventing adverse events & improving outcomes, & community engagement

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Community  
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Quality, safety, patient centred services, health & disability services, preventing adverse events & improving outcomes, & community engagement

- Focus of this CHeST theme is:
- Many projects by CHeST members already underway  
E.g. [Paediatric experiences, pathways and QI strategies in the Otago region: A qualitative feasibility study](#) (HealthCare Otago Charitable Trust funding)

**Aims:** 1) Describe & understand experiences of paediatric services from children, youth & their whānau – including specifically Ngāi Tahu and Māori living in Otago;

- 2) Discuss existing engagement methods;
- 3) Plan for innovative forms of patient/whānau & staff collaboration for quality improvement

- Coming year: stocktake, new students, ideas & grants
- To connect: [sarah.derrett@otago.ac.nz](mailto:sarah.derrett@otago.ac.nz)

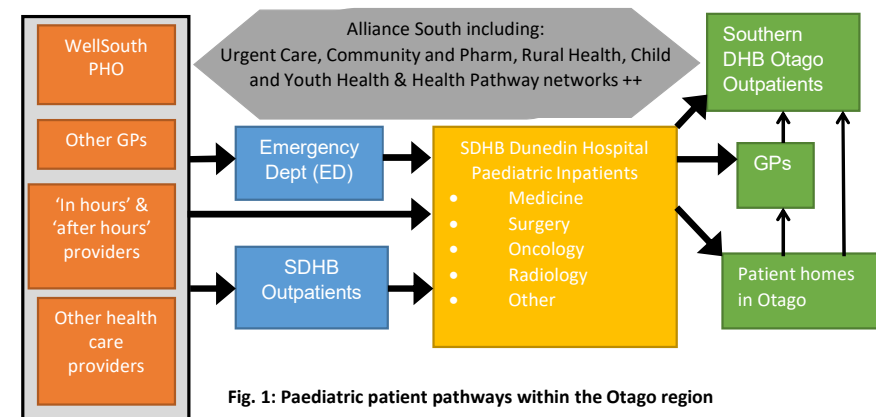


Fig. 1: Paediatric patient pathways within the Otago region



# Health Workforce

Associate Professor Jo Baxter

Theme Lead

## WHO?

Intelligence – Data to inform decision-making and planning  
Forecasting – How many and who?  
Education and training – How many needed? Which disciplines? What skills/competencies?  
Professional development  
Cultural competence / representation  
Composition and representation  
Domestic / International

## HOW?

Models of teams and staff deployment  
Integration of service  
Integration with social and other services  
Quality  
Health economic analysis

# Health Workforce Research

## WHERE?

Distribution – Ideal? Gaps?  
Equity – Inverse-care law?  
Access – Impact of workforce  
Rural / Urban – Challenges to address  
Service types and staff mix – Is it ideal?  
What's best?

## WHAT?

Scope of practice  
Forecasting  
New roles  
Redesign of current roles  
Discipline specific issues  
Health area specific issues – eg mental health



# Health Technology

Professor Stephen MacDonell

Theme Lead

# Health Technology

- Focus on the development, deployment, adoption and use of smart informatics and analytics in health service delivery and uptake.
- Applications in a range of contexts and at various scales relevant to the theme:
  - provision of personalised health services for individuals with chronic conditions
  - real-time visualisation of adaptive analytics within health providers
  - predictive modelling of the efficacy of preventive measures in population health.



Thank you!

