



# redesigning healthcare



# Introduction

Our multidisciplinary team brings extensive technical skill and experience to the health sector, having worked on projects covering funding model development, statistical and actuarial analysis, public health, epidemiology, health service design, workforce planning and health sector consultation.

Our team also brings to each and every assignment:

- Proven methodologies
- Evidence-driven performance improvement
- Thought leadership.

Within this document we present the key areas of our focus which align with the current and future trends in healthcare. These key areas consist of:

- Aged/Chronic Care
- Clinical Redesign
- Trends in Global Health
- Health Actuarial
- Digital Health.

# 1

# Aged/Chronic Care

## Background

Population health needs in Australia, as elsewhere in comparable countries, are shifting due to increasing prevalence of chronic and complex conditions, including long term disability, as well as ageing of the population. One of the major challenges facing health, community care and aged care systems is the need to more effectively meet this increasing need and demand. Governments in most developed countries are continually reviewing their funding programs to improve outcomes – particularly around access and effectiveness – and efficiency. Similarly providers are interested to improve the capacity and operations to provide quality care and to meet financial and performance targets.

## What we do

- Develop and review models of care for the integration and coordination of care
- Assist providers in growth and other initiatives, analysing their services and business, and in services redesign.

## Case Studies

### Residential Aged Care providers:

- helping providers in developing and acquiring new facilities and in analysing the opportunities, performance and direction of their existing services

### Australian Department of Health and Ageing:

- development of viability funding models for both residential and community aged care services for services provided in rural and remote locations
- developing operational guidelines for the establishment of projects and programs related to research, teaching and provision of dementia and services for people with dementia
- Evaluation of two major national health services programs aimed at the coordination of care and self management models for aged and chronic care populations (including rural/remote areas).

### NSW Health:

- review of the state government owned residential aged care services
- review of the program of aids for people with a disability.

# 2

# Clinical Redesign

## Background

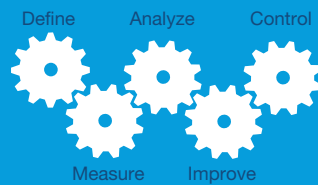
The challenge of managing a growing demand for services is significant. Our approach focuses on the patient – particularly in managing the “white space” where patients are waiting for care, their access to services and the efficiencies with which providers can manage patient flow. We achieve this through a combination of evidence-based process improvement tools and a dedicated focus on change management to support improvements.

## Our Approach

### Core Principles of Our Flexible Clinical Redesign Methodology

- Six Sigma
- Lean
- Change & Stakeholder Management
- Business Process Re-engineering

### Six Sigma



### PITBM



### LEAN



### Change Management



## Case Study

### Clinical Services Redesign Program – Peri-operative patient journeys

The challenge was to apply robust analysis (both quantitative and qualitative) of the elective surgical peri-operative journey to assist our client in achieving their desired outcomes. These included that:

- patients have a seamless surgical experience
- there be a reduction in cancelled cases
- there be a reduction in waiting for surgery
- satisfaction of staff and patients/ families be enhanced
- there be a transfer of training and skills to the hospital staff in project and change management so that the staff own resulting improvements
- there be continuous monitoring of key KPIs.

## Our Approach

PwC's performance improvement methodologies, being PITBM and Six Sigma/LEAN, were used to investigate a number of areas. Key features of our approach included:

- Emphasis on using data analysis to inform improvements to KPI's (for the first time, the hospital is now clear on how various data sets need to be integrated to provide measures for monitoring performance). The drill-down of data analysis was to the procedure or ICD-10 level
- Use of process mapping methodologies for staff to appreciate the entire peri-operative journey and to identify root cause issues
- Formal change management methodology including strategies for stakeholder engagement and hospital-wide communications
- Production of a comprehensive literature review on international best practice
- Formal project management through the use of a Program Office.

## Results

- Reduction of long waits and non-urgent patients on waiting list to lowest in the hospital's history
- Highest Day of Surgery Admission rate in the hospital's history
- Reduction of cancellations by half within 6 months.

# 3

## Global Health

PwC is one of the largest providers of consultancy services to the Healthcare industry on a global scale. In Australia we are able to seamlessly apply global resources and experience to our work in this setting.

Key clients internationally:

- United States: Kaiser Permanente; State of California; Wellpoint, Inc.; Tenet Healthcare Corporation; UnitedHealth Group; Omnicare, Inc.; Health Net, Inc
- United Kingdom: Department of Health (NHS)
- India: Apollo Health Services
- Singapore: Ministry of Health (Singapore).

### Communities of Practice

All of PwC's territories are aligned in the global health sector through our global initiative around "Communities of Practice". These outline common industry trends and client issues. They include:

- Health Funding Models
- Digital Health
- Public Private Partnerships
- Benchmarking / Performance Management.

### Global Health Thought Leadership

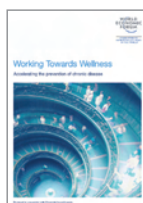
Included below are some examples of our thought leadership material with a short description. Should you be interested in any of this material please contact the local Partner in your state/territory.



Healthy Choices:  
*The Changing Role of the Health Insurer*



HealthCast 2020:  
*Creating a Sustainable Future*



Reactive to Adaptive:  
*Transforming Hospitals with Digital Technology*



The Quality Conundrum:  
*A Global Perspective on Healthcare Quality*



Working Towards Wellness:  
*Accelerating the prevention of chronic disease*





# 4

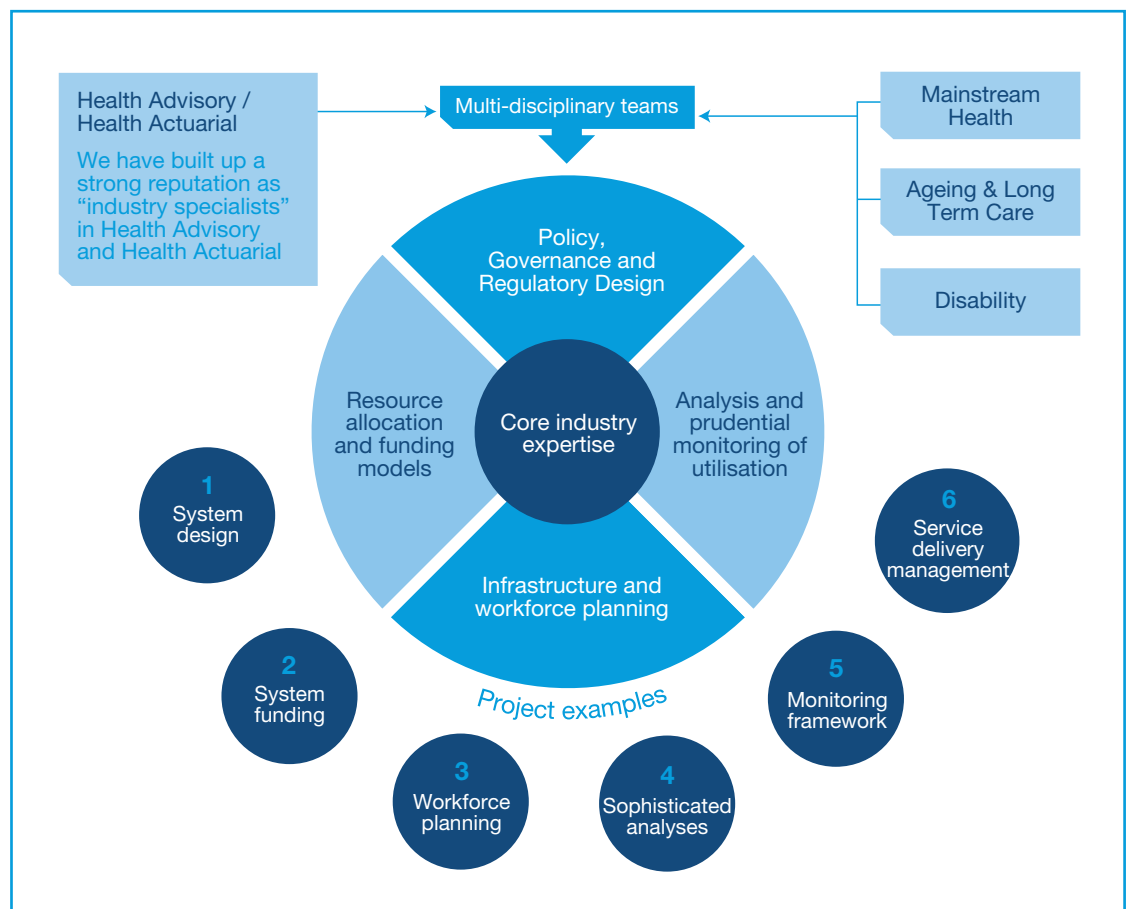
# Health Actuarial

## Background

The PwC Actuarial Practice is the Australian market leader in General Insurance and Health, including the financial management of accident compensation portfolios. We have over one hundred staff on our team, including qualified actuaries, analysts, technical specialists and support staff. In addition to traditional areas of financial sector management and analysis, the Actuarial Practice has developed strong and recognised capabilities in the health care sector through financial and economic modelling in the areas of funding, facility planning, workforce modelling and quantitative research.

We have extensive experience in developing funding models which have jurisdiction wide (either at the state level or the federal level) implications and reach, making us cognisant of the need to consider the real-world impact of the models being developed. We are also experienced in working, from an independent adviser perspective, alongside government agencies in settings where socio-political considerations must be factored in to decision making.

## What we do



## Case studies

### 1. System design

- Direct advice to senior levels of government and parliamentary drafting of social insurance systems
- Design and implementation of a long term care scheme for people with major disability
- Analysis of changes to legislation for compensation following injury, including analysis of impact on both health outcomes and scheme costs.

### 2. System funding

- Development of a risk-based capitation model for resource allocation in coordinated care
- Development of a funding and resource allocation methodology for a long term care scheme for people with major disability
- Identification of options for funding and co-payment in community-based aged care
- Assessment and quantification of the current and future demand for disability services, also allowing analysis of the costs and benefits of changes to the disability services system.

### 3. Workforce planning

- Detailed long term projections of the supply of and requirements for GPs across Australia, subdivided by GP Division and Local Area
- Detailed long term projections of the supply of and requirements for medical specialists and non-specialists across Australia, subdivided by location of care and specialty subgroup
- Development of progressive education and training modules and systems for GPs and medical specialists in a range of settings.

### 4. Sophisticated analysis

- Detailed analyses leading to familiarity with all major health data sets, including inpatient collections, primary care, aged care, home care, disability and private health insurance
- Use of state-of-the-art data mining and regression tree analysis, as well as traditional ANOVA and statistical methods
- Development of a lifetime customer value model for a major health insurer, including assessment of factors predicting future utilisation and member profitability.

## 5. Monitoring framework

- Development of a comprehensive monitoring and evaluation cycle allowing the governance and management of insurers and social systems
- Incorporation of system sustainability indicators and risks, including a continuum of financial indicators, health outcomes and customer satisfaction
- Skills transfer allowing our clients to take monitoring and evaluation in-house.

## 6. Service delivery management

- Development of a prudential governance framework for providers of residential aged care services
- Development of a case management program for workplace injury linking to monitoring and outcome evaluation
- Analysis and recommendations regarding the suitability of models of supported accommodation and long term care for people with major disability.

# 5

# Digital Health

## Background

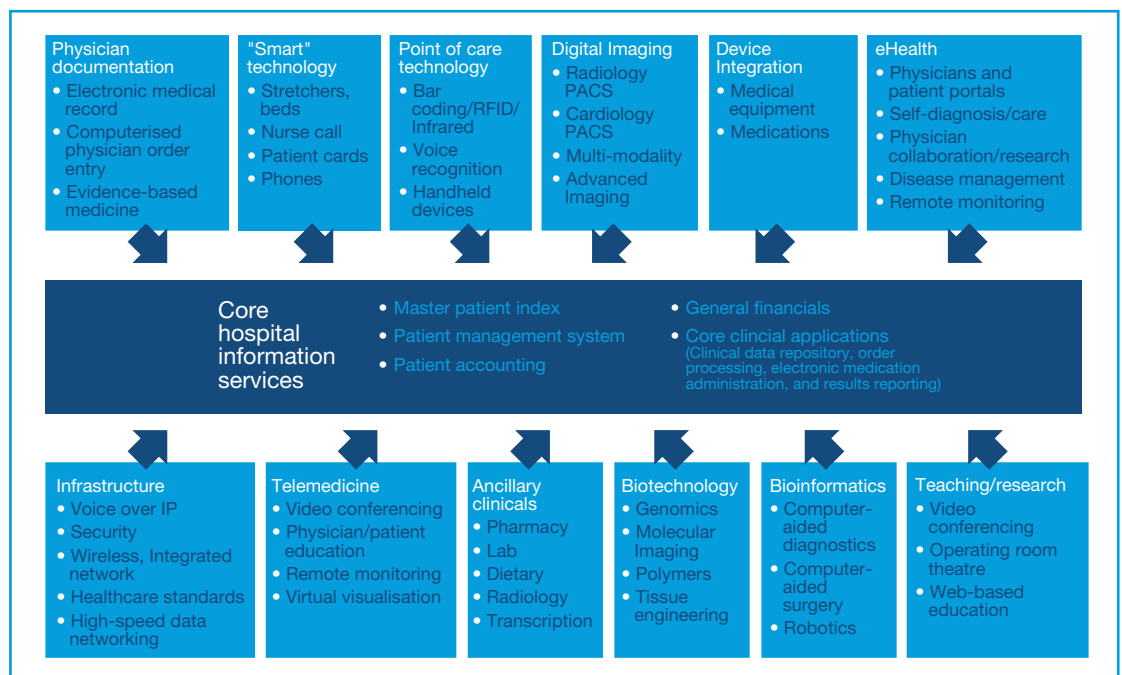
Modern healthcare delivery is increasingly recognised as an information business as well as a people business, but many healthcare delivery organisations seem significantly under-provisioned in modern information management capabilities.

## What we do

- Support ITC implementation through change management and project management services
- ICT Strategy and Implementation Planning (including business case development)
- Quality assurance services for large scale ICT roll-out
- Access Point implementation support for integration of care.

## Thought Leadership

PwC has researched digital hospitals to examine their ability to provide patient care and be competitive in the market, the barriers that keep hospitals from becoming more digitally advanced, and the lessons that other hospitals/governments can learn from the pioneers (see global health page of this brochure). The following diagram shows an interpretation of the digital hospital concept collected from health professionals worldwide. This diagram is followed by a few case studies indicating some of the work we have done in this area.



## Case Studies

### ICT Strategy and cost implementation plan

A structured approach was followed to understand the current state environment, systems and issues, develop the recommended end-state environment as well as the strategic recommendations and supporting implementation plan and business case inputs. Working closely with IT Management and conducting interviews, insights were gained into the business information needs and the wider Health Community. The US Digital Health Community™ team was consulted to establish a vision for the future and assess the current systems against a target environment. This data was used coupled with past experience of Health ICT to develop an ICT Strategy and implementation plan, estimating capital and recurrent costs.

### Community Health Information System

PwC was contracted to identify information & resources for inclusion in a community health information system. These resources were to be tailored for clinicians managing patients with Diabetes, Arthritis & musculoskeletal conditions, Respiratory disease (Asthma & COPD) & Cardiac disease & Heart Failure.

In delivering this project PwC engaged hundreds of clinicians, managers and consumers to understand what is needed to better support day to day clinical practice drawing on best practice and evidence based medicine.

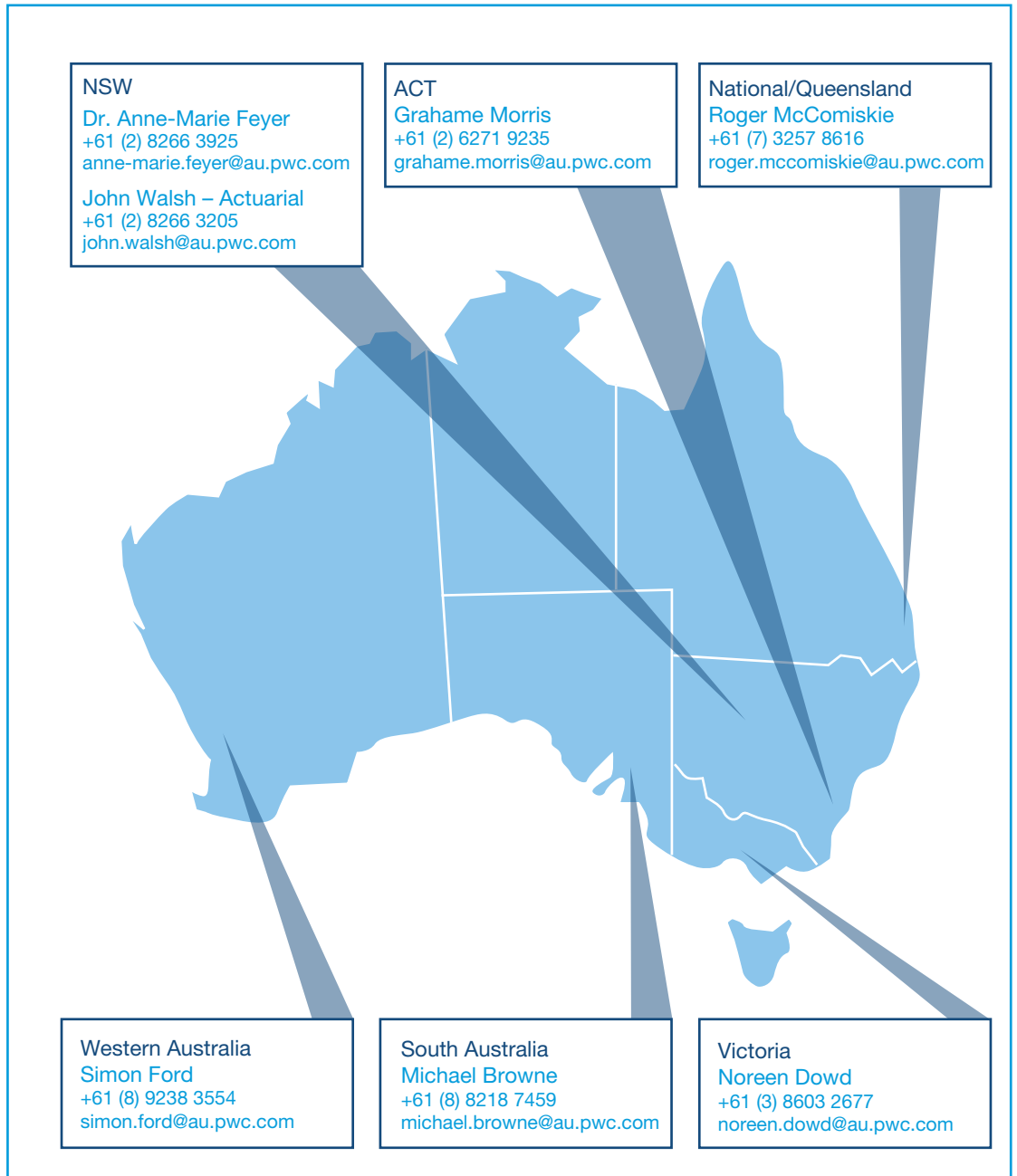
### State-wide Patient Administration System (PAS) rollout

PwC was engaged to assist NSW Health with rolling out a standard approach to implementing PAS across the area health services. The implementation planning studies were comprehensive and included impacts on business process, systems, people as well as required funds. PwC facilitated multiple workshops throughout NSW Health for the state-wide PAS implementations which included:

- Instructing participants in business process review and flowcharting
- Recording areas of concern and conflict relevant to the project
- Providing advice to local health areas on project management and project corporate governance
- Advising on the PAS rollout plan.

# 6

## PwC Contacts





[www.pwc.com/au](http://www.pwc.com/au)

[www.pwc.com/globalhealth](http://www.pwc.com/globalhealth)