Transformational paradigms poised to redefine healthcare delivery

November 2016
### Factors Transforming Healthcare

<table>
<thead>
<tr>
<th>From Today As-is-State (2015)</th>
<th>Future To-be-State (2025)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus</strong></td>
<td>• Patient Centric &amp; Participatory</td>
</tr>
<tr>
<td>Process/Provider Centric</td>
<td><strong>Objective</strong></td>
</tr>
<tr>
<td>Symptomatic, Curative</td>
<td>• Predictive &amp; Preventive</td>
</tr>
<tr>
<td><strong>Access/Location</strong></td>
<td>• Any time, any place - Homecare (Decentralized)</td>
</tr>
<tr>
<td>Limited in-Hospital care (Centralized)</td>
<td><strong>Technology</strong></td>
</tr>
<tr>
<td>Isolated Systems</td>
<td>• Integrated Systems (Digital Medicine)</td>
</tr>
<tr>
<td><strong>Treatment Methods</strong></td>
<td>• Holistic Care (Minimum/Non Invasive)</td>
</tr>
<tr>
<td>Episodic Care (Invasive)</td>
<td>• Personalized/Precision Medicine</td>
</tr>
<tr>
<td><strong>Medication</strong></td>
<td></td>
</tr>
<tr>
<td>Blockbuster Medicine</td>
<td></td>
</tr>
</tbody>
</table>

### How We Can Get There

- Macro Trends – Overall Healthcare
  - Identify and analyse the Mega Trends and corresponding sub-trends that will have the strongest impact on existing business model

- Sectoral Trends – Healthcare Delivery
  - Identify the future success potential of current and emerging business models across these industries.

- Best Practices – Company Specific
  - Illustrate the opportunities and emerging business model types across selected industries through industry best practices and case studies
The Impetus for Change
Macro Healthcare Spend Globally

It is expected that healthcare expenditure trends (2004-2014) will continue until 2025, with little change.
Healthcare Approach – Personalization is Key
Customized care approaches will be the norm for healthcare

Patients’
- Genetics
- Eating habits’ impact on health
- Response to medication

Are now being studied, moving away from the ‘one-size-fits-all’ approach

35% US patients feel
“Doctors largely provide an impersonal service and have no time for their patients.”

Select Models
- Allows doctors to stratify chronic disease patients based on how well they are managing disease
- Launched a personalized medicine initiative in partnership with Pfizer for Lupus research

Personalized Medicines’ Share of Novel New Drugs Approved by FDA, US, 2014 & 15

2014
- Zykadia
- Cardelga
- Vimizim
- Harvoni
- Nucala
- Rexulti
- Lonsurf
- Cholbam

2015
- 21%
- 28%

Clinical Outcomes – Norm of Patient Centricity

Patient centricity and population health are moving beyond the buzzword status, with some stakeholders implementing processes and changes to adapt to the concepts.

**Patient Centricity**
- Pharmaceutical Manufacturers
- Medical Device Manufacturers
- Diagnostic Labs
- Physicians
- Hospitals
- Payers

**Population Health Benefits**

**Patient**
- Increased quality and efficiency of care
- Improved access to healthcare
- Fewer avoidable readmissions
- Higher satisfaction
- Personalized care
- Fewer ER visits
- Better health

**Provider**
- Synergy between providers, better patient outcomes
- Increased efficiencies for clinicians
- Shared risk and financial stability
- Patient lifecycle planning

**Hospital**
- Faster response times to quality issues
- Better management of funds
- Cost reduction
- More proactive care
- Shared risk

**Select Models**

- **ACUPERA**: Population health tools use analytics that enable providers to segment and devise strategies for managing patient population
- **DATSTAT**: Population health platform allows analysis of patient data (inside and outside clinic) with features like automated interactions and EHR integration

Image Source: Frost Image Database. Respective company websites; Source: Beryl Health (now Stericycle Communication Solutions), Frost & Sullivan
**Treatment Focus – Shift to Wellness**

Healthcare focus will shift from the sick to include the affected, vulnerable, and healthy, with the aim of prevention is better than cure.

**Healthcare Market: Healthcare Spend Areas, Global, 2015**

- Consumer Products
- Wearables and Mobile Applications
- Medical Health Spas
- Complementary and Alternative Medicine

**Integration of Healthcare and Wellness**

**Healthcare Market: Healthcare Spending by Type of Activity, Global, 2007–2025**

<table>
<thead>
<tr>
<th>Year</th>
<th>Prevention</th>
<th>Diagnosis</th>
<th>Treatment</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>10</td>
<td>70</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>2012</td>
<td>12</td>
<td>64</td>
<td>17</td>
<td>7</td>
</tr>
<tr>
<td>2025</td>
<td>16</td>
<td>51</td>
<td>21</td>
<td>12</td>
</tr>
</tbody>
</table>

**Select Models**

- **omada**: 16-week online prevention program for people with high risk of chronic disease
- **Counsyl**: Genetic testing services to help people make knowledgeable decisions
- **HealthTap**: Patients can virtually connect with doctors for health queries
- **Huneo**
- **Lumo**
- **neurotrack**
- **fitbit**
# Government Policy Shifts

Macro-factors impacting government policies will shape the future of healthcare, and of other industries as well.

## Factors Influencing Policy Shifts

<table>
<thead>
<tr>
<th>Factor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population Growth</td>
<td>Population growth will affect healthcare access and demand.</td>
</tr>
<tr>
<td>Climate Change</td>
<td>Climate change will lead to increased healthcare needs and costs.</td>
</tr>
<tr>
<td>Migration</td>
<td>Migration patterns will influence healthcare availability and location.</td>
</tr>
<tr>
<td>Technology</td>
<td>Technological advancements will change healthcare delivery and services.</td>
</tr>
</tbody>
</table>

## Other Healthcare-Affecting Policies

- Healthcare providers and manufacturers to invest in recycling and renewable energy resources
- Use of public transport systems encouraged to reduce carbon emissions
- Local business and communities preferred for healthcare trade
- Health literacy programs; part of school curriculums
- Financial incentives for retirees to lead a healthy life
- Income equality promotion
- Work-life balance improvements by regulating working hours

## Healthcare Policy Shifts

- Focus on prevention, personalized health support
- Improving healthcare infrastructure a priority where necessary
- Hospitals focus on specialized treatments only; general, less-specialized care moves to other care delivery settings, including home
- Specific disease-focused efforts
- Increasing (% GDP) spend on healthcare
- Encourage walking, cycling and other carbon-neutral, health-enhancing modes of transport, supplemented by public networks
Australia within the Global Context
Healthcare expenditure per capita hits AUD 6,639... Not only the cost but also the sources of funding and their sustainability is a concern

### Healthcare Expenditure, Australia, 2013-2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditure (AUD Billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>110</td>
</tr>
<tr>
<td>2014</td>
<td>120</td>
</tr>
<tr>
<td>2015</td>
<td>130</td>
</tr>
<tr>
<td>2016</td>
<td>140</td>
</tr>
<tr>
<td>2017</td>
<td>150</td>
</tr>
<tr>
<td>2018</td>
<td>160</td>
</tr>
</tbody>
</table>

### Healthcare Expenditure by Sector, Australia, 2015

- **Hospitals**: 38%
- **Primary Care**: 36%
- **Capital Expenditure**: 20%
- **Other Recurrent Areas**: 6%

### Changes to health insurance regulation expected in Australia with the government framing new policies to provide care with ‘value for money’.

### Availability of advanced telehealth services in Australia and increasing costs of nursing home care will continue to allow growth of ‘in-home’ care.

Source: Australian Institute of Health and Welfare (AIHW); Frost & Sullivan
2025 Healthcare Regional Challenges
Ageing population, population growth and demand for infrastructure are perceived to be the top global healthcare challenges

Healthcare Market: Greatest Challenge for Healthcare, Global, 2025

Ageing Population
- APAC
- Australia
- EMEA
- France
- UK

Increasing Population
- South East Asia
- India

Health Services Infrastructure Demand
- North America

A burgeoning population in South-East Asia, especially India, is likely to become the greatest challenge for the region. The APAC and EMEA areas will struggle to serve the healthcare needs of ageing populations by 2025. North America on the other hand perceives health services infrastructure to be the major challenge.

Note: APAC-Asia Pacific
EMEA-Europe Middle East North Africa

Image Source: Pixabay, Frost & Sullivan; Source: ‘Healthcare in 2025’ Polycom Survey, Frost & Sullivan
Regional Inhibitors for Achieving a Better Healthcare Future

Funding, healthcare access and lacking government support are universal issues; wealth distribution disparity and increase in chronic disease incidences are top inhibitors for some of the developed regions.

<table>
<thead>
<tr>
<th>Region</th>
<th>Inhibitor #1</th>
<th>Inhibitor #2</th>
<th>Inhibitor #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>Access to healthcare</td>
<td>Wealth distribution disparity</td>
<td>Funding</td>
</tr>
<tr>
<td>Europe, Middle East, North Africa</td>
<td>Funding</td>
<td>Inadequate government support</td>
<td>Access to healthcare</td>
</tr>
<tr>
<td>UK</td>
<td>Funding</td>
<td>Inadequate government support</td>
<td>Rise in chronic diseases</td>
</tr>
<tr>
<td>France</td>
<td>Funding</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>Funding</td>
<td>Access to healthcare</td>
<td>Inadequate government support</td>
</tr>
<tr>
<td>Australia</td>
<td>Funding</td>
<td>Access to healthcare</td>
<td>Wealth distribution disparity</td>
</tr>
<tr>
<td>South-East Asia</td>
<td>Funding</td>
<td>Access to healthcare</td>
<td>Inadequate government support</td>
</tr>
<tr>
<td>India</td>
<td>Access to healthcare</td>
<td>Inadequate government support</td>
<td>Funding</td>
</tr>
</tbody>
</table>

Global:
- #1 Funding
- #2 Access to healthcare
- #3 Inadequate government support
- #4 Wealth distribution disparity
- #5 Rise in chronic diseases

- Globally, funding is a major inhibitor for achieving healthcare 2025 goals
- Regional variations are reflected in the perceptions of healthcare inhibitors – wealth distribution disparity is a major issue for developed regions, but inadequate government support is more worrisome for developing regions.

Note: Results from a survey of 1,200 Healthcare professionals conducted by Polycom

Source: ‘Healthcare in 2025’ Polycom Survey, Frost & Sullivan
2025 Regional Focus on Technology Applications

Inaccessible, remote regions abundant in APAC prompt them to seek virtual care delivery; lack of public health awareness drives need for health education; effective care coordination is the demand in developed regions

1. Virtual Care Delivery
   APAC Australia

2. Public Health Education
   South-East Asia India

3. Care Coordination
   North America
   EMEA
   UK
   France

Note: APAC-Asia Pacific
EMEA-Europe Middle East North Africa

Image Source: Thinkstock, flaticon; Source: ‘Healthcare in 2025’ Polycom Survey, Frost & Sullivan
The Future Healthcare Ecosystem
The Connected Healthcare Ecosystem
Integration & coordination of a broad spectrum of tools & technologies will result in seamless care delivery across settings

A connected ecosystem of sensors and devices on and around the individual serve the function of:

- Capture & Measure
- Identify
- Stratify Risks
- Inform
- Make Decision
- Take Action

Image Sources: Frost Database. Source: Frost & Sullivan
Healthcare Industry Evolution
Marking an end of episodic and discrete treatment models, these new paradigms are aligned with long term strategy focus areas for payers, providers, patients, and solution developers.
Healthcare Automation and AI will be Harnessed by Health Systems Increasingly to Enable Care and Reduce Costs

Use of AI beyond clinical can solve billions of dollars in administrative waste and enable patient engagement through deep learning systems.
Concluding Thoughts

How will we integrate Primary Care and Home-based care considering the significant challenges population and growing incidence of chronic diseases?

Where do we need to invest to move from a fee for service based model to an outcome and service-oriented business model?

Who will be our partners in the new era of open innovation?

How can we effectively create Digital Health Platforms, that extend your reach closer to the patient?

How can we disrupt and transform the way healthcare is delivered?
Frost & Sullivan, the Growth Partnership Company, works in collaboration with clients to leverage visionary innovation that addresses the global challenges and related growth opportunities that will make or break today’s market participants. For more than 50 years, we have been developing growth strategies for the Global 1000, emerging businesses, the public sector and the investment community. Is your organization prepared for the next profound wave of industry convergence, disruptive technologies, increasing competitive intensity, Mega Trends, breakthrough best practices, changing customer dynamics and emerging economies?

Contact Us: Start the Discussion

www.frost.com