HEALTH IN THE 21ST CENTURY

Putting data to work for stronger health systems
The health sector faces a changing landscape and new challenges
Health spending is projected to continue to outgrow national incomes

Health expenditure as a share of GDP, projection to 2030

Source: OECD Health Division projections, 2019.

StatLink: https://doi.org/10.1787/888934017196
But a fifth of this spending is, at best, ineffective and, at worst, harmful

- **Adverse events** occur in 1/10 hospitalisations, add between 13 and 17% to hospital costs and up to 70% could be avoided.
- **Geographic variations** in rates of cardiac procedures (x3) and knee replacements (x5) are for a large part unwarranted.
- Up to 50% of antimicrobial prescriptions are unnecessary.
- 12% to 56% of emergency department visits are inappropriate.
- **Administrative expenditure** on health varies more than six-fold, with no obvious correlation with performance.

Source: OECD (2017) Tackling Wasteful Spending in Health Care
Ageing populations and rising NCD rates mean that health and care needs are changing.

And people (rightly) expect a health system designed around their needs & preferences...

... but health system are slow to change...
People want to take control of their own health

Intelligent use of data and digital technology can help
Many sectors have transformed themselves to harness digital opportunities

This has resulted in:

- Better products
- Better services
- More efficient
- Big consumer surpluses
In health, the opportunities are clear

**Effective, efficient and people-centered services**
- Faster access to critical information – effective, efficient care
- More patient involvement, a better care experience
- Clinical process optimisation (e.g. data-driven machine learning)

**Better system management**
- Monitor performance
- Allocate resources better
- Ensure better planning and access to care

**More accurate surveillance**
- Evaluate public health interventions
- Faster detection and response to public health emergency
- Inform policy

**Power up research & innovation**
- Statistical power
- Vast and varied datasets
- ‘Real world evidence’ for assessing and developing better treatments
Health care is rapidly ‘digitising’ … which is good

Percentage of primary care physician offices and acute care hospitals using electronic medical records, 2016

Note: United Kingdom: England, Scotland and Northern Ireland (excludes Wales).

But health systems remain “data rich - information poor”
Data are available but not linked regularly, missing important opportunities

Percentage of key data sets (a) available and (b) regularly linked, 2013 and 2019

Source: Health in the 21st Century [link to OECD report]
Only a few countries are ready to re-deploy EHR data for research and other purposes

Technical, operational and governance readiness to use EHR data, 2016

Routine health data are under-used in managing medical technologies

Use of routine health data in pharmaceutical policy, 2018

70% of countries planning to allow people to access their electronic medical record

43% of countries say that people will be able to interact with their record
And the health workforce is not ready

**Skills mismatch**
30 to 70% of health professionals* report knowledge and skills shortages relating to digital tools and data analytics

**Inadequate work processes**
Outdated day-to-day work processes do not enable the digital technology to add value

**Lack of involvement**
A digital tool is often a “black box” to a health worker or is not informed by workers’ and their patients’ needs

* depending on category and country
ICT expertise is short supply compared to other sectors

ICT specialists as a % of total employment, by sector (2013-15)

More generally, health systems appear to under-invest in information management.

Non-residential gross fixed capital formation (GFCF) is a measure of spending on fixed assets. Countries covered: Australia, Austria, Denmark, Finland, France, Italy, Japan, the Netherlands, Norway, Sweden, the United Kingdom, and the United States.

A DIGITAL TRANSFORMATION RELIES ON A POLICY TRANSFORMATION
Digital transformation requires fundamental institutional reform and investment.

1. Strategy
   - Overarching, cross-sector digital strategy with a consolidated vision, plan and policy-framework

2. Governance
   - A legal and policy framework that enables data to be used and shared for agreed purposes but ensuring that individual privacy and data security

3. Capacity
   - *Operational* - workforce and the public to make the most from digital technology
   - *Institutional* – data can be put to work to generate knowledge and action
This can deliver considerable health and economic dividends across OECD countries.

- Efficiency: $400B
- Additional health: $200B
- Direct benefits: $600B (≈ GDP of Poland, ≈ 8% OECD health expenditure)
Doubling what OECD countries invest in their information systems would still deliver a 3-fold return.
“The key barriers to building a 21st century health system are not technological.

They are found in the institutions, processes and workflows forged long before the digital era.”
