



Shaping the Future of Healthcare

Dec 5, 2015

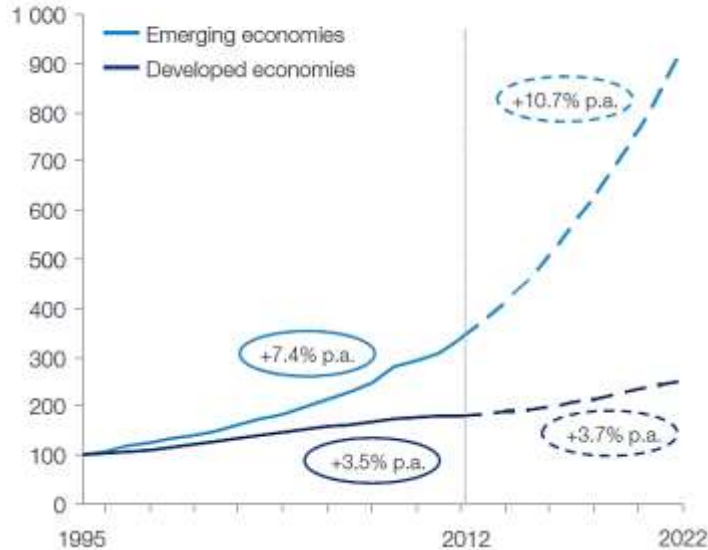
Deepa joshi Sharma

Imagination at work.

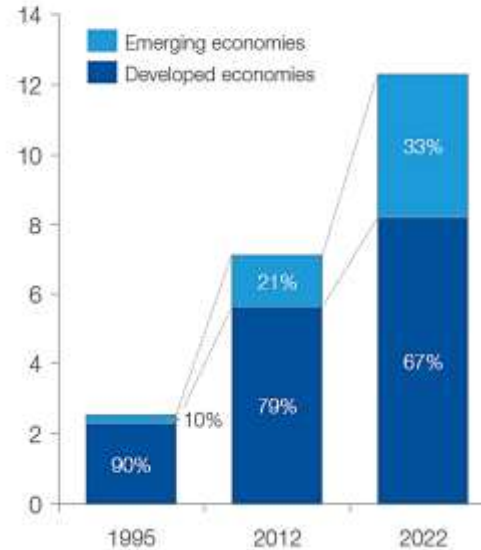
Emerging Economies Are Increasing Spends

Sources: World Bank, Business Monitor International, BCG

Health expenditure (Index: 1995 = 100)

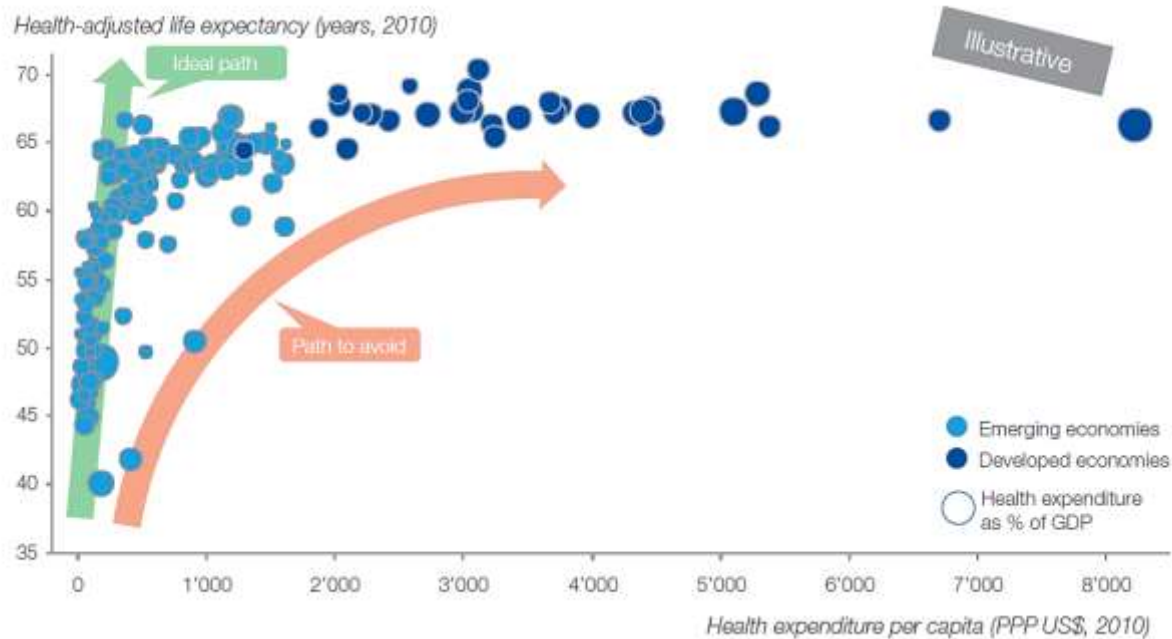


Global health expenditure (trillion US\$)



- ✓ By 2022, 1/3rd of global health expenditure will occur in emerging economies
- ✓ For every additional US\$100 spent on health in 2022, US\$50 will come from emerging economies
- ✓ Emerging economies need to make the right investments now to avoid problems of developed economies

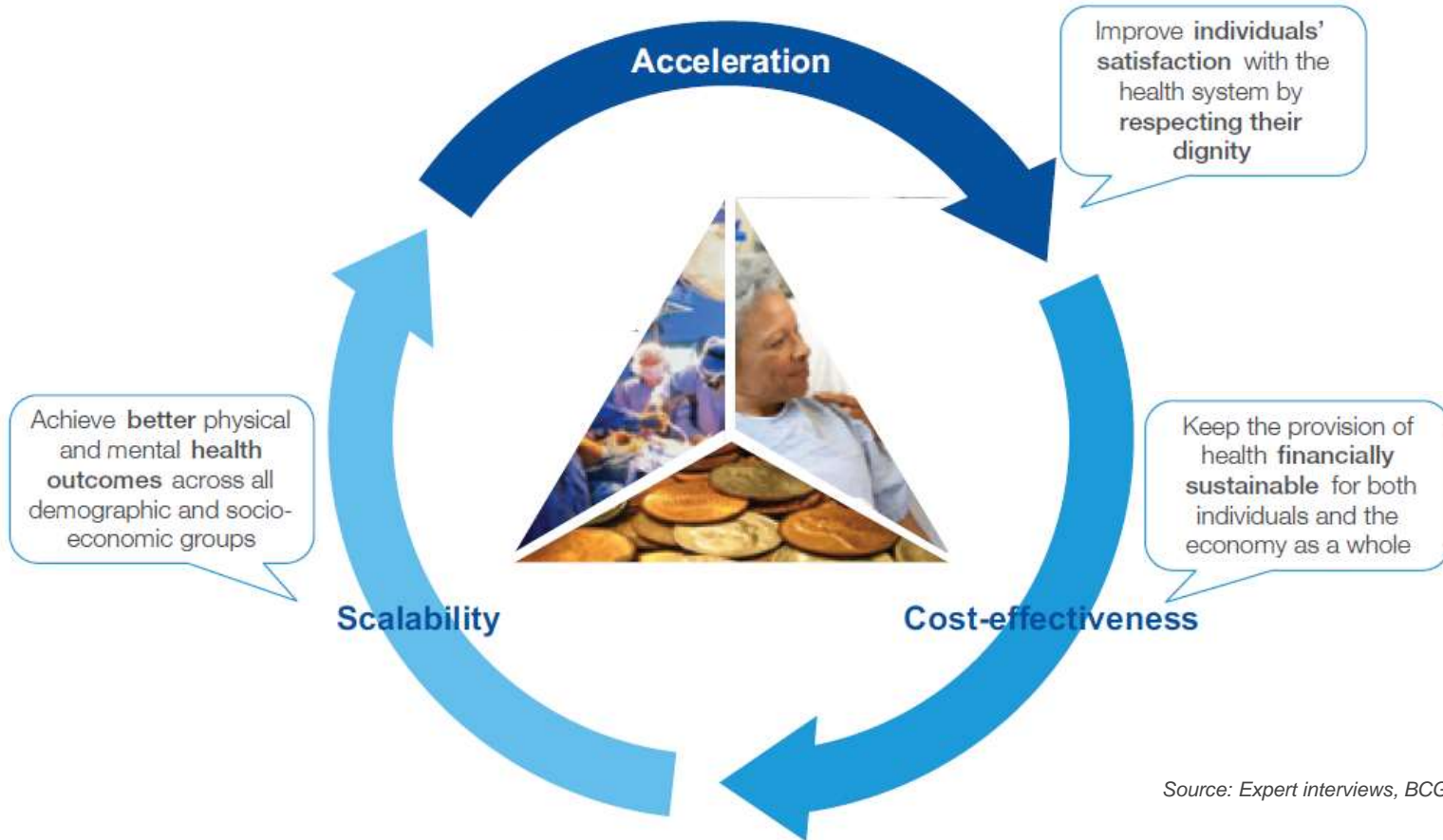
Key Focus: Sustainable Future



Source: World Bank, WHO, BCG, The Lancet

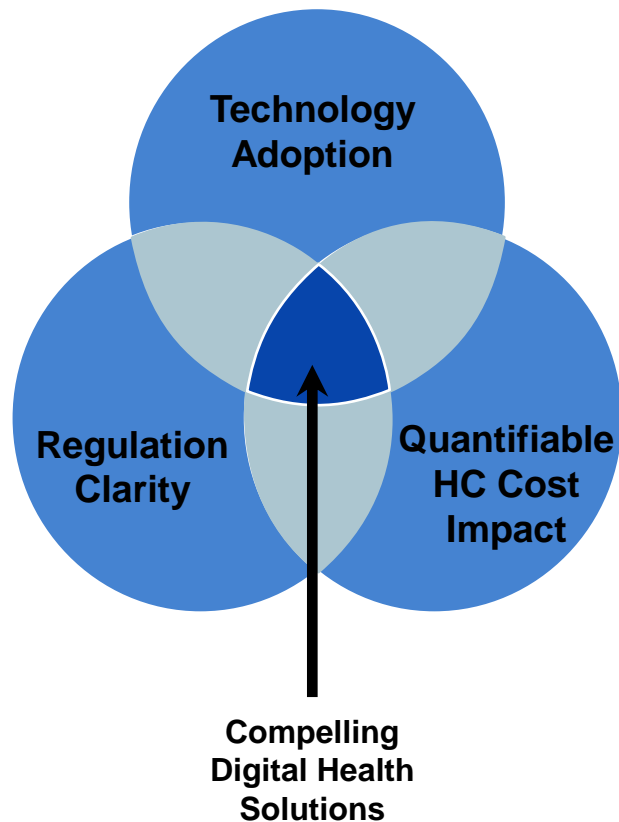
- ✓ In many emerging economies there is unprecedented interest in sustainable solutions
- ✓ Emerging economies have fewer impediments to change
- ✓ Emerging economies have at their disposal disruptive technological innovations

Proposed Health System Vision



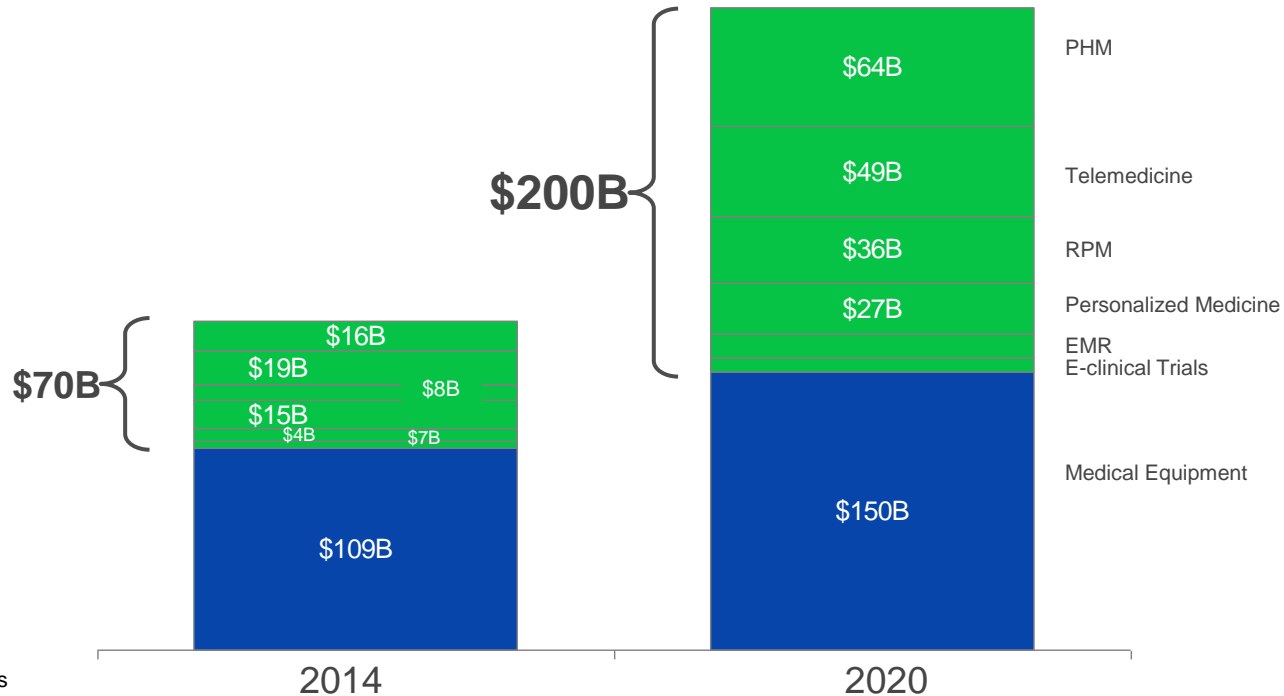
Source: Expert interviews, BCG, Literary survey

The Digital Health “Sweet-Spot”

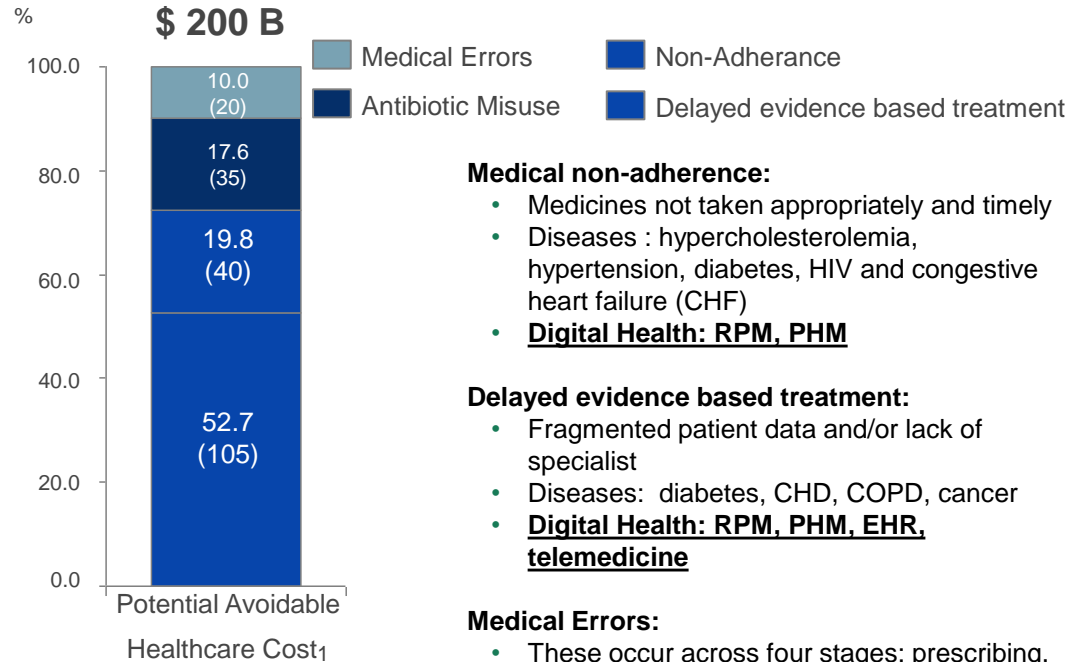
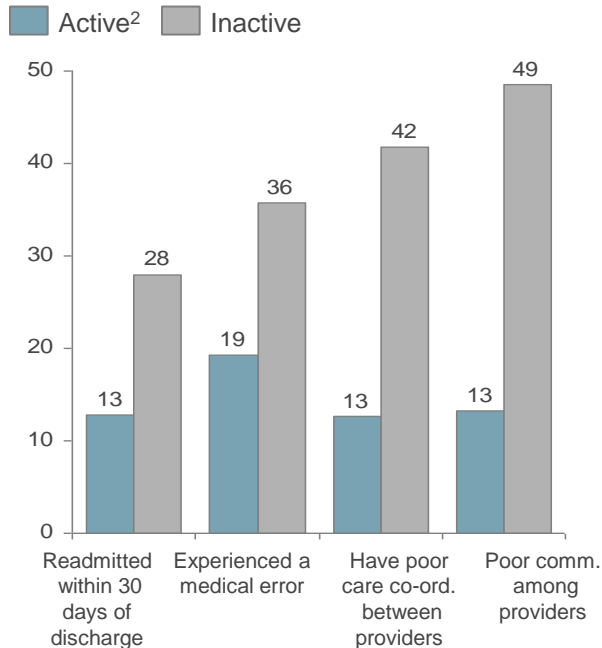


Digital Health Tech On The Rise

- Digital health opportunity to surpass equipment in 5-10 years
- RPM, Telemedicine & PHM largest segments driving most of the opportunity



Digital Health Can Influence Avoidable HC Cost



Medical non-adherence:

- Medicines not taken appropriately and timely
- Diseases : hypercholesterolemia, hypertension, diabetes, HIV and congestive heart failure (CHF)
- **Digital Health: RPM, PHM**

Delayed evidence based treatment:

- Fragmented patient data and/or lack of specialist
- Diseases: diabetes, CHD, COPD, cancer
- **Digital Health: RPM, PHM, EHR, telemedicine**

Medical Errors:

- These occur across four stages: prescribing, preparation/dispensing, administration, and monitoring
- Diseases: Cuts across diseases
- **Digital Health: EHR**

Source: IMS Report "Avoidable Healthcare Cost – USA"; The Economic Burden of Chronic Disorders, a Case Study: 1: Most chronic diseases account for only 70% of the total US healthcare cost. 2. Active corresponds to "more involved" patients; Disengaged corresponds to "Less involved" patients; 3. AARP & you " Beyond 50.09: Chronic Care: A call to action for health reform"

Tech Disruption In Healthcare Space

Big Data



- Real-time data-driven care management and patient engagement
- Personalized medication basis genomic data analysis

Shift to the cloud



- Low-powered devices utilizing scalable processing, Storage & Software as a Service

Social, Local, Mobile



- Proximity and social connections create highly targeted population health management opportunities

Ubiquitous connectivity



- Always-on high-speed broadband on mobile connections enable real time data sharing

Exponentially improved device performance



- Miniaturization & low power consumption combined with faster devices

New device form factors



- "Smarter" objects allow for ecosystem development with healthcare apps to track vital stats on the go

New device interaction models



- Devices ability to interface with human gesture/commands and inter device communication through sensors

Augmented reality



- New modern device technologies enable real time visual image sharing and reporting

Cognitive computing



- Intelligent "AI-like" personalities able to perform complex tasks & offer nuanced insights into better care and administration mgmt.

GE's Focus On Digital Health

1

New communication methods & monitoring devices

- Care providers, payers and pharmaceutical companies use new media & devices to communicate & capture data from patients
 - e.g. Kaiser Permanente engages through multiple channels to improve health outcomes



e.g. Remote patient monitoring

2

Packages, rather than pieces, of care based in seamless data exchange

- Integrated models, to deliver care as a package (ACOs)
 - e.g. myHealtheVet digital portal unifies patient EMRs across all 1400 VA centres



e.g. EHR & personalized medicine

3

Remote Care Delivery

- Increase access for underserved areas at low cost
 - e.g. Cisco "Connecting Sichuan" PPP with Ontario Telemedicine
 - e.g. Mobile health for COPD patients in Sweden saves \$65m/yr by reducing re-admission rates



e.g. Telemedicine

4

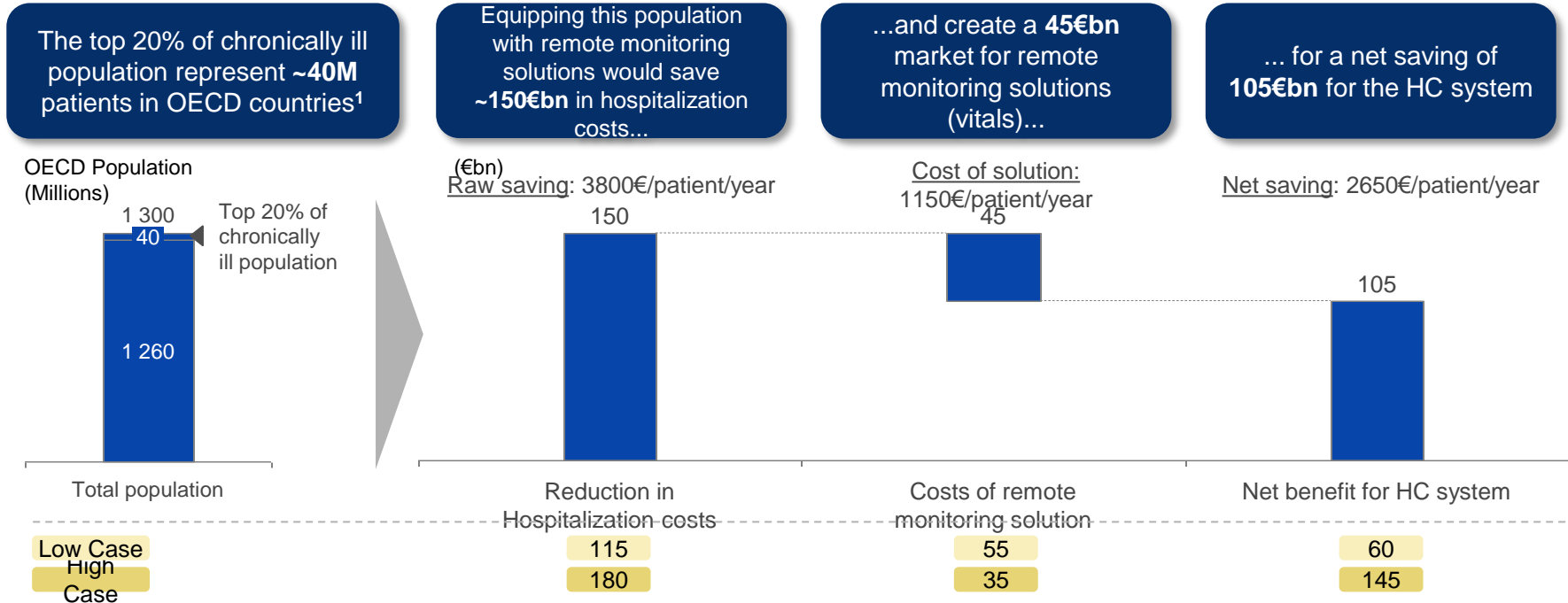
Standardized, evidence-based care

- Accelerate healthcare learning through feedback from medical advances to clinical care, improve mechanisms for information exchange to caregivers
 - e.g. Kaiser built clinical findings on reducing death rates in stroke patients into admission order entry templates



e.g. Population Health Management

~€105bn potential savings in OECD from remote monitoring



Given expected savings, government may find it relevant to subsidize those services to push customer adoption

1. Assumption, same cost dispersion within chronically ill population in OECD than in France



Thank you!

Imagination at work.