

Innovation in healthcare

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Context: challenges for leaders

More

– *which for you?*

- Demand and expectations – patients and employees
 - (Demography divergence 2:1 reversed ageing) One size fits all not accepted
- Regulations and measurement
- Specialisation and fragmentation
- Required changes to implement

Less

- Finance and Budget
- Healthcare practitioners and other labour

Limited

- Change capacity and experience: skills in change - and business management
- Measures of performance

Australia to 2050: future challenges

“Dealing with these pressures requires more than simply increasing the size of the health system. A more responsive and coordinated system will be needed.

One in which different professions collaborate effectively”

Doing more with less, in the right place with the right people at the right time, with more cooperation.

= prevention, patient self-care and non-hospital care

= resistance

Types of innovations

1) New medical technologies:

- new diagnostics or therapeutic interventions (local diagnostics, pharmaceuticals, genetic testing and targeted pharmaceuticals medical care rather than surgery, non-invasive and image guided surgery)

2) E-Health and ICT based:

- email, telemedicine, patient peer sites, social networking, management information, performance and quality measurement

3) Role and work practice changes:

- simplification and substitution, job/role re-design, changes to skills mix, new work practices

Types of innovations

4) Service models and redesign:

- Teams, chronic care management, wellness programmes, fewer 'handovers', simpler care paths, care closer to patients homes.

5) Staff engagement cultures and initiatives:

- improve motivation, creativity, and reduce absence/sickness rates.

6) New management methods and incentives:

- Service line reporting, data collection and feedback, pay for performance, no-pay for never events
- Change implementation: IHI campaign model: promotional techniques, planning and use of nodes and networks

Most Needed? Innovation to do this...

Why does healthcare need innovation?

Helps respond to challenges (but not every innovation)

- Find others proven effective changes for our problem
 - (eg new treatment, disease management, incentive systems)
- Methods:
 - innovatory implementation (eg “collaborative group design”)
- Innovation as the norm: attitudes:
 - we need everyone’s creativity to improve our every-day work and services
- Leaders develop innovation-releasing skills:
 - to release and apply creativity to devise and carry out solutions to our challenges

Points

1 Not only new hardware and drugs

“Soft innovation”: in management and policy:
service models, methods, implementation

2 Innovation is not “out there”

- what other clever people do,
- all around us in the ideas which we and our colleagues have
- a function of a social group

What is “innovation in health care?”

Have you been involved in a local-, unique- or management-innovation?

- **Unique innovation:**

- Never seen before,
- Meets a **real human need**,
 - (a physical object, treatment, assessment method, service model, management method or system, policy)

- **Local innovation:**

- Something **new to your organisation, created elsewhere**, and which meets a human need

Innovation: new, **substantial change** rather than just an idea

“Innovation overlaps” with “improvement”

- *Name an improvement which is not a unique innovation*
- *Name an innovation which is not an improvement*

Spectrum: Small improvement

-----Radical transformation

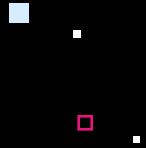
‘Ambidextrous’ service:

incremental improvements in some areas

transformative step changes in other areas to address key

challenges

Sweden - innovation – yes we can!



Future Scan – for Swedish government

*“Identify trends which we need to prepare for,
including innovations which will or could
spread”*

The past...

*Future
Healthcare*

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Predictions can be wrong – especially about the future

“an amazing invention, but who would want to use one”

- 1876 Rutherford Hayes US president – the telephone

“good enough for our transatlantic friends ...but unworthy of practical or scientific men”

- 1878 British parliamentary committee – electric lighting

“it is of no commercial value”

- 1880 Thomas Edison – on the phonograph record player

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Predictions can be wrong – especially about the future

“anyone who expects a source of power from the transformation of these atoms is talking moonshine”

1911 Lord Rutherford after he split the atom.

“I have anticipated its complete disappearance”

1928 HG wells – the radio

“we don't need you. You haven't got through college yet”

Hewlett Packard to Steve Jobs asking for investment for his Apple start up.

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Predictions can be wrong – especially about the future

”Guitar groups are on the way out”

1962 rejecting the Beatles - Decca Boss Dice Rowe

“It will be years – not in my time – before a woman will become prime minister”

1969 Margaret Thatcher

Predictions can be wrong – especially about the future

“Toyotas quality is legendary, thanks to quality management methods which ensures continual improvement is guaranteed”

Anonymous healthcare quality expert 2009

2010:

The New York Times

“8 million Toyotas recalled to fix faulty accelerator pedals”

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The world changed in 6 months

Oct 2008

July 2008

150\$ Barrel oil

1£ = 2.06\$

6.7% = interest rate
- \$6,500
Trillion loss
USA stocks

Dec 2008

36\$ Barrel oil

1£ = 1.36\$

2.5% = interest
rate

Trends Report

Published Aug 2008

Some trends and innovations

- Patients are doing it for themselves:

Patient networks

- <http://www.patientslikeme.com/>
- https://health.google.com/health/p/?pli=1_annari
- patient direct access to information, tests and treatments

Some trends and innovations

- **Employers are doing it for themselves**
 - Backward integration
- **Health care work increasingly carried out over the internet**
 - Drug cap tops sends signal when opened
 - Smart pills - fluid in body activates a communications device which sends data to Dr
 - Record measurements from implanted heart monitors and transmits them to doctor over the net
 - E-consultations

Technological trends and implications



- **New methods to pay**
 - for internet consultations and for other new ways of delivering services and quality
- **Patient information collection and analysis**
 - a more important capability for hospitals (information warehouse and processor), other providers and professionals, with supporting decision-aids and analysis presentation technologies.
- **Rapid increase in medical information and technologies**
 - relative to the ability of most organisations and professionals to absorb and use it (“institutional drag”)

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See handout for trends & innovations

in:

■ Technology

- point-of-care diagnostics and on in-office imaging technologies. more sophisticated procedures in lower- cost venues
- New technology: something that doesn't work properly yet
- Unintended consequences of complex systems and poor design

Other trends and innovation

Consumers

Organisational

Globalisation

2

0

Reflections.

- From physical buildings and patient visits

To...

- Keeping people well
 - through local and internet services and support
 - Early diagnosis and genetic testing
- More explicit, fairer and agreed priorities for who gets what

2

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Future scan: Conclusions

- **Prioritisation**
 - within public services, types of treatments, and individuals will be necessary and will need to follow clear procedures and principles.
- **Segmentation & conflicting needs**
 - Meeting the demands of more educated "consumer-" patients may not meet the needs of less educated and disadvantaged
- **Mixed financing and providing services:**
 - individual payment and insurance, and voluntary and church organisations providing care.
- A greater number and variety of providers will need new forms of **regulation and coordination** to protect patients and secure benefits for patients.
- Prepare for **a new funding and regulation model** – use tech *within* this model not in current “acute care rescue model”

Disruptive Innovations

The Innovator's Prescription

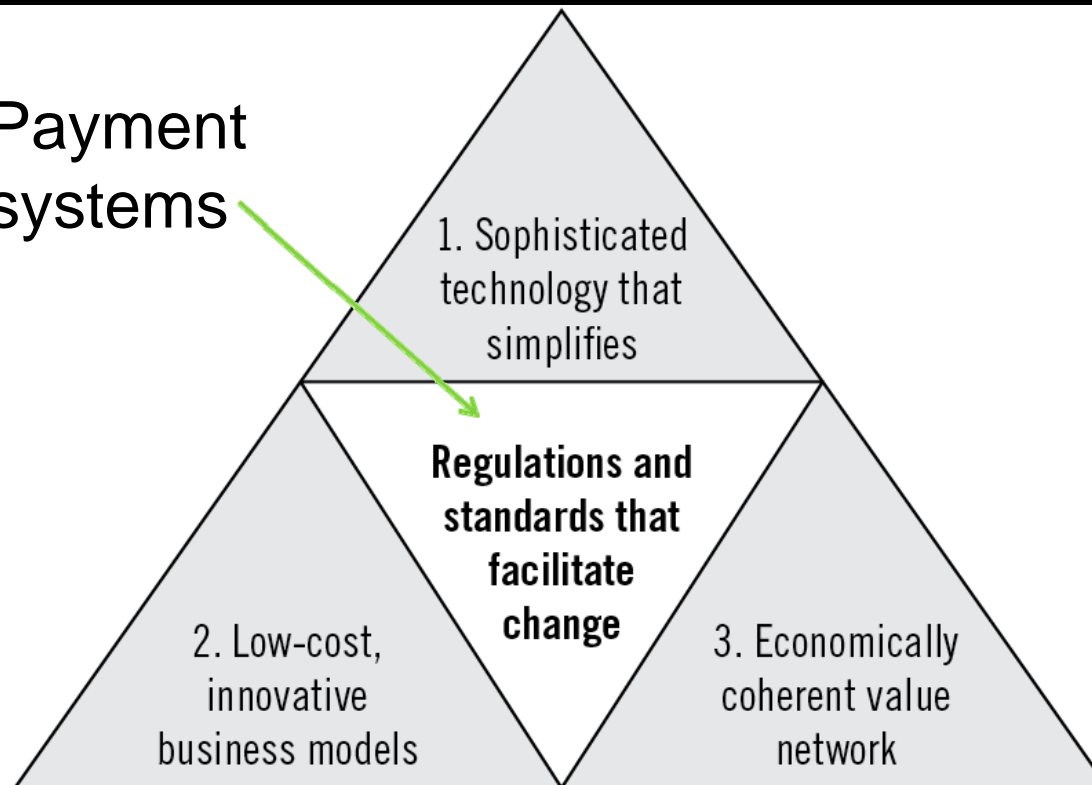
A Disruptive Solution for Health Care



Clayton M. Christensen

BESTSELLING AUTHOR OF *THE INNOVATOR'S DILEMMA*
Jerome H. Grossman, M.D. & Jason Hwang, M.D.

Payment systems



3/17/2010

23

A disruptive innovation

Participatory arthritis computer-assisted chronic-disease management
example.



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Background

- 1990 Chronic rheumatoid arthritis: no effective treatment
- 2000: New "biologic" pharmaceuticals but expensive and need careful adjustment and monitoring

Innovation 2002 - 2010:

- Patient and physician together monitor medication and plan lifestyle changes, using computer system
- Patient inputs symptom-monitoring on web at home and tracks triggers of disease activity – appointments only when wanted
- Physicians and head of department compare outcome
- HERES HOW IT WORKS>>>



Why is it a disruptive innovation?

1. Technological enabler.

Technology which simplifies, or routinises complicated actions

Computer system

- Patient input
- Web access
- Computer presentation of comparisons

2. Business model innovation.

Delivers solutions profitably but affordably for customers, and accessible

On demand appointment in DRG payment system

Pre-consultation input by patient reduces consultation time

Nurse case manager monitoring

Drugs companies pay for side effect monitoring

3. Value network.

A commercial infrastructure of companies with consistently disruptive, mutually reinforcing economic models

▪ Platform for all Sw departments use system and input/compare data

▪ User network

Other Disruptive Innovations

A disruptive innovation is:

- Ipod & Itunes vs Sony walkman
- Anti-psychotic pharmaceuticals & community mental health service, selective serotonin reuptake inhibitors (SSRIs) prozac in primary care
- Laparoscopic surgery and day service
- Single treatment centres for eye cataract surgery, day surgery.
- Kaiser Permanente Health System

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an unexpected new offering that turns a market on its head through price or quality improvements Christ

Disruptive Innovation Concepts

Three business models

1) Solution “workshop”:

Resolve unique customer problems,
high knowledge/experience

intuitive skill - iterative testing

(intensive technology (Thomson 1967) value shop (Stabell, & Fjeldstad, 1998))

20% of patients need “intuitive care” to reach a definitive diagnosis (5%
may be “House” cases)

Other 80% is moving towards precision, or rules-based, standardisable
medicine

Disruptive Innovation Concepts

2) Value adding process:

Standardised process production

(value chain (Porter 1985), long-linked technology (Thompson 1967)) (precision medicine)

(separating patients for “VAP” from “shop” reduces costs and increase quality – **flexible standardisation** for routine or special care). Pay for outcomes.

3) Facilitated networks:

User networks: Telephone, insurance, facebook,

www.patientslikeme.com

Provider networks: Managed care organiser – integrator or
owner

Useful points

- 19th century business model of hospitals and doctor practices paid by item of service with no quality measures.
- No financial incentive to keep patients healthy
- Separate treatment from certain diagnosis and separate usual standard care from special care
- Streamline processes for routine care and delegate to lower level of system or skills
- Create patient networks and provider networks to help each other

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What is a “value improvement”

Value improvement = higher quality + lower costs
 (“spend costs” pay for themselves)

- Examples:
 - “Read back” now used consistently to confirm message received and understood
 - Patient Pathway redesign which uses less clinician time with fewer unwanted delays for the patient
- A change which saves money and suffering
...caused by poor organisation or lack of support to providers
 - (suffering avoidable by better organisation)

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Summary

- Challenges
- Adapt others inventions
- Invent local work practice innovations
- Nurture an innovation-implementation culture
- Prioritise and support “Value improvements” – investments lower costs and increase quality
- Lobby for finance and regulation which rewards needed innovations, (prevention, quality)
 - not just those which pay in the current financing system.

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Pre-evaluation of prospective innovation

- Simpler?
- Safer?
- Lower cost?
- Saves adopters time?
- “Elevator pitchable” ?
- Ease of implementation and sustainability?

Recommended reading:

Brach, et al 2008 Will it work here?

Guide AHRQ

Will It Work Here?

A Decisionmaker's Guide to Adopting Innovations

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Resources

<http://homepage.mac.com/johnovr/FileSharing2.htm>

- AHRQ innovations exchange¹ reports:

<http://www.innovations.ahrq.gov/content.aspx?id=66>

- [IHI project workspace](#)

<http://www.ihl.org/ihl/workspace/projects/TourProjects.htm>

- Brach, Will it work here? Guide AHRQ
- Plesek Thinking differently NIII,
- Berwick article : Ideas and frameworks

Innovatory implementation approaches

Spread: help messages stick:

simple,

unexpected,

concrete,

credible,

emotional

tell a story

Heath & Health 2005

Made to Stick:

Why Some Ideas

Survive and Others

Die.

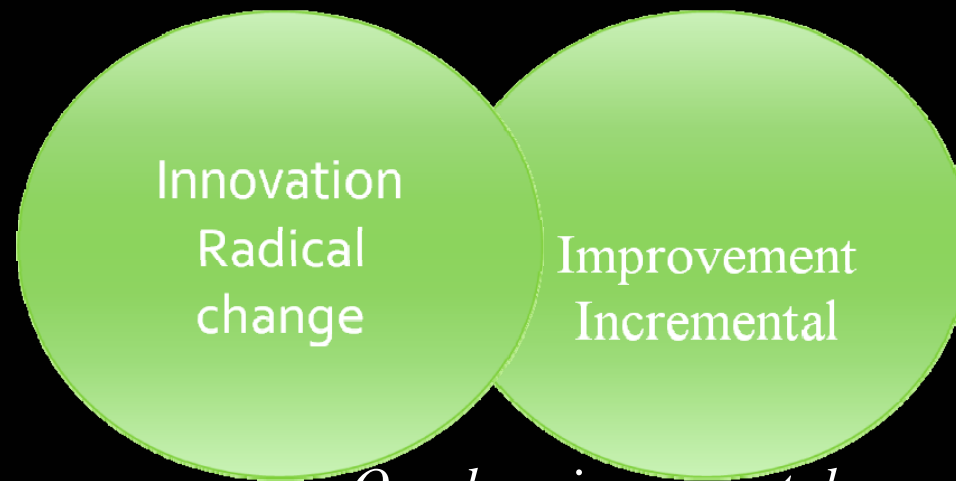
Questions to you

1. Any surprises...
2. This might not be true for my service...
3. Take-home message?

DETAILS

3/17/2010

“Innovation overlaps” with “improvement”



Overlap: incremental

radical change

‘ambidextrous’: incremental improvements in some areas and, transformative step changes in some areas to address key challenges

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Conclusions

Each person write down and then share in the group:

1. These were the main points...
2. This was new or surprising, for me...
3. The most useful idea for my work was...
4. What I would like to find out more about...