

Family Practice of the 21st Century: Computer, Changes & Challenges

The Sreenivasan Oration

Saturday, 30 October 2004

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Right Care for the Right Patient at Right Place at the Right Time @ the Right Cost

- **The Continuum of Care**
 - **Hospitals**
 - **Community Hospitals**
 - **Rehabilitation Centres**
 - **Skilled Nursing Facilities**
 - **Nursing Homes**
 - **Home Care**
 - **Community Health Centres/Polyclinics**
 - **Family Physician/Primary Care Physician offices**
 - **Self-care**

Clinical Integration Issues

- 1. Quality of care is an integrating force**
 - System wide data sharing and quality reports**
- 2. There is unused capacity in the community and excess demand at the hospitals**
- 3. More care is moving to outpatients sites**
- 4. The non-acute sector will become more and more important**

Clinical Quality

A quality health service

- 1) increases the chances of delivering the desired health outcomes
- 2) delivers care consistent with current medical professional knowledge
- 3) has little variation in the practice despite different practitioners i.e. consistently superior performance.

To improve quality, focus on

- 1) **overuse** of services e.g.
 - hysterectomy, cholecystectomy, arthroscopy
 - use of antibiotics in common cold

- 2) **underuse** of services e.g.
 - medication - aspirin, beta blockers
 - chronic disease management programs

- 3) **misuse** of services e.g.
 - adverse events

Causes of variation

- 1) *patient factors – choice, demands*
- 2) *uncertain diagnosis*
- 3) *perverse incentives*
- 4) *culture*

Variation is key to understanding Quality

Evolution of Medical Systems

- **1911**

The idea is to match professional expertise to the job, focusing on specific conditions or illnesses and relying on volume and learning curve effects to achieve superior outcomes at lower costs.

(Taylor 1947)

- **1950s to 1980s**

Focused factories approach – heart hospitals, cancer centre etc characterised by high volume of acute care delivered largely in hospitals.

• **21st Century**

- **by continuing a focused approach we will create even larger silos, not eliminate them (How is a diabetic heart patient with asthma for example, served by a focused factory?)**
- **the new core business for many health care systems continues to shift from acute inpatient care to primary care, wellness, and the continuum of care.**
- **functional integration is not an option. Functional integration is necessary to manage populations over time.**

Evolution of the Medical Profession

1) 1910

- **Flexner Report-** made an enormous contribution to upgrading and standardizing medical education based on the biomedical sciences. But it was silent on the contribution of the social sciences and humanities.

2) 1962

- **The key achievement of the industrial age was the ability to achieve economies of scale and scope through mass production manufacturing techniques (Chandler). The medical profession largely skipped the industrial age. The result is severe handicap in attempting to adjust to its accountability and practice demands in the information age.**

3) 2000

- **Medicine remains largely a cottage industry. It is extremely difficult if not impossible for doctors who are practising in largely solo and small partnership practices to exchange information with colleagues; implement guidelines, protocols and pathways; develop outcome measures demanded by purchasers; and keep up with the explosion of new medical knowledge.**

Effective Medical Practice

- **Will require**

- **an ability to be truly patient centred**
- **ongoing capital investment**
- **increasingly advanced information systems**
- **the ability to work in teams**
- **the ability to adapt to changes in treatment technologies, practices and payment incentives**
- **the ability to improve care continuously**
- **the ability to be responsive to external parties**

Two revolutions in progress

- **Information Technology** – Physicians and others using tools such as computerized records and ordering of drugs and tests with decision support.
- **Cultural Revolution** – Physicians understanding that they are members of teams.

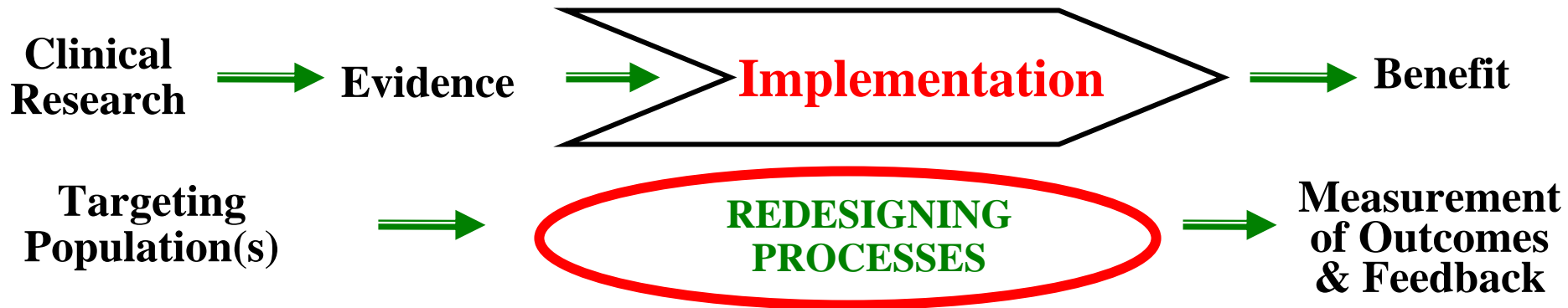
The New Value Frontier: Population-Based Management

- 1) All parties at risk for keeping people well should realise the importance of early prevention, health promotion and community outreach efforts.**
- 2) Greater value is created by intervening upstream in the value chain with disease prevention and health promotion efforts rather than waiting to fix the downstream problems of illness and disability.**
- 3) The mission of health care providers to include not only the provision of acute and chronic care but also to work with others in the community to produce a healthy population.**

Chronic Conditions Management – A Systematic Approach

Through our integrated model of care and advanced information technology systems, we are able to use an evidence-based approach to chronic conditions management and improve our approaches to care on a continual basis. This ability has led to our superior performance and real benefits for our patients.

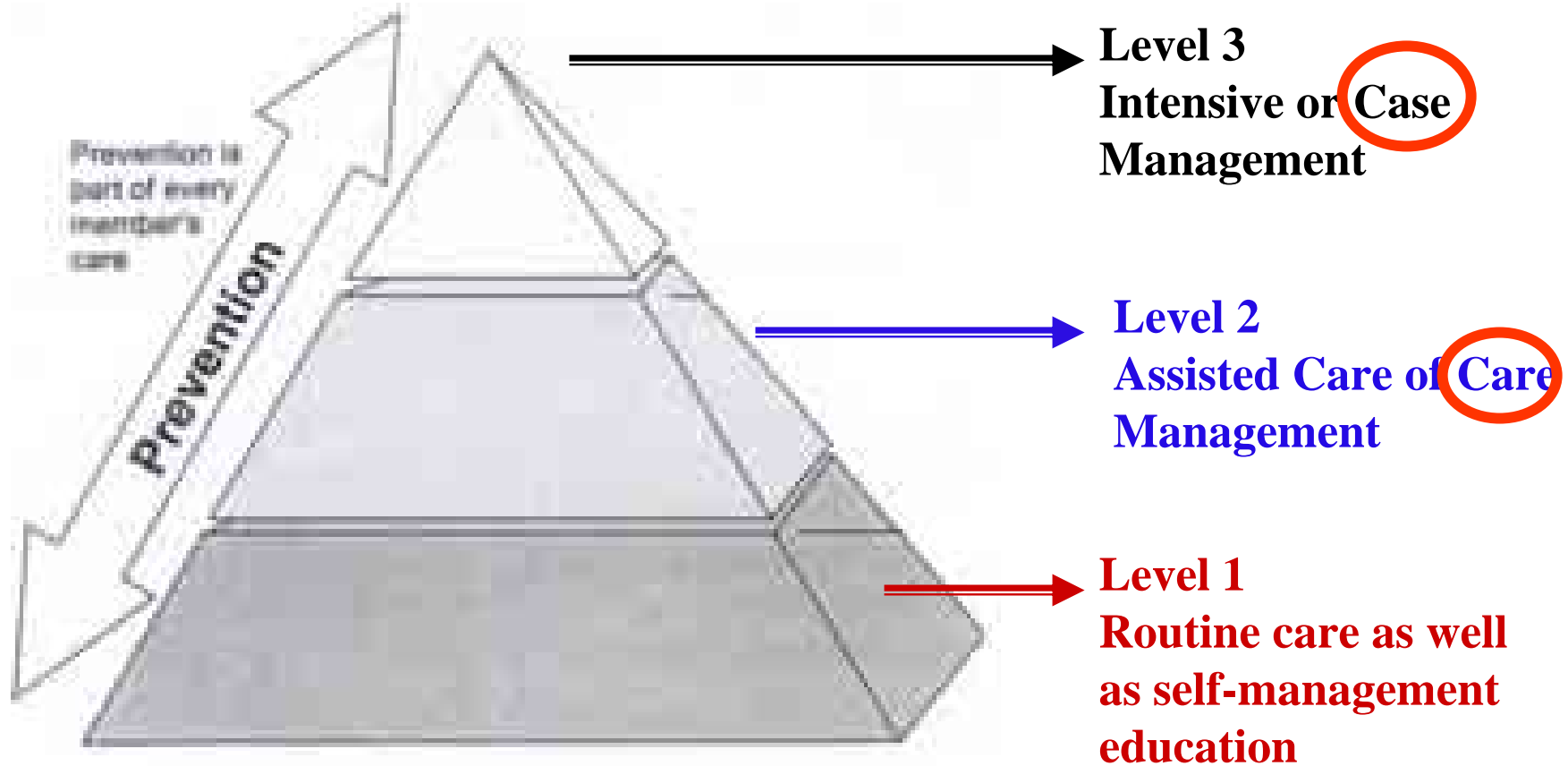
From “Art to Science” – Translating evidence into Benefit



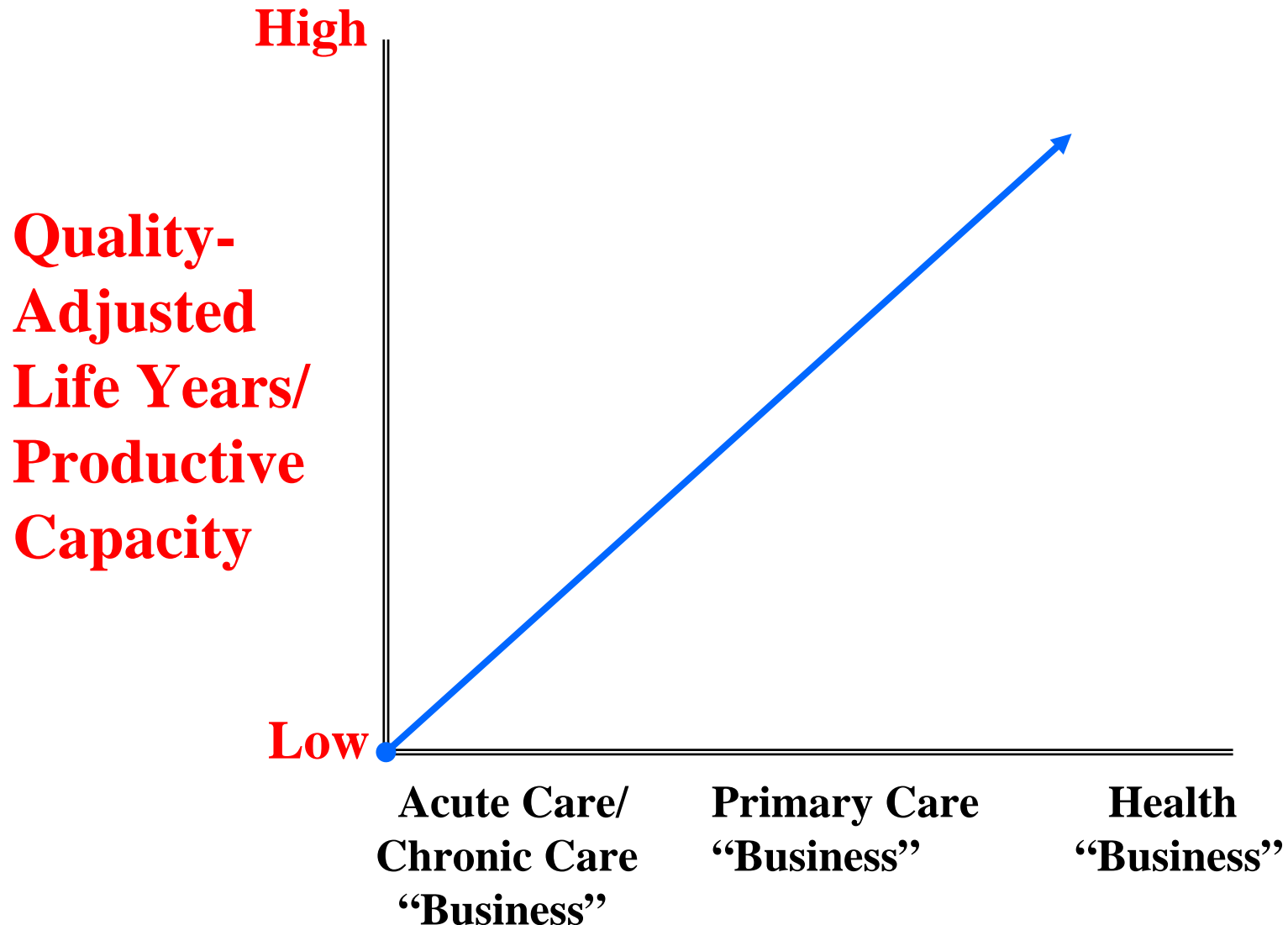
Population Management: Much More Than Care & Case Management



Population Management & Levels of Care



Value Creation by “Line of Business”



Human Genome Project

- **Implication: A movement from an event-driven to a risk-driven framework for health care payment is a possibility. Instead of diagnosis and treatment as its principal business, our health care system will have to predict health risk and try to manage that risk before it flowers into illness and cost.**

Goldsmith

1996

Accountability

- **The current emphasis on cost containment/reduction as a way of creating greater value will shift to a greater emphasis on quality and outcomes of care. As more reliable and valid measures of quality and outcomes of care develop, together with advances in information technology that have enabled greater amounts of data to be processed faster, and through the internet, shared with patients and the public at large, means we will move from trust-based accountability to evidence-based accountability.**

Relman 1988

Payment Policy: by 2010?

P4P (Pay For Performance)

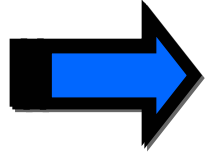
- **The breakthrough is to pay providers based on the health outcomes achieved.**

Kindig 1997

To do so in 3 phases

- **Phase 1** - Demonstration projects, discussions, debate & research.
- **Phase 2** - Expansion of population based outcome payment to integrated health care systems capable of assuming such responsibility.
- **Phase 3** - The environmental and social service sectors' contribution to population health to be incorporated.

Pay for health produced rather than illness or disease treated is the gold standard in accountability from a value creation perspective.



Evidence based medicine(EBM) is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of EBM means integrating individual clinical expertise with the best available external clinical evidence from systematic research.

One major factor in improving and maintaining patient safety and high standards of clinical care is timely access to appropriate patient information, medical evidence and relevant institutional knowledge.

Clinical review

Recent developments in Bell's palsy

N Julian Holland, Graeme M Werner

General practitioners in the United Kingdom will see about one patient with Bell's palsy every two years. Increasing evidence shows that the way the patient is managed has an important effect on outcome. Untreated Bell's palsy leaves some patients with major facial dysfunction and a reduced quality of life. Of patients with Bell's palsy registered by general practitioners between 1992 and 1996, a fifth were referred for specialist opinion, just over a third received oral steroids, and 60% received aciclovir.¹ Improving outcomes requires collaboration between specialists and general practitioners so that patients are treated during the critical first 72 hours. We outline recent developments in Bell's palsy and current best evidence in its management.

Recent developments

Bell's palsy is probably caused by herpes viruses, mainly herpes simplex virus type 1 and herpes zoster virus.

Facial palsy improves after treatment with combined oral aciclovir and prednisone.

Treatment of partial Bell's palsy is controversial; a few patients don't recover if left untreated.

Treatment is probably more effective before 72 hours and less effective after seven days.

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Clinical Practice Guidelines

Systematically developed statements to assist decisions for practitioner and patient about appropriate health care for specific clinical circumstances.

Clinical Management Practices

Refers to

- ✓ *the use of evidence-based guidelines*
- ✓ *protocols*
- ✓ *pathways*
- ✓ *case and care management systems*
- ✓ *disease management systems*
- ✓ *demand management*

The goal is to reduce unnecessary variation in clinical practices and thereby improve quality and outcomes for care for the same or lower cost.

The most frequent activity of clinical practice for disease burdens of a society are for



asthma



diabetes



congestive heart failure



and depression

As the medical information base expands and the pressure on clinicians' time increases, the ability of the computer software to provide the evidence to address distinct clinical problems becomes more essential.

Demand management is the use of prevention and health promotion activities to reduce the number of visits and overall demand for medical care services.

Care management is the resources that are spent on taking care of those who require treatment.

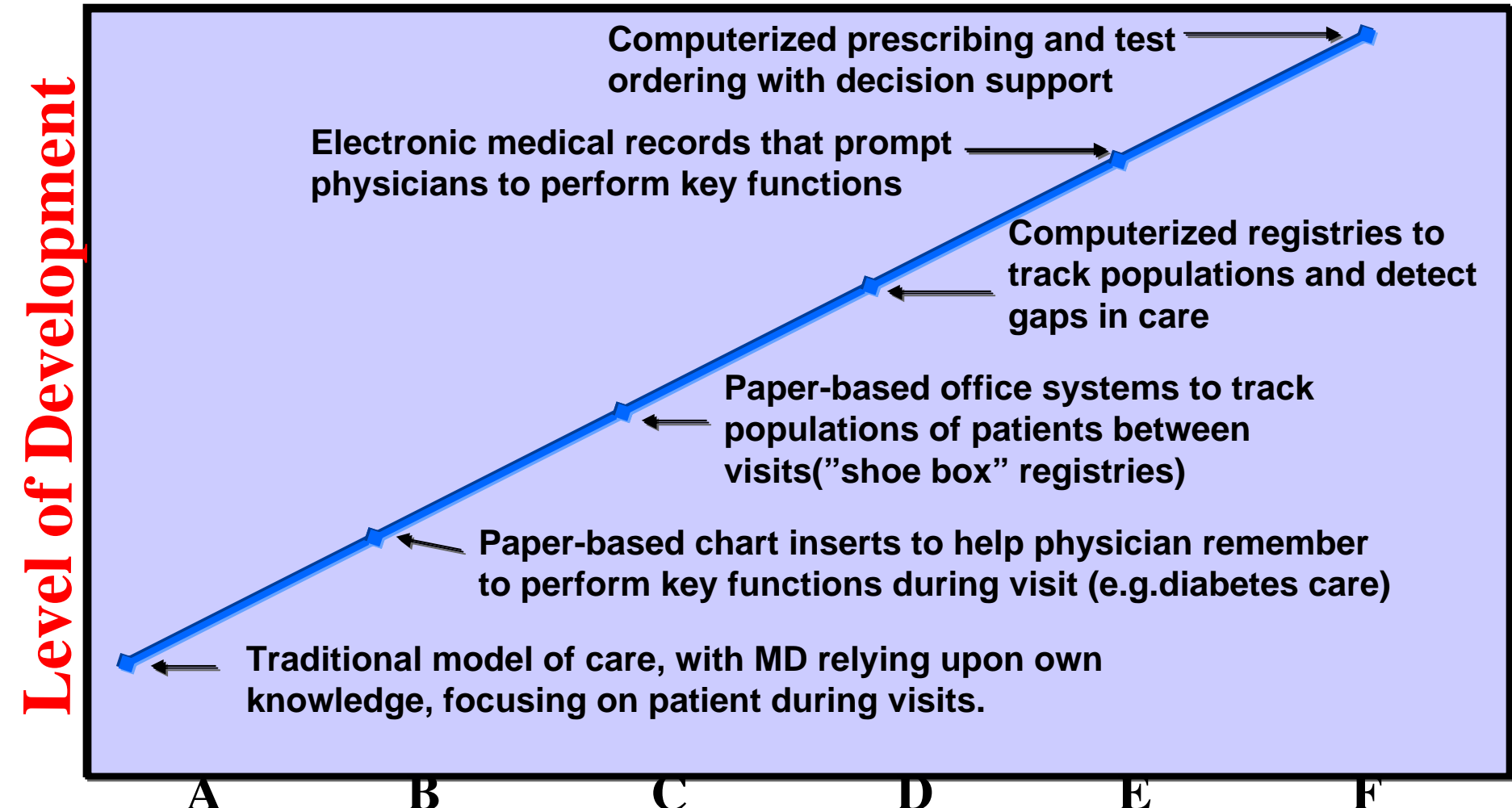
“Can physicians form organizations that challenge doctors to look at the bigger picture than just their immediate professional needs and excite them about working in teams to improve quality and face the issue of restructuring?”

Physicians will need to be part of the organisational process that supports the delivery of coordinated care to patients in need, and disease prevention and health promotion services to those who are well.

Everything should be done to increase the interdependence between physicians and the hospital and health system. This interdependence will broaden to include payers and consumer groups in regard to mutual accountability. Physicians and physician organisations will need the capital of hospitals and health systems to provide needed information for purposes of external reporting as well as for purposes of internal continuous improvement.

Evolution to EMR and Beyond

Small traditional practices → Practices investing in quality improvement for populations → Practices investing in producing efficiency





Dr Robert Wooding is the head of the Information and Communication Division in the Department of Health and Ageing.

Advancing the National e-Health Agenda

Information and communications technologies potentially offer many benefits for health care and the Department of Health and Ageing has been working on a collaborative approach that will bring consistency to the implementation of a national electronic health infrastructure.

As health care in Australia involves

In July 2003, the Australian and all eight State and Territory health ministers endorsed a new national health information governance structure. Two new national bodies have been formed to lead national coordination of health information management and technology developments.

RACP News, Feb 2004

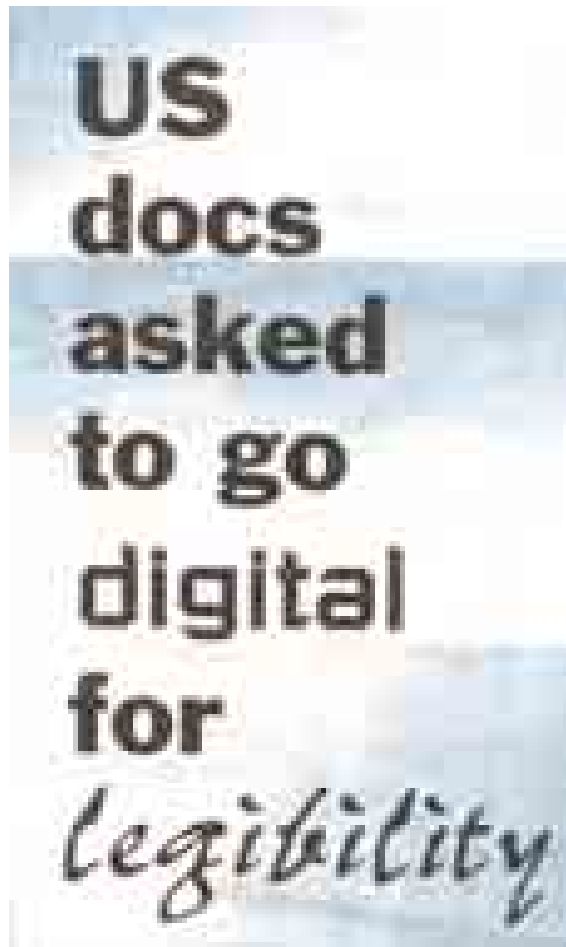
Health Connect - Australia's proposed national network of electronic health records. It aims to improve the flow of information across the health sector.

MediConnect - is a secure national electronic system designed to help improve quality and safety in managing medications.

Electronic Decision Support

- **To assist clinicians make important clinical decisions. Can provide access to clinical guidelines and pathways, incorporate built-in alerts and have links to medical information, journals , and peer support networks.**

This can contribute to improved safety and quality of care and improved patient outcomes. It can help improve patient safety by reducing medication errors and adverse drug events.



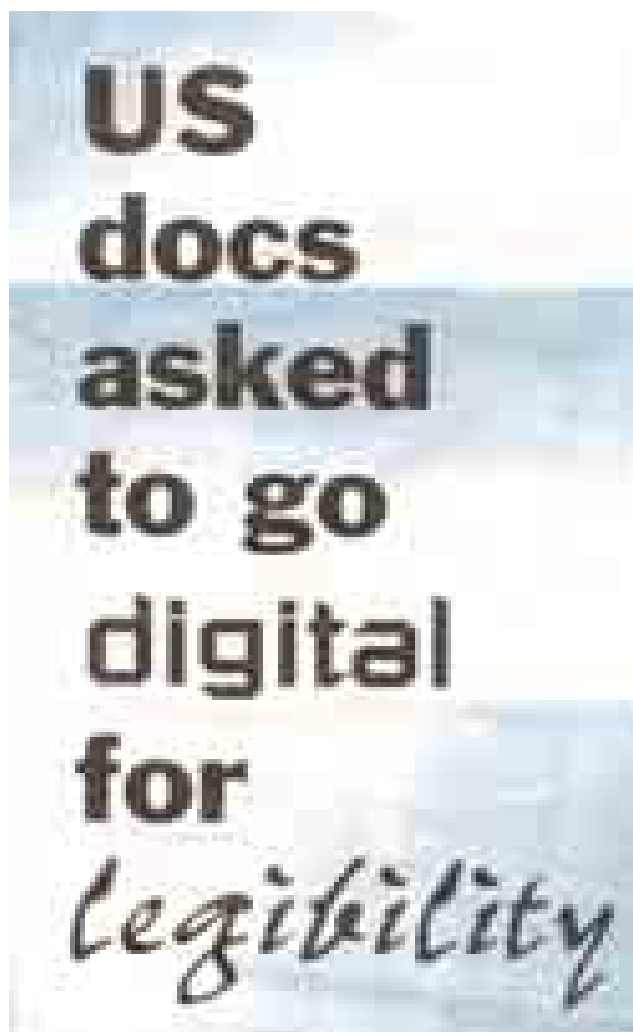
The 10-year plan announced by HHS includes goals to get individual doctors, clinics and hospitals to install computer-based systems, and build an interconnected system to link different facilities.

To encourage hospitals and clinics to go electronic, the government plans to look at incentives such as regional contracts, grants and low-interest loans.

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for
legibility**

Health and Human Services (HHS) Secretary of the US has appointed a panel of executives to figure out how much it will cost to switch hospitals, pharmacies and other bits and pieces of the health care system to computer-based technology.

By the end of this year, the panel is to report on the potential benefits of such a switch.



“This transformation will require the collaborative efforts and leadership of clinicians, consumers, hospitals, purchasers, payers, technology companies and informatics thought leaders to make this groundwork for change a reality.”

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“Electronic health records have the potential to be revolutionary, but work remains to be sure they deliver on this promise,”

*AMA Chairman
James Rohack*

*“ If only we could have two lives:
the first in which to make one’s
mistakes, which seem as if they
have to be made; and the second
in which to profit by them.”*

D.H. Lawrence

Concluding Remarks

1 Computer

- Computerized records
- decision support tools
- data analysis
- mobility, transferability of information
- CPOE

2 Clinical Quality

- CME
- CPG – clinical practice guidelines, protocols, pathways

3. Clinician Practice Groups

- ✓ not solo
- ✓ link to other providers at other sites
- ✓ EBCP

4. Community Accountability – P 4 P

5. Culture

- ✓ Team work
- ✓ Continuous improvement & learning
- ✓ Higher quality at lower cost