



WATERLOO INSTITUTE FOR
HEALTH INFORMATICS RESEARCH

Waterloo Smarter Health Seminar Series:

'why not'

Why Not Create the Ideal Health System Through Health Informatics?

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THE IDEAL HEALTH SYSTEM

Using Health Informatics



Outline

- Health care issues and forces at work
- Metrics and stories
- Views on improving health systems
- Key directions for improvement
- Key directions using health informatics



Health Care Issues

- Rising costs
 - 10 years “overspending”
 - Drugs doubled share to 18% in 20 years
- Inconsistent access
 - Wait times?
- Inconsistent quality
 - 23,000 die from preventable events



Forces At Work

- Political
- Financial
- Population
- Delivery



Political forces

- Public pressure
- Uncoordinated government leadership
- Election cycles



Financial forces

- Costs rising faster than real GDP
1979 – 6.8%, 1997 – 8.9%, 2006 – 10.3%
- Drive to increase cost-effectiveness
- Lack of information on supply, demand and capacity
- Dysfunctional compensation methods



Population Forces

- Aging population
- More chronic illness
- Shortage of skilled health personnel
 - 26th of 30 OECD countries for physicians per 1000 population
 - 9th of 30 OECD countries for nurses



Delivery Forces

- Consumer expectations
- Changes in drug care
- Changes in diagnostic imaging



Delivery Forces (Continued)

- Evolving IT infrastructure
 - In Canada 23% of primary care physicians have EMR and 11% electronically prescribe
 - In Aust/Ger/Neth/NZ/UK 80% with EMR and 72% electronically prescribe
- Willingness/ability to adopt new technologies uneven



Metrics - Ontario Average Services/Day

- 137,000 GP Visits
- 54,000 Specialist Visits
- 41,000 Medical Images
- 12,000 ER Visits
- 3,000 Hospital Discharges



Story One

A senior enters an emergency ward
confused and disoriented and not knowing
which drugs they are on



Story Two

A child in a small town falls from her bike
banging her head on the pavement



Storey Three

A middle aged patient with chronic diabetes needs to coordinate the findings, advice and care of various specialists



Healthcare Renewal in Canada – Health Council of Canada (2006)

- Improve Access to Needed Health Care
- Improve Quality of Care
- Improve Population Health



Improve Access

- Inter-professional primary health care
- Education of more team-oriented health care workers
- Broadened standards of practice
- Home care for chronic care



Improve Access (Continued)

- Wait list management systems
- Standardized public drug coverage
- Better drug prescribing tools
- Banning all direct-to-consumer prescription drug advertising



Improve Quality of Care

- Strengthen efforts to reduce preventable harm
- No fault compensation for victims
- Electronic systems for prescribing
- Public reporting on costs and outcomes
- Quality improvement training



Improve Population Health

- Focus on healthy living
- Programs to prevent chronic diseases
- Information tools for management of patients with chronic diseases
- Data linking health outcomes with social and economic factors
- Programs to reduce health inequalities



Integrated Health Systems (Shortell, 1993)

- Focus on meeting community needs
- Matches capacity to needs
- Integrates care across the continuum
- Information systems link consumers and providers
- Provides performance information
- Aligned through financial incentives and structures



Successful Integrated Care (Leatt,2000)

- Physicians play a key leadership role
- Organization structure promotes coordination
- Primary care economically integrated
- Practice sites provide geographic coverage
- System appropriately sized
- Physicians are organized



Key Directions

- Focus on healthy living
- Greater use of evidence
- Drive to increase service cost-effectiveness
- Desire to address consistency of access and quality
- Greater use of financial incentives
- Initiatives to achieve integration of care



Key Directions

Focus on healthy living – INFORMATICS

- Patient education
- Patient portal
- EMR – partners in care



Key Directions

Greater use of evidence – INFORMATICS

- Order entry clinical decision support
- Personalized medicine



Key Directions

Drive to increase service cost-effectiveness
– INFORMATICS

- Macro system design
- Micro quality improvement



Key Directions

Desire to address consistency of access and quality – INFORMATICS

- Regional service plans
- Performance measurement



Key Directions

Greater use of financial incentives –
INFORMATICS

- Care giver funding models
- Provider funding models



Key Directions

Initiatives to achieve integration of care –
INFORMATICS

- Electronic health records
- Electronic medical records

