Marilynne Hebert

ITCH 2000

FROM POTENTIAL TO PRACTICE

August 23 - 27, 2000 University of Victoria, Victoria, BC, Canada

An International Conference Addressing
Information Technology in Community Health

FINAL PROGRAM

HEALTH INFORMATION SCIENCE

UVIC UNIVERSITY OF VICTORIA

We would like to thank the following sponsors

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FINAL CONFERENCE PROGRAM

Centre for Innovative Teaching

JUDGING OF STUDENT POSTERS - *CIT LOBBY*

Tuesday, August 22, 4:30

Closed to public

Wednesday, August 23, 2000

8:00

COFFEE AND MUFFINS - *CIT LOBBY*

JAMES COWARD LECTURE (PLENARY) - *CIT 105*

8:45

Introduction of keynote speaker by Dr. Patricia Coward

Acting Chief Executive Officer, Capital Health Region

9:00

THE ROLE OF INFORMATION TECHNOLOGY IN THE HEALTH CARE SYSTEMS OF DEVELOPING NATIONS

- Dr. David Brandling-Bennett

10:00

Introduction of student poster winners

10:15

MORNING BREAK

Wednesday, August 23, 2000

HEALTH SURVEILLANCE SYSTEMS - *CIT 105*

Session Chair - Francis Lau

10:45

The Information Management Framework for the National Health Surveillance Infostructure

- Michael Goddard

On an Information Architecture and Standards Framework in Support of the Network for Health Surveillance in Canada

- Bob Tate

Sharing Health Surveillance Information Using the National Health Surveillance in Canada

- Donald Legault

Improving Health Surveillance in Canada - What are the Needs?

- David Mowat

COMMUNITY HEALTH NETWORKS: I - *CIT 116*

Session Chair - Shannon Turner

10:45

Simon Fraser Health Region Continuing Care Services - Puts the Potential into Practice

- Lillian Sawyer

Standard Protocol for Exchange of Health Checkups Based on SGML: The Health Data Markup Language (HDML)

- Hiroki Sugimori

PathNet - A Joint Venture In Integrated Diagnostic Information

- Nigel Terrett

12:15

LUNCH BREAK ***(Lunch will be provided in the CIT Lobby)***

Exhibitor booths are located in CIT 110 and CIT 112.

Wednesday, August 23, 2000

WEB APPLICATIONS - *CIT 105*

Session Chair - Penny Jennett

1:30

Experience With An Internet Based Medical Record
- Robin Dodge

Integrated Care From Hospital to Home - Development of the Community Care Planner
- Joanne Walker

Lans Wans & Wireless Networks of the Future in Healthcare
- Dale Gregg

A Multipurpose Application Service Provider for the Health Sector
- Greg Gibbon

SYSTEMS AND METHODS TO SUPPORT PROVIDERS - *CIT 116*

Session Chair - Roberto Rodrigues

1:30

Domestic Surveillance of Hemophiliacs by a Study Group Supported by the Japanese Ministry of Health and Welfare
- Shinobu Tatsunami

Black Sea TeleDiab: A Computer-Based Information System for Diabetes
- Simon Pruna

BC Primary Care Demonstration Project
- Rosemary Gray

3:00

AFTERNOON BREAK

WEB APPLICATIONS: II - *CIT 105*

Session Chair - Paul Fisher

3:15

A Multi-lingual, Multi-media Health Information System (for the European Citizen) Using Internet and Kiosk Technologies
- Adrian Moore

Journey of Hearts: From Idea to Reality A Website for Web-education on Grief and Loss
- Kirsti Dyer www.journeyofhearts.org

Conducting Clinical Trials via the Internet
- Bernard Richards

Patient-Centered Health Education via the Internet Offers Improved Patient Satisfaction and Reduced Professional Liability Premiums
- Michael Myers

CHALLENGES OF REMOTE AREAS - *CIT 116*

Session Chair - Rosemary Gray

3:15

The Shift to Community-Based Systems in the NWT and its Challenges
- Kamel Toubache

First Nations and Inuit Health Information System
- Alexa Brewer

Information Technology in Rural and Remote Areas: Northwestern Ontario
- Mark Perrault

WINE AND CHEESE RECEPTION - *CIT LOBBY*

5:00 - 6:30

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BC Ministry of Health and Ministry Responsible for Seniors

BC Primary Care Demonstration Project

Rosemary L. Gray
PCDP Systems Coordinator

ITCH 2000 - 23 August 2000

PCDP - What is it?

- Jointly funded by HTF and BC MOH
- Goals:
  - Improved access to primary care services
  - Integrated primary care services
  - Alternate funding models for primary care services

PCDP - What is it? (cont'd)

Short Term:

- 7 project sites in BC
- 36 month project duration
- "a few" more sites may be added to pilot

Longer Term:

- MOH purchased funding model
- APP considering model

Basic Concepts

- Blend of fee-for-service, and population-based funding
- Virtual patient registration
- Multidisciplinary care teams
- Primary Care core service definition
- Extended data reporting

Systems and Data Impacts

- Commercial Vendor participation - modification of CIMS software to support PCDP
- Integration with existing MSP claims management processes and systems

PCDP Technology Infrastructure

- Optional adoption of higher technology
- Future goal of increased computerization
- Direction ⇨ Fully Integrated CIMS
  - (CIMS =Practice mgmt +EHR + Electronic Data Exchange and Storage + compliance with Ministry/Provincial Standards)

Continuum of CIMS Implementation

Minimal CIMS

↓

Full Practice Management System

↓

Integrated Clinical Information Management System

Practice Management Systems

- Core Functions
  - Patient Registration
  - Patient Scheduling
  - Patient Tracking / Recall
  - ICD / Fee Coding
  - Claims Submission (Teleplan)
  - Word Processing
- Additional Functions
  - Accounts Receivable / Payable
  - General Ledger
  - Payroll
  - Physician Call Schedules
  - Scheduling of Equipment / Rooms
  - Email
  - Fax Management

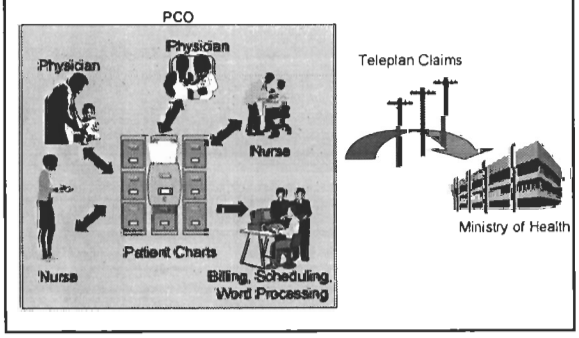
Electronic Health Record

- Core Functions
  - Computerized Patient Record
  - Patient / Family History
  - Problem Lists
  - Medication Lists
  - Visit Notes
  - Immunization
  - Risk Indicators
  - Security / Access Control
- Advanced Functions
  - Order Entry
  - Lab Results
  - Images, Sound
  - Hospitalization
  - PharmaNet
  - Nurse Triage
  - Clinical Guidelines
  - QA / Outcomes Measurement

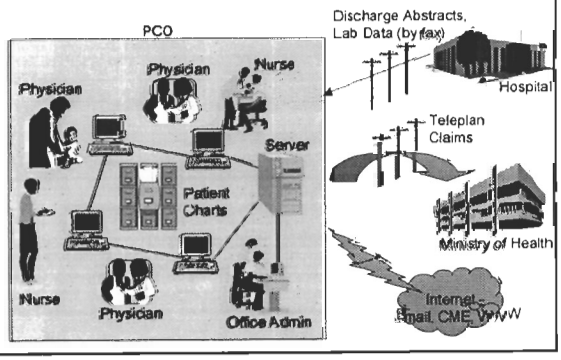
Fully Integrated CIMS

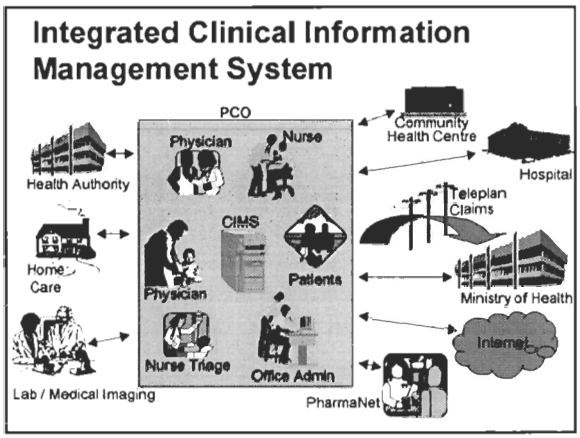
- Practice Management and EHR
- Electronic data exchange
- Electronic data storage
- * Compliance with Standards
  - BC Health Information Standards Council, Ministry of Health, HealthNet

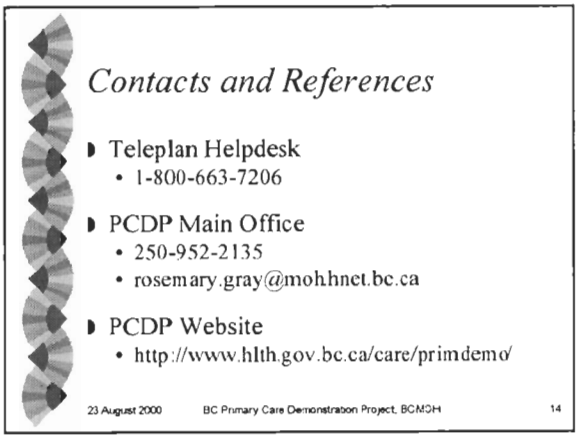
Minimal CIMS



Full Practice Management System




Integrated Clinical Information Management System
PCO
Physician
Nurse
CIMS
Patients
Physician
Nurse Triage
Office Admin
Health Authority
Home Care
Lab / Medical Imaging
Community Health Centre
Hospital
Teleplan Claims
Ministry of Health
Internet
PharmaNet


Contacts and References
Teleplan Helpdesk
1-800-663-7206
PCDP Main Office
250-952-2135
rosemary.gray@mohhnet.bc.ca
PCDP Website
http://www.hlth.gov.bc.ca/care/primdemo/
23 August 2000
BC Primary Care Demonstration Project, BCMOH
14

Thursday, August 24, 2000

PLENARY - *CIT 105*

8:45

Introduction of keynote speaker by Dr. Chris Corbett

9:00

CANADA'S EMERGING POPULATION HEALTH INFORMATION INITIATIVES

- Mr. Denis Gauthier

10:15

MORNING BREAK

HEALTH OUTCOMES & INDICATORS - *CIT 105*

Session Chair - Chris Corbett

10:45

Health Indicators at the Regional Level: from Potential to Practice

- Jennifer Zelmer

Design and Implementation of a Geographic Information Prototype System for Emergency Medical Service

- Der-Ming Liou

Preparing the Way for Routine Health Outcome Measurement in Patient Care

- Grace Paterson

Use of Health Encounter Information for Outcomes Management and Resource Planning

- David Zitner

COMMUNITY HEALTH NETWORKS: II - *CIT 116*

Session Chair - Penny Jennett

10:45

Developing an Information System for a Network of Specialized Geriatric Services

- Marlene Awad

11:05 ***Building Capacity for Health Information Systems in Former Soviet Countries***

- Chris Rosene

Youth Internship Program

11:25 ***Effectiveness of a Telelearning Strategy for Community-Based Nurses Working in Remote and Isolated Areas***

- Marilynne Hebert

11:45 ***The Ontario CritiCall Program and Ontario Resource Registry***

- Frank Baillie

* Trevor Craddock
on-line system
- easy to use from any location
- enter data
* produce reports.

12:00-
12:15

LUNCH BREAK *(Lunch will be provided in the CIT Lobby)*

Thursday, August 24, 2000

TELEMATICS AND TELEHEALTH - *CIT 105*

Session Chair – Don Juzwishin

1:30

Cost-Benefit Evaluation of Telehealth Implementation Implications for Regions and Communities

- Penny Jennett

A Study for Building a Telephone-based Hospital Registration System on Automated Speech Recognition Technology

- Dah-Dian Tang

Palmtop Computers for Field Data Capture and Transport in Community Health and Public Health Practice and Research

- Roberto Rodrigues

Telepsychiatry: Under Appreciated Barriers to Implementation

- Harry Karlinsky

HUMAN RESOURCE INITIATIVES - *CIT 116*

Session Chair - Paul Fisher

1:30

Maintaining Knowledge in Professional Practice: The Discipline Side to Information

- Katherine Corbett

Physician Information Officer (PIO)

- Grace Chandy

Utility and Effectiveness of a Decision-analysis Computer Simulation Framework for Graduate Health Sciences Students

- Geoffrey Gurd

3:00

AFTERNOON BREAK

EVIDENCE BASED HEALTH CARE - *CIT 116*

Session Chair - Marty McLeod

3:15

Information Systems and Evidence-Based Health Practice

- Roberto Rodrigues

Using Population Health Data to Assess the Need and Provision of Stroke Services in Eastern Ontario

- Heather Grant

The Dissemination and Uptake of Best Practices in Community Health: A Report of a National Project

- Geoffrey Gurd

Friday, August 25, 2000

PLENARY - *CIT 105*

8:45

Introduction of keynote speaker by Denis Protti

Professor, School of Health Information Science

9:00

HOW THE NEW HEALTH INFORMATION STRATEGY WILL AFFECT COMMUNITY HEALTH

- Dr. Peter Drury

http://www.doh.gov.uk/nhsexipu/

10:15

MORNING BREAK

//Info Policy Unit/

http://www.nhsia.nhs.uk/

LESSONS LEARNT FROM THE UK - *CIT 105*

//Info Authority/

Session Chair - Denis Protti

10:45

England's National Health Information Strategy: Is Primary Care the Priority?

- Denis Protti

Detection of Pre-diabetics by Dermatoglyphics: Results of a Computer Study

- Bernard Richards

Ethical Issues of Telemedicine in the UK

- David Preston

12:15

LUNCH BREAK *(Lunch will be provided in the CIT Lobby)*

Friday, August 25, 2000

POPULATION-BASED SYSTEMS - *CIT 105*

Session Chair - Rob Tornack

1:30

Evaluation of Large Public Clinical Renal Databases
- Carol Wilcox

Multimedia Courseware for Senior High School Students to Help Prevent the Spread of HIV
- Tsutomu Masumoto

Developing an Information Infrastructure to Respond to Vancouver's HIV Epidemic: The Datawarehouse Approach
- Jason Holmes

HUMAN AND CULTURAL DIMENSIONS - *CIT 116*

Session Chair - Shannon Turner

1:30

Social and Cultural Ethics of New Technology - HFs Consideration
- Rabiul Ahasan

Avoiding Crisis Culture: Visualizing the Deep Structure of Health Care Capacity
- Shannon Turner

Skills Enhancement for Health Surveillance: Training public health for the 21st century.
- Jennifer Sealy

Issues and Lessons Learned in the Development of a Multi-level Performance Measurement System for Addiction Services in Ontario
- Brian Rush

3:00

AFTERNOON BREAK

UNDERSTANDING INFORMATION NEEDS - *CIT 105*

Session Chair - Phil Jennings

3:15

Information Management in Public Health: The British Columbia Experience
- Layton Engwer

Understanding the Use of Health Information by Youth: The Role of Information Technology in Equity and Access
- Sherry Biscope

Health Information System Planning and Development in Countries of the Former Soviet Union
- Paul Fisher

KNOWLEDGE MANAGEMENT - *CIT 116*

Session Chair - George Marshall

3:15

Research Meets Reality: Administrative Data to Guide Planning for Canadian Regional Health Authorities
- Janice Roberts

Managing Knowledge: the Manitoba Experience
- Charles Burchill

WEST COAST GALA RECEPTION - *FACULTY CLUB*
5:00 - COCKTAILS
6:00 - DINNER

Saturday, August 26, 2000

WORKSHOPS

CIT 116
9:00 - 4:00, *lunch included*

ELECTRONIC PATIENT RECORDS: WHO IS LEADING THE WAY AND WHY

- ***Denis Protti***

(9:00 - 12:00)
Key Points:

- What is an EPR/CPR/EMR/EHR?
- Computer-based Patient Record Institute (CPRI) view
- IOM 12 Gold Standards
- United Kingdom National Health Service (NHS) view
- National Health Information Strategy
- 6-level EPR model
- Other views
- Who are the leading sites?
- USA Top 12
- UK NHS Top 3
- Why are they leading sites?
- Characteristics common to all sites - regardless of technology used

CHANGE MANAGEMENT: WHAT APPROACHES WORK IN CLINICAL SETTINGS

- ***Denis Protti***

(1:00 - 4:00)
Key Points:

- Change Management - Definitions and Clarifications
- Relationship to Organizational Development (OD)
- Sources of Resistance to Change
- The Political Realities of Change
- Sources of Power
- Characteristics of Clinicians
- Secrets to Success Working With Clinicians
- Keys to being a successful change agent

HSD A150
9:00 - 4:00, *lunch included*

USING THE INTERNET EFFECTIVELY

- ***Paul Fisher***

Key Points:

- What is the internet? Some networking basics.
- What is an Internet application? Some client-server basics.
- How do I connect to the Internet? What options do I have? What are the costs?
- What's out there? How do I find it? How do I get it from "there" to "here"?
- How do I establish my own presence on the Internet? What are the costs? What are the benefits?
- Finding health resources on the Internet.
- Assessing the value of health resources.
- Capturing information.
- Getting the most from email.
- An introduction to web site design.
- The responsible Internet citizen.

Sunday, August 27, 2000

WORKSHOP

9:00 - 4:00, *lunch included*

GETTING YOUR MESSAGE OUT VIA THE WORLD WIDE WEB

- ***Brian Addison***

Key Points:

- Why use a web site
- Potential pitfalls
- Who is your audience
- What is the message / information
- What results do you expect
- Designing for results
- Engaging your audience
- Keeping the message current
- Minimizing maintenance
- Measuring results
- Cost vs. benefit considerations
- A checklist for developing an effective web site

GENERAL INFORMATION

The language of the conference is English. The conference sessions will take place in the Centre for Innovative Teaching (CIT). There is no smoking inside any of the buildings at the University of Victoria.

Conference Badges

To ensure admittance to all the conference sessions, please wear your name badge.

Proceedings

A copy of the proceedings on CD-ROM is in your delegate bag.

Student Posters

Judging of the student posters will take place August 22 at 4:30 pm in the lobby of the Centre for Innovative Teaching. The winners will be announced following the James Coward lecture on August 23rd. The opening wine and cheese reception will take place in the CIT lobby 5:00 – 6:30 that evening, at which time delegates are encouraged to view the student posters.

Vendor Exhibits

Vendor exhibits will be on display throughout the conference in CIT 110 and CIT 112. The exhibit hours are as follows:

Wednesday, August 23	8:00 am – 5:00 pm
Thursday, August 24	8:00 am – 5:00 pm
Friday, August 25	8:00 am – 3:00 pm

Exhibitors:

- Canadian Institute for Health Information (CIHI)
- Canadian Health Network (CHN), Health Canada
- First Nations Health Information System (FNHIS), Health Canada
- Office of Health and the Information Highway (OHIH), Health Canada
- Office of the National Health Surveillance Infostructure (NHSI), Health Canada
- PS Regent Healthcare Systems
- Rise Healthware Inc.

Conference Registration and Information Desk

Registration Desk staff are available to assist you with information and to sell dinner reception tickets and Proceedings. They can also answer your questions about Victoria and its environs. The Registration Desk will be open throughout the conference.

West Coast Gala Reception

This year, instead of the usual sit down banquet, there will be a closing reception at the Faculty Club on Friday, August 25. The Faculty Club, located on campus a short stroll from the conference location, is surrounded by high trees in a quiet, serene milieu.

Join us for a relaxing evening starting with cocktails at 5:00 pm followed at 6:00 pm by a bountiful buffet of gourmet West Coast appetizers to tantalize your taste buds. No host bar. Tickets are required.

West Coast Gala Tickets

If your registration includes a ticket for this function, it is included with your nametag. If you won't be using your ticket, please return it to the Registration Desk and we will see that it goes to one of our volunteers.

Preview Room

A room has been set aside for presenters to preview their material. Arrangements can be made at the Registration Desk.

Currency

If you need to change currency, please check with the Registration Desk for the nearest bank.

The Goods and Services Tax (GST)

The Goods and Services Tax (GST) is a seven per cent tax charged for most goods and services sold or provided in Canada. If you are a visitor to Canada, save your receipts and submit the proper forms and you will be able to obtain a refund of the GST.

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Phone: (250) 721-8576
Fax: (250) 472-4751
Email: lwood@uvic.ca

Transportation

Shuttle to the Victoria International Airport
The Airporter shuttle bus services all downtown hotels. You must reserve in advance to arrange for transportation to the airport. Check with your hotel registration desk. You can arrange for this service even though you may not be staying at a hotel. The shuttle leaves every half hour and the cost is approximately $13. Taxi cab fare is approximately $40. Airporter phone – 386-2526.

Bus Transportation to Vancouver International Airport/Downtown Vancouver
Pacific Coach Lines services downtown Victoria to both the Vancouver airport and downtown Vancouver. The buses are given priority loading on the ferries and travel time is approximately 3.5 hours. The cost from downtown Victoria to the Vancouver airport is $30.50, and the cost to downtown Vancouver is $26.50.
For information call Victoria 385-4411.

Ferries to Vancouver
BC Ferries (sailing time 1 hour, 35 minutes) travel between Tsawwassen (39 Km south of Vancouver) and Swartz Bay (32 Km north of Victoria). This is the recommended route for those travelling to and from Victoria by car. Daily sailings in August are between 7:00 am and 10 pm, on the hour. The fares are $9.00 for drivers and adult passengers. Vehicles cost $32 on the weekend and $30 mid-week.
For information call 386-3431.

ABSTRACTS

August 23, 2000

HEALTH SURVEILLANCE SYSTEMS

The Information Management Framework for the National Health Surveillance Infostructure

- Michael Goddard

The National Health Surveillance Infostructure (NHSI) is the Health Canada contribution to the Network for Health Surveillance in Canada, a federal, provincial and territorial partnership. A key component of the NHSI's responsibilities is the development of tools and services to facilitate the management and sharing of health surveillance information. Seven components are currently under development: an inventory of information about health surveillance information sources and initiatives, a repository of structured information, a library of unstructured information, a portal to the information, a geographic information system (GIS) infrastructure, services in support of guidelines and standards, and the beginnings of an information architecture. In this presentation, we offer an overview of the drivers for these components, the linkages between them, and plans for evolution of the infrastructure.

On an Information Architecture and Standards Framework in Support of the Network for Health Surveillance in Canada

- Bob Tate

In order for the National Health Surveillance Infostructure (NHSI) to support evidence-based decision making, participants in the Network for Health Surveillance in Canada (NHSC) need to eliminate barriers to sharing health surveillance information. These obstacles can be found throughout all program activities: from strategy development, through business rules, to information technology implementations. Obstacles are also found in the "what, how, where, who and when" of each project. An information architecture provides a map for these issues and aids in identifying barriers, such as misalignments, gaps and incompatibilities. We present a vision for such an architecture based on the work of John Zachman and we outline our expectations and expected benefits from the initiative as well as our key implementation issues. We will also discuss some of the standards issues that bear directly on developing a Health Surveillance Infostructure.

Sharing Health Surveillance Information Using the National Health Surveillance Infostructure 

- Donald Legault

The National Health Surveillance Infostructure is Health Canada's contribution to the Network for Health Surveillance in Canada. One facet of the Infostructure is to facilitate secure access and sharing of timely health surveillance data and information to health surveillance workers (personnel across Canada, by means of a comprehensive multi-level Internet enabled infra-structure. Two key components of this infrastructure include an inventory of health surveillance information and a portal of access to health surveillance information, tools and products. Portal technology will also provide inter-active user capability for pro-active information dissemination (list-server), moderated discussion environment and customised information delivery interfaces. We will present a description of these two key components, how they relate to other components including information and security architectures, and both the current states of the initiative and plans for evolution in the next two years.

Improving Health Surveillance in Canada - What are the Needs?
- David Mowat

Health professionals, analysts and managers engaged in health protection and public health are increasingly recognizing the need for easier and more timely access to high-quality relevant information and tools to inform decisions. Federal/provincial/territorial deliberations culminating in the creation of the Network for Health Surveillance in Canada have provided focus for consulting on generic needs for a health surveillance infostructure. We will present the results of these nationwide consultations, as well as a more specific needs assessment concentrating on online analytical processing (OLAP) and geographic information systems (GIS) functionality.

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COMMUNITY HEALTH NETWORKS: I

Simon Fraser Health Region Continuing Care Services - Puts the Potential into Practice
- Lillian Sawyer

The Simon Fraser Health Region (SFHR) covers a geographic area of 701 square kilometres and includes municipalities stretching from Burnaby to Maple Ridge. Continuing Care Services make up a significant part of Simon Fraser Health Region's budget. It is comprised of four Home Health Care Units, three Home Support agencies, thirty-three residential care facilities (of which seven are directly owned and operated) and many other community programs and services.

SFHR has recently connected all of its Home Health Care Offices and Home Support agencies to its Wide Area Network with high-speed lines. These agencies and staff now have access to E-mail, the regional Intranet, the Internet, and other office applications that reside on the network. As well, clinical people in the health units are now able to access the Hospital Information System and their client's electronic record and communicate more easily with staff in other sectors of the region.

Information is critical to successful integration of services. Access to this technology will decrease fragmentation of client care, promote a longitudinal health record and increase continuity of care for residents of the region. It will benefit the community care providers and help them to deliver client care more efficiently and effectively.

This presentation will briefly discuss some of the technical specifications of the linkages to the network. More importantly, it will demonstrate how sharing access to the client's health record and improving communication between the various sectors will improve care for residents of SFH.

Standard Protocol for Exchange of Health Checkups Based on SGML:The Health Data Markup Language (HDML)

- Hiroki Sugimori

Aim. This research aims to provide the protocol to achieve efficient information exchange by electric means between the health-checkup facilities.

Methods. Joint Working Group of JMHTS (Japan Society of Multiphasic Health Testing and Service) and JAHIS (Japanese Association of Healthcare Information Systems Industry) developed a health/medical data interchange model that stood on the markup information structure. Our data encoding language, HDML (Health Data Markup Language), was based on SGML which has context-free grammar. HDML had the standard DTD which defined anamnesis, physical examination, laboratory examination, summary findings, and judgment of total health status, etc. The laboratory examination contains following items: the item's name, the method, the unit, the device, the company name, the product name, the principle, and the standard reference value. Moreover, we take into account the interchangeability of data with HL7 and other standard protocols. As a preliminary study, we carried out an experimental trial in October 1999, which transferred laboratory data by translating into HDML, from 2 health-checkup facilities to other 2 health-checkup facilities.

Results. We have succeeded in transferring almost all laboratory data appropriately by using the HDML protocol between the health-checkup facilities. Moreover, we could convert and standardize the laboratory data properly from the information written in the DTD.

Conclusions. We propose the HDML protocol to standardize health/medical data that will make available for multi-health facilities on the basis of the standardization of data exchange regarding health-checkups. We found this HDML protocol worked effectively in using the actual health/medical data.

PathNet - A Joint Venture In Integrated Diagnostic Information

- Nigel Terrett

MDS Metro Laboratory Services and BC Biomedical Laboratories, the two major community laboratories in BC, provide approximately 70% of all outpatient diagnostic laboratory testing in communities across the province. Both companies are privately owned and both have headquarters in the lower mainland. For over 40 years, BC Bio and MDS Metro have centred their community-based services on the provision of meaningful, timely diagnostic information to assist physicians in the diagnosis and treatment of their patients. In order to continue to improve the existing lab information delivery systems, BC Bio and MDS Metro have formed a joint venture named PathNet.

The objective of PathNet is to improve diagnostic reporting through electronic connection between lab service providers and physicians. This venture signals the co-operation of the two leading providers of community laboratory services in their attempt to improve the delivery and management of information while both companies maintain their independent services to physicians and patients.

PathNet - A Joint Venture In Integrated Diagnostic Information (cont'd)
Hypothesis

At present, physicians receive laboratory information verbally, as a written document and/or electronically. The mode of reporting depends on the urgency of the test result and the technology used by the physician. In spite of rapid turnaround times for test results, community laboratories handle thousands of telephone inquires for results each day. This indicates the limitations of current reporting methods.

PathNet is expected to dramatically improve information delivery and access by offering on-line test results and inquiry capabilities for historical diagnostic information. PathNet will eventually incorporate electronic test ordering and technologies to support optimal test utilization.

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WEB APPLICATIONS

Experience With An Internet Based Medical Record
- Robin Dodge

In the early 90's the Federal Aviation Administration upgraded its paper medical record to a modem and software driven history and physical. The software included validation of the entered data against required medical standards for pilots. Not all physicians were required to use the electronic version; thus the FAA was managing parallel systems. The author was a beta tester and end user of this new system. Related paper work declined and data entry errors essentially became nonexistent. A new hosting server and migration of the medical record system to the Internet was initiated when the electronic system was found not to be Y2K compliant.

Online standards validation, access to past medical history, and a streamlined process were anticipated. The final product is a relatively slow server with no validation of medical standards. The old paper and previous electronic forms were combined, resulting in a confusing and ambiguous new web H&P form. A paper copy must still be mailed. It now takes more time to complete a record and the system is prone to errors of substance although not process. The FAA is now managing only one system, as all physicians must use the Internet. The objective of employing new technology to benefit all users has not been reached. This is an example of the potential of new technology being more than that achieved. Perhaps the future will see improved benefits for all and even allow transfer of such knowledge for use in a wider health field.

Integrated Care From Hospital to Home - Development of the Community Care Planner

- Joanne Walker

HealthLink Clinical Data Network, in partnership with Toronto Community Care Access Center (CCAC) and the University Health Network (UHN), has developed a web-based community care referral system. The "Community Care Planner" automates the process of referring patients from hospital to the CCAC for home care services. This system utilizes Internet technology to improve the overall efficiency of the referral process. Benefits of the system include: timely processing of referrals from hospital; complete, accurate, legible referrals; efficient prioritization of referrals; statistical reports for management; and the ability to integrate information captured in other hospital systems.

The Community Care Planner was developed using a 3-tier Web-based architecture. This architecture was chosen so that the Community Care Planner can operate in a heterogeneous user environment and be centrally maintained and distributed. The 3-tier architecture also allows for maximum code reuse and scalability. Technologies used include DHTML, Internet Information Server (IIS), Active Server Pages and Microsoft SQL server. In addition, a Seagate Crystal Reports server is used to create management reports and print referrals.

The Community Care Planner, currently being implemented at University Health Network, is a significant step in automating and integrating the flow of information between hospitals, community care agencies and patients in their homes.

This presentation will speak to the development of the Community Care Planner and provide a demonstration of the system.

Lans Wans & Wireless Networks of the Future in Healthcare

- Dale Gregg

Learn the fundamental difference between thin client and thick client as well as windows terminal server. Why do we need to have choices? Is network bandwidth is going to increase or will wireless LANs create new bottle necks? Attaching health care professionals with wireless personal computing devices to your network can increase productivity but at what cost? Can your applications go there? Should we push applications to the desktop or have the desktop pull the applications from the server? Is frustration causing us to use a screwdriver as a hammer?

In this session Dale Gregg will provide information for untangling the web of networking and share information about the future of networking, providing useful information to CEO's and CIO's as well as application consultants.

We are only at the mercy of technology until we understand the basics of how these tools can assist us now and in the future.

A Multipurpose Application Service Provider for the Health Sector
- Greg Gibbon

This paper describes a plan that is currently being moved through the various approval processes of the Australian public sector to build an application service centre which will service the IT needs of the health sector. Unlike existing IT outsourcing arrangements this centre will combine support for public sector hospitals with direct provision of IT for independent medical and allied health practitioners to thus facilitate the effective operation of Web based coordination technologies. By using a thin client model for service delivery, the training and support costs that have weighed down teaching hospitals and the difficulties of obtaining reliable IT support for community health components will be dramatically reduced. A distinct divide currently exists between federal government funding of primary care and state government funding of hospitals, with a resulting difficulty in making effective IT connections between these two levels for coordination of patient care. By using an independent outsourcer to both levels of patient care the political dynamic will be altered for the better. A further element to the proposal is the integration of the centre into university IT education, following along the model of a teaching hospital. This will not only provide increased relevance and practical input into the IT courses, but it will also provide for the first time in the Australian market, graduates whose practical IT skills have been developed in the context of the health sector and who may thus look to health related applications as an initial career step.

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SYSTEMS AND METHODS TO SUPPORT PROVIDERS

Domestic Surveillance of Hemophiliacs by a Study Group Supported by the Japanese Ministry of Health and Welfare
- Shinobu Tatsunami

Hemophiliacs continue to comprise a considerable proportion of the HIV-1 infected population in Japan. To continue surveillance of the clinical status and therapy for hemophiliacs infected with HIV-1, a study group was reorganized under the support of the Japanese Ministry of Health and Welfare in 1997. The study group is a national network of physicians providing care for those with HIV/AIDS in Japan. Surveillance has been performed annually by this study group since 1997.

A total of 1446 hospitals, clinics, and other health-care institutions throughout Japan were enrolled. Investigation charts were distributed to these institutions, completed by medical doctors in charge, and collected to computerize the data.

Domestic Surveillance of Hemophiliacs by a Study Group Supported by the Japanese Ministry of Health and Welfare (cont'd)

The number of cases of hemophilia and hemophilia related disorders with HIV-1 infection was 1434, including expired cases. The annual number of deaths rose from 1/year in 1983 to 68/year in 1994. The number of deaths declined slightly from 1994 to 1996, and decreased remarkably in 1997. Notably, in cases of HIV-1-infected patients with hemophilia A/B, the cumulative fraction of deaths was 36.6±1.3 % at the end of 1998, when calculated using the Kaplan-Meier method.

The remarkable decline in the annual number of deaths observed in 1997 may be attributed to the availability of protease inhibitors. This decline occurred one year later than a similar trend that was observed in the United States, reflecting a delay in approval of the use of protease inhibitors in Japan. Therefore, the introduction and widespread adoption of new and effective drugs and regimens for the treatment of HIV-1 infection are important in saving lives.

Black Sea TeleDiab: A Computer-Based Information System for Diabetes

- Simon Pruna

The aim of this project is to encourage clinicians to use electronic health records - and to promote the electronic exchange of healthcare information between clinicians and scientists in countries of the Black Sea area. We have created a diabetes health record system based on the Good European Health Record (GEHR). This Architecture provides a common data structure for electronic health care records, taking into account ethical, legal, security, and educational requirements. A wide range of data types (including laboratory data, bio-signals, etc.), created in many sources ca be recorded The system offers support for the process of clinical care and medical education. The BSTD system was developed using a modular design and object oriented method approach. The Patient Records Function offers options for the management of the EHCRs (creation/correction/visualization), such as registration of a new patient and recording of his first Basic Information Sheet; the recording of a new sheet; the correction/visualization of the sheet; the recording of data about the patient's death, etc. The System Administration Function allows: the definition of the health care facility; the management of persons that use the system or fills in the sheets; the management of passwords and access rights for the users; the management of units used for measurements; the management of the interface of the system. The system is currently undergoing formal clinical evaluation in diabetes centers from Romania, Ukraine and Moldavia.

BC Primary Care Demonstration Project

- Rosemary Gray

Seven primary health care clinics across BC have been selected for participation in a 3-year pilot exploring innovative approaches to delivering coordinated primary health care services. Jointly funded by Health Canada's Health Transition Fund and the BCMOH, the project emphasizes funding based on the medical needs of a patient population, not the number of services. It encourages integration of a broader range of health care services and promotes a care continuum through inter/multidisciplinary teams - plus:

- Defining service standards and quality assurance mechanisms to ensure accessible and high quality care;
- Improving accessibility and availability of patient records to all members of the group practice through closer integration of computer technology into the care/service delivery process; and
- Integrating an expanded patient encounter record format with the BCMOH's existing fee-for-service claims-processing environment, for improved accountability and analysis capabilities.

In September 1999, the demonstration sites began providing care through this model. Initial findings show:

- Most practitioners have access to a computer in each exam room, making stored patient histories accessible to providers at the time of patient contact;
- Multi-user electronic health record (EHR) systems allow updates to patient demographic and health data by multiple providers, at their points of contact with patients - e.g. providers at each stage of an encounter are able to access the patient record and update it as appropriate;
- Improved capability for follow-up phone contact and visit scheduling;
- Patients can access provider-supplied or self-directed, online or printable educational materials during patient visits (including interactive completion of questionnaires);
- Significant transition issues have related to the simultaneous implementation of technological, workflow, and administrative changes; and
- Existing BCMOH claims systems support non-fee-for-service encounter reporting, payment, and accountability.

External evaluators are examining the model's transportability and efficacy, as well as patient and practitioner satisfaction.

A Multi-lingual, Multi-media Health Information System (for the European Citizen) using Internet and Kiosk Technologies

- Adrian Moore

CATCH II - is the project acronym for "Citizens Advisory System based on Telematics for Communication and Health". It is a multi-lingual, multi-media Internet and kiosk-based health information system in the areas of Cardiology and Cancer (particularly Skin Cancer). Funded by the European Commission under the IVth Framework Research & Development TELEMATICS Applications Program (TAP) in the area of Health Care, the system is being developed by a consortium of partner organisations (universities, health care organisations and IT companies) from Northern Ireland, Germany, Portugal and Italy. In this short paper we will provide an overview of the system methodology and focus on some of its unique characteristics with respect to the technical architecture and flexible customisation of different web and kiosk based versions. Some of the most interesting findings from a cross-national study of 'health information needs on the internet' will be presented and from a technical perspective, the use of a dedicated editing tool for the procurement, structuring and management of the information knowledge-base will be discussed.

Journey of Hearts: From Idea to Reality A Website for Web-education on Grief and Loss

- Kirsti Dyer

Loss is a common experience that can be encountered many times during a lifetime; it does not discriminate for age, race, sex, education, economic status, or nationality. Unrecognized, unprocessed, and untreated acute depression or the grief response following a significant loss can result in personal anguish, multiple somatic complaints, functional impairment, strained relationships, clinical depression, and a risk of suicide. Grief impacts friends, family, co-workers, employers and the community of those affected by the loss. Thus the number of people impacted by loss, grief and depression is significant.

Journey of Hearts, www.journeyofhearts.org, started as an idea—a website to provide resources—medical and non-medical—to serve as an adjunctive Internet web-resource, supplementing the ever-shortening primary care visit. Now on-line for nearly three years, this integrative, multi-award winning medical website (including an AMA-YPS Community Service Award) has reached over 140,000 people world wide, providing grief aid to the Internet communities. The site utilizes Internet technology to provided web-education in these overlooked areas of grief and loss.

The website was created with the hope of removing some of the social stigmas associated with those who are grieving and provide a safe place for people to visit in the middle of the night, when friends and family are not available. Through the use of the Internet, visitors to the site are empowered with knowledge to understand the grieving process and thereby help themselves, friends and/or family through the often devastating experience of loss, ultimately improving the quality of their health.

www.journeyofhearts.org

send to Trevor Craddock (12)

Conducting Clinical Trials via the Internet

- Bernard Richards

In the past it has been necessary to rely on paper records for conducting clinical trials from diverse participating centres, data sheets being sent via the postal services and more recently perhaps by e-mail. This paper describes an international Project to conduct trials of various drugs used in the treatment of Haemophilia. Heamophilia is a disease which causes bleeding into joints through failure of the clotting agents in the blood. This Study is concerned with the particular cases where the failure to clot is caused by an Anti-body (an Inhibitor) which inhibits the performance of the Factor VIII, the main clotting factor in the blood. The Project will be run over the Internet and is intended to be completely paperless. So far, 50 participating centres, in 15 different countries, have expressed interest. They will submit their patient-data, via the Internet, to the co-ordinating Centre in England where the data will be automatically entered into a single database. Strict security, via encryption, is in place throughout all data transmission. Advantages of this system include the ability to have data-input automatically checked at source, to have reminders issued when further patient-data is required, and to reduce data transmission times by not using postal services, with consequent increase in security. The Trial will enable better informed decisions to be made as to the optimal treatment for the removal of Factor VIII Inhibitors from young Haemophilia patients.

send email to gain access to website for example of education

Patient-centered Health Education via the Internet Offers Improved Patient Satisfaction and Reduced Professional Liability Premiums

- Michael Myers

The Internet abounds with health information. However, studies show that much of the information is inaccurate, subjective, or promotional in nature. Other studies show that the information is written at a reading level exceeding the average Internet user's ability. Finally, the issue of privacy has become an overriding concern, as many "web health portals" request personal information that is then sold to third parties. We will discuss our experiences with developing and implementing a comprehensive, Internet-based, patient-centered information system that supplies patients with objective, professionally written and illustrated medical information that is personalized for their use and includes real-time learning capabilities. This system is customizable for hospitals, medical groups, and individual physicians, which surveys show is patients' preferred source of health-related information. Professional liability carriers in the United States are beginning to see the advantages of this approach in lowered liability claims risk and are now offering financial benefits in the form of professional liability rebates to healthcare providers who utilize this service.

The Shift to Community-based Systems in the NWT and its Challenges

- Kamel Toubache

The Northwest Territories (NWT) is a vast territory sparsely populated in 26 small to very small communities. Recent years have seen a massive devolution of health and social services delivery to the control of regional, and community health, and social services boards.

To support this business direction the Department of Health and Social Services IT environment is:

- Moving from a centralized mode of operation based on the use of mainframe technology to a decentralized mode of operation based on the use of community local area networks connected at the Board and Territorial level in a wide area network.
- Equipping each community with the computing resources necessary to communicate and use modern systems effectively.
- Acquiring and implementing Health Suite from Rise Inc., a community health information system.
- Developing and implementing CFIS (Child and Family Information System), a community social services system.

Health Suite covers community health encounters, while CFIS deals with social services encounters. Both kinds of encounters are intertwined, as social issues are, particularly in the NWT, a major determinant of health. In addition to clarifying the direction followed by the Department this paper will focus on detailing:

- the considerations that led to the selection of Health Suite and the development of CFIS;
- the technical challenges associated with developing and implementing distributed systems in the NWT harsh satellite-based communications environment;
- the implementation approach and in particular the focus on training and support tailored to the NWT context; and
- the early implementation results.

First Nations and Inuit Health Information System

- Alexa Brewer

The First Nations Health Information System is one of three Health Canada initiatives designed to contribute to the development of a Canadian Health Infostructure.

The FNHIS contains information about Status and non-Status First Nations and Inuit residents of all Medical Services Branch regions who access health services on-reserve and/or at MSB health facilities off-reserve. Information includes name, address, gender, date of birth, residency, status, and may include Band registration number, Provincial health card number, immunization status as well as data pertaining to reportable and chronic diseases, mortality, medication, medication allergy and adverse reaction, test and exams, maternal, psycho social and environmental health. Information is maintained in a highly secure Intranet environment.

The information can be used for service delivery, reporting requirements, health program planning, evaluation, research and surveillance. Where permitted by legislation and/or community consent, non-nominal information may be exchanged with provincial ministries of health for agreed upon uses.

First Nations and Inuit Health Information System (cont'd)

Lessons Learned

As Health Canada began to move from potential to practice with the First Nations Health Information System many challenges surfaced, some more predictable than others.

Predictable challenges included challenges such as -

- secure networking through the public network - the Internet;
- lack of telecommunication infrastructure in isolated communities - First Nations communities.

Less predictable challenges included challenges such as -

- dealing with a vast number of existing health information systems at the local and regional levels and the need to exchange with or build on those;
- the respect of the Privacy Act;
- balanced ownership of data and process between First Nations and government.

These lessons learned and many others would form Health Canada's paper and presentation.

Information Technology in Rural and Remote Areas: Northwestern Ontario

- Mark Perrault

One of the challenges to providing public health services in rural and remote areas of Northwestern Ontario is finding appropriate, cost-effective information technology and supporting it.

Some of the obstacles to overcome include geography, small population centres that do not attract providers of information technology or services, poor tele-communications infrastructure and the overall high cost of doing business. Other factors include the protection of confidential information, outdated Ontario government software applications and the under-funding of public health.

In Northwestern Ontario, the Northwestern Health Unit delivers public health services west of Thunder Bay. In order for the Northwestern Health Unit to deliver its thirty programs, its one hundred staff in thirteen offices work on both geographic and program development teams. This necessitates collaboration between staff widely separated geographically from each other. In order to facilitate this, the Northwestern Health Unit is focusing on the use of its web-site, e-mail and possibly a virtual private network. But in order to do this in a cost-effective manner, appropriate information technology had to be found.

The Health Unit also has a number of Ministry of Heath programs which staff use in their day to day work. A partial decentralizing these programs to allow greater access has been accomplished and there is some hope in the horizon that a web-based public health information system will be implemented.

With less than one full time equivalent staff support for information systems, a strategy to provide hardware and software support to staff in thirteen offices had to be developed.

Some of the information technology the Northwestern Health Unit is currently using or is planning to implement include analogue and DSL routers, hosted web-site and e-mail services, virtual private networking, encryption and file transfers using PCAnywhere.

Some of the strategies to provide hardware and software support include vendor provided on-site support, standardized software, contract one-on-one training, and an internal helpdesk.

Health Indicators at the Regional Level: from Potential to Practice

- Jennifer Zelmer

In response to feedback from a consultation process on health information needs, the Canadian Institute for Health Information (CIHI) and Statistics Canada launched a collaborative project on health indicators in the spring of 1999. The purpose of the project is to achieve consensus on what measures should be used to report on the health of Canadians and the health system and then to compile and disseminate the information widely. These indicators are primarily intended to support regional health authorities in monitoring progress in improving and maintaining the health of the population and the functioning of the health system for which they are responsible.

The Health Indicators Project draws on existing and emerging data holdings, as well as a new standard geographic infrastructure and regional population estimates. The project is designed to complement and build on initiatives that are already underway throughout the country. A core set of standardized indicators was selected at a national consensus conference in May 1999. An on-going series of open, transparent processes to improve the quality, balance, and relevance of the indicators is also planned.

Already, a pilot of the core indicators has been completed. Comparative data from more than 15 major urban regions across the country were showcased in the 1999 Maclean's Health Reports. A range of indicator data have also been profiled in new annual reports on the health of the population and on Canada's health system released in the spring of 2000 and in other publications. The indicator framework and indicators are also beginning to be adopted by a number of regions and others.

Design and Implementation of A Geographic Information Prototype System for Emergency Medical Service

- Der-Ming Liou

Accidents was still among the top four reasons of death last year according to "The Main Causes of Death for Taiwan Region in 1998", which was proclaimed by Department of Health early this year. With accidents happen so frequently like this, how to reduce damage to the lowest level becomes a very important matter nowadays. Therefore, it is a great urgency to build an immediate, rapid and highly efficient emergency medical care system.

Network analysis, which is a function of Geographical Information System (GIS) has been taken by dispatching center to realize whole situation and then decide the most suitable hospital for patient. Their considering reasons include the quantity of beds in hospital's intensive care room, respiratory equipment needed and the best traffic routes to hospital in hand. Besides, the first–aid personnel in ambulance are able to know patient's medical history and then perform their task better. Therefore, Emergency Medical Care System cooperating with GIS shorten delivering time and reduce the damage to the lowest level.

Now, dispatching stuffs in "119 Dispatching Center of Emergency Medical Care and Rescue" can get accurately geographical features of location and a clear map through this system. With all the helpful information in hand, stuff is able to work more efficiently.

The paper can be a great reference to build up Emergency Medical Care System by the application of GIS. In this study, procedures are first designed by concerning over current construction of emergency medical care system. Secondly, the details need to be cared while using GIS. After this, we discuss and solve several confronting problems. In the end, using GIS software built a prototype of emergency medical care system. It will really contribute to the service of Emergency Medical Care System in Taiwan.

Preparing the Way for Routine Health Outcome Measurement in Patient Care

- Grace Paterson

In order to interpret the effectiveness of health care activities, it is necessary to measure health status before and after an intervention. From the literature, we can identify outcome measures used in research. Online resources, such as the Cochrane Library and British Medical Journal, use a structured abstract so outcome measures can be readily identified and catalogued. These literature resources strive for relevance by promoting the assessment of healthcare interventions using outcomes that matter to people making choices about health care.

Both general and condition-specific measures are used to collect outcomes information. General measures apply to all systems and are more likely to capture adverse events. Condition-specific measures are more likely to capture benefits of care but could also capture adverse consequences. Patient-centered outcomes measure function, comfort, and likelihood of survival. Measures that are proxies for the patient include objective clinical data, health care activities, and caregiver activities. From a knowledge base of outcome measures, one can generate prompts for health outcomes information to record on the patient record.

Most organizations are able to use some measures to show they provide efficient and effective care. In health care, we do not collect and provide timely, regular and reliable information about either access to care or the results of health care activities. Consequently, we cannot properly allocate resources or manage care. However, from routinely collected patient health status and outcomes of care data, we can generate new knowledge about effective health care. This information can be fed back to caregivers, administrators, and researchers for continuous quality improvement.

Use of Health Encounter Information for Outcomes Management and Resource Planning

- David Zitner

Increasingly Canadian communities have been attempting to participate in decisions related to the allocation of health services resources. Governments have responded by developing regional and community health boards.

Operating in the Dark: The Gathering Crisis in Canada's Public Health Care System (www.aims.ca) suggests that health care is not and cannot be managed because of the absence of pertinent information. We routinely lack information about access to care, waiting times, the fate of patients on waiting lists, and the outcomes of care. This paper reports on how new technologies may be employed to provide real time monitoring and feedback to support care while it is being delivered, and simultaneously provide information about the activities and results of care for program planning and resource allocation.

Work in Nova Scotia has been aimed at learning how to capture pertinent information from health system encounters so that we can have reliable information about health status and changes in health associated with care. We have worked with acute care hospitals, providers, community and regional boards to identify the information about hospital patients which is necessary to determine whether a patient is in the appropriate setting for care and the information which is necessary to support resource allocation decisions to distribute resources between acute care and continuing care organizations.

This presentation discusses the types of information communities need for resource allocation, sources of that information and what is necessary to capture information from clinical encounters to support outcomes measurement and resource allocation.

Developing an Information System for a Network of Specialized Geriatric Services

- Marlene Awad

The Toronto RGP has been developing a computerized Information Network to enhance the coordination of our services to frail elders. The system, developed in conjunction with HealthLink Clinical Data Network will provide a central patient registry and database that can be shared across the RGP participating organizations.

The system developed for the pilot is a document based client / server application running over a private Wide Area Network. During the pilot limitations with the system design regarding scalability, data integrity, and network bandwidth were identified. The feasiblility of moving the system to an n-tier, intranet based architecture is being considered prior to the RGP enterprise wide implementation.

The information system is designed to meet the pressing information needs found throughout the health care system. Its design principles maximize interoperability in order to facilitate integration with other hospital and community information systems, security, and readiness for change.

For our patients, the system will allow them to "take information with them" if they cross service areas and hospital boundaries and reduce information collection redundancy. For clinicians, it will provide patient information and reports quickly and easily, facilitate timely decision making and enhance case management wherever our patients make contact with our services. And, for managers it will readily provide such key information as patient volumes and demographics, waiting time, discharge and flow rates.

This presentation will speak to the business improvements achieved and the technical challenges encountered with the information system. A demonstration of the application will be provided.

Building Capacity for Health Information Systems in Former Soviet Countries

- Chris Rosene

This presentation provides an overview of the work of the Canadian Society for International Health (CSIH) in assisting former Soviet countries in achieving health reform through the development of health information systems. The Trans Caucasus Health Information Project (TCHIP) – involving Armenia, Azerbaijan, and Georgia --is enhancing institutional capacity to collect data that is valid, reliable, and relevant, and then use this information to support effective decision-making in health. A similar project is being developed for Ukraine, building on our previous work in support of health reform in that country.

The Trans Caucasus countries and Ukraine are facing, to different degrees, many challenges typical of post-Soviet nations, including deteriorating socio-economic conditions, political instability, lack of infrastructure and equipment (particularly at the local levels), insufficient communication among key health institutions, and a centralized "top-down" approach to planning. Furthermore, more work is necessary to improve former standards in data collection and adapt them to those recognized internationally.

Through training, and using data that is already being collected in the countries, CSIH is assisting local ministries of health in designing health information systems that meet the needs of health service providers, administrators, planners, and decision-makers at all levels. Our premise is that reliable and effective health information systems can lead to more effective health policies and outcomes.

The Trans Caucasus project is funded by the Canadian International Development Agency. Technical partners include the School of Health Information Science at the University of Victoria and the World Health Organization (WHO) Regional Office for Europe.

Effectiveness of a Telelearning Strategy for Community-Based Nurses Working in Remote and Isolated Areas

- Marilynne Hebert

Health care professionals working in remote and isolated areas have reduced access to collegial support and continuing education, which are assumed to directly affect recruitment and retention. These in turn are expected to affect patient care. While their professional associations provide information to maintain and update knowledge and skills, it is difficult to combine this with collegial interaction and support at a reasonable cost.

The Health Telematics Unit at University of Calgary and the Victorian Order of Nurses National Office in Ottawa are initiating a research project to examine issues of access, timeliness and relevancy of educational offerings provided in two different formats – traditional classroom instruction and distance education through on-line telelearning delivery.

The project will:

- evaluate effectiveness of a telelearning strategy to increase access to continuing education around a care practice;
- determine effects of web-based learning on the nurses' work environment (as evidenced through changes in job satisfaction, perceptions of value in recruitment and retention).
- determine changes in practice (as evidenced by patient outcome measures).

Results of this research will provide input into the VON's strategic, national approach to education and training of service providers and offer direction for gaining efficiencies and increased effectiveness. While Registered Nurses (RN's) are the intended audience for this telelearning project, a number of health care organizations with professionals providing care in remote and isolated areas in Canada will benefit from the results of this study.

Ontario Criticall Program and Ontario Resource Registry

- Frank Baillie

The Ontario CritiCall Program is a partnership of Ontario's "one-number- to-call" emergency patient referral programs. Its mandate is to facilitate the emergency patient referral process by assisting physicians in smaller communities to access the resources of the larger tertiary care hospitals in their regions. The partners include the tertiary care hospitals in Hamilton, Kingston, Ottawa / Carleton, Toronto, Thunder Bay, Sudbury and London.

Successfully managing emergency patient referrals requires the call takers to have immediate access to accurate bed and resource availability for each participating hospital, as well as physician contact numbers for those on-call for each of 50 medical specialties. To manage this information, CritiCall pioneered the development of the Ontario Central Bed and Resource Registry.

The Ontario Resource Registry is resident on the Internet, encrypted to assure privacy and accessible to all participating hospitals. The system assures effective, accurate and economical call handling to the benefit of both regional and central operations. The Resource Registry details bed availability by service, maternal and neonatal intensive care resources, ICU status and trauma status, as well as contact information for specialists on call in Ontario's Hospitals. The system is now in use by about 140 Ontario hospitals, with development continuing to link all remaining hospitals in the coming year. Information is regularly updated by staff in Ontario's hospitals via their own Internet connections, because the system is a valuable tool for the participants.

This key philosophy has been a primary reason for the program's success. CritiCall gains consistently accurate, up-to-date information about resources in Ontario's hospitals and allows us to function effectively. The participating hospitals and the Ministry of Health have a valuable resource that lets them manage their resources efficiently.

Cost-Benefit Evaluation of Telehealth Implementation Implications for Regions and Communities

•• Penny Jennett

Telehealth has the potential to change the way health providers deliver care, access clinical information for decision-making, and learn. It also can enable how communities and consumers make informed decisions about their health and health needs. Policy makers are aware that telehealth applications can influence access, benefits, and quality. Applications are currently being implemented in every Canadian province and territory. Traditional economic evaluation frameworks, however, have been somewhat wanting in their ability to capture the net direct and indirect benefits of telehealth implementation, particularly from the social perspective. This presentation will discuss the development of a conceptual cost-benefit evaluation framework specific to practical telehealth implementation targeted for health authorities, regions and communities.

The framework is targeted to enable policy makers to estimate the practical benefits and costs of telehealth applications for the public sector, caregivers, and consumers, with the endpoint of sustainable telehealth systems which contribute to access and quality. Specifically, the assumptions, concepts, data elements, generic economic questions, policy issues, and challenges within the framework specific to the potential costs and savings will be discussed. The work draws on recent parallel queries occurring in Queensland, Australia.

A Study for Building a Telephone-based Hospital Registration System on Automated Speech Recognition Technology

• Dah-Dian Tang

Most of current Automated Registration System in hospitals uses touch-tone IVR (Interactive Voice Response) operation. Patients should prepare all requisite codes for registration and touches many times on telephone keypads to complete a registration procedure. This is not only inconvenient but also wasting time's causes by frequent miss typing.

For decades of endeavor on the studies of ASR (Automated Speech Recognition), this technology is ready now and commercial applications for multiple languages are available as well. Mandarin recognition, though, is coming up latter, but begins to become sophisticated soon. This research introduces a top-notch recognition technology, which deploys SR (Speech Recognition), SU (Speech Understanding) and DC (Dialogue Control), and tailored into Mandarin environment. A pioneered ASR registration system will be introduced to Taipei Veterans General Hospital (VGHTPE)hereafter.

The ASR technology can apply to many areas in the hospital. For example, the doctors can prescribe treatment directly through the microphone, or check patients' medical records by speaking their names. It will definitely improve the service quality and raise reputation. It will form the infrastructure for related applications as well.

Trevor → data collection via palmtops.

Palmtop Computers for Field Data Capture and Transport in Community Health and Public Health Practice and Research

- Roberto Rodrigues www.paho.org

The authors discuss the applicability of portable palmtop personal computers (P/PCs) in the development and use of computer-based forms to assist field data capture and transport of recorded data. Gains include the elimination of paper forms and data transcription, replaced by digital forms; consistency checking at the time of data capture; and facilitation of data transport and export to a variety of desktop data processing applications. Technological and market trends, increasing machine resources and capabilities, ease of use by individuals with limited skills, and diminishing costs recommend palmtop computers as useful mobile tools for health data recording and transport. The new generation of palmtop devices is most appropriate to field conditions – they are rugged, operate on batteries for extended periods, and can support a vast range of public health, primary care, home care, and environmental health data capture and communication needs.

Telepsychiatry: Under Appreciated Barriers to Implementation

- Harry Karlinsky

The implementation of a telepsychiatry pilot project is currently underway in the Peace Liard and North West Health Regions, British Columbia (BC), Canada. Using two-way interactive videoconferencing technology, the primary goal of the initiative is to provide under-serviced communities of the Northern BC with increased access to psychiatric services. To date, the challenges to implementation have included a number of known barriers already well described in the telehealth/telemedicine literature, including physician reimbursement, licensing and credentialing; sustainable funding; medical practice liability; security and confidentiality of transmitted information; affordable long distance communication costs; and user-friendly technology. Additionally, within the remote communities themselves, other less well documented but equally challenging potential barriers have also been encountered. These obstacles have included developing a cohesive community vision for the location of the videoconferencing equipment as well as the clinical protocol, assembling the roster of available consultants, balancing the retention of traditional outreach psychiatric services (where the consultant visits the community) with the cost-effectiveness of the videoconferencing alternative, and constructing ethically and legally appropriate consent forms and information sheets. Drawing upon the northern BC experience, this presentation will highlight some of these less appreciated but very real "micro" barriers to implementation as well as practical recommendations for their solution.

Mental Health Evaluation & Community Consultation Unit
MHECCU Fort Nelson
Fort St John
Dawson Creek

Archived webcasts http://www.mhecca.ubc.ca/telemental health/

Maintaining Knowledge In Professional Practice: The Discipline Side to Information

- Katherine Corbett

In making administrative changes, there is a common assumption that everything will stay the same except those pieces that are consciously ear marked for change. This paper draws into question the assumed stability of the basic building blocks of health service - the knowledge of the individual, discipline specific health practitioner. This paper uses the experience of program management to question the assumption that health professionals can maintain their discipline specific knowledge and expertise regardless of their practice environment. Further the paper questions the availability of professional supports, which will be necessary to maintain individual discipline specific competencies.

Physician Information Officer (PIO)

- Grace Chandy

Scope: Responsible for identifying, developing, implementing and evaluating strategies to support the information management needs of physicians within the Simon Fraser Health Region. Act as liaison between Physicians, Information Services and other departments on matters relating to Information Management.

The presentation will cover:

- What is a Physician Information Officer (PIO)?
- Why we need a PIO in a health region?
- What are the information objectives for the Region and Information Services Division?

I will share with you the goals achieved within the first year.

- Communication strategies
- Physician Information Advisory Council
- Physician Computer education and training
- Strategies towards Electronic Health Records
- Challenges of security and confidentiality
- Problems, opportunities and solutions within the SFHR physician community

Future Plans:

- Community Health Information Network (CHIN)
- Knowledge Management
- Web Page
- Publications and presentations (external and internal)
- Plan now to attend this exciting and informative session.

Utility and Effectiveness of a Decision-Analysis Computer Simulation Framework for Graduate Health Sciences Students

- Geoffrey Gurd

The presentation reports on results from a study of a computer simulation program for community health program planning. A decision-analysis framework was developed by a multi-disciplinary committee according to a multiple intervention model (MIPE) using the whatIf? decision aid simulation tool by Robbert Associates and developed for the problem of falls among seniors. The software program was tested on health sciences students.

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EVIDENCE BASED HEALTH CARE

Information Systems and Evidence-Based Health Practice

- Roberto Rodrigues

Growing importance is being given to the application of best current evidence in decision making in clinical practice and health services management. A review of issues related to the role of information in Evidence-based Practice (EBP) and a discussion on how advanced information systems and technology (IS&T) can contribute to the establishment of a broader perspective for EBP are presented. Opportunities and challenges in the implementation and use of IS&T and knowledge management tools are examined. Reference Databases, Contextual Data, Clinical Data Repositories (Clinical Databases), Administrative Data Repositories, Decision Support Software, and Internet-Based Interactive Health Information and Communication applications can effectively support EBP. They follow a hierarchy in which systems tasks range in complexity, from reference retrieval and the processing of relatively routine transactions, to complex data mining and rule-driven decision support systems.

Using Population Health Data to Assess the Need and Provision of Stroke Services in Eastern Ontario

- Heather Grant

The Health Information Partnership (HIP) provides data and information to health units, District Health Councils and academic health science centres to support knowledge-based health planning and policy development. In conjunction with the Queen's Health Policy Research Unit, the HIP applied an epidemiological approach to needs assessment to the Eastern Ontario Region.

The objective of this study was to determine whether population health data could be used to identify discrepancies between the estimated need and the provision of health services for stroke. This required: 1) identifying conditions related to stroke (ie. risk factors, acute cases and major sequelae); 2) estimating the incidence and/or prevalence of these conditions in Eastern Ontario by applying existing survey and stroke registry data to population data; 3) identifying effective health services targeting each stroke dimension; 4) linking these steps to estimate the number of required health services (ie. need); 5) determining the number of services received by the population as obtained from sources such as the 1996/97 Ontario Health Survey , the 1992 Canadian Heart Health Survey, the Canadian Disease and

Using Population Health Data to Assess the Need and Provision of Stroke Services in Eastern Ontario (cont'd)

Therapeutic Index database and the Ontario Ministry of Health's Population Health Planning database; and 6) comparing the need to the provision of services.

With the exception of carotid endarterectomy, there was consistent under-provision of beneficial stroke-related health services in the Eastern Ontario region in 1996. The usefulness of this needs assessment model lies in its ability to use existing administrative data to predict future needs and to inform health policy planners of gaps in the provision of effective stroke services.

WWW.HIP.ON.CA Technical Report

The Dissemination and Uptake of Best Practices in Community Health: A Report of a National Project

- Geoffrey Gurd

The presentation reported on results from a national study funded by the Office of Learning Technologies of Human Resources Development Canada.

NB comparative training face-to-face vs. on-line

One hundred and twelve public health professionals from across Canada were recruited for a randomized controlled trial. Participants received face-to-face or on-line training on the Internet and logic model during the fall of 1999, and in January 2000 were randomized to begin receiving best practice information in four knowledge domains (fall injury prevention, HIV prevention, postpartum follow-up and exercise promotion), either by mail or via an interactive web site.

The presentation reported findings from questionnaires distributed before and after the Internet and logic model training workshops. This includes data on demographics, internet knowledge, attitudes towards computers, computer skill level, and computer confidence level. While this article reports on two months of activity, the presentation at the conference reported on four months worth of data.

www.unaids.org/bestpractice/Summary/introduction.html
* defn of best practice

England's National Health Information Strategy: Is Primary Care The Priority?

- Denis Protti

On September 24, 1998, under a new Labour Government, England's Secretary of State for Health released "Information for Health: An Information Strategy for the Modern NHS 1998 – 2005". The new Strategy was a re-focusing of IM&T efforts, which had been in place since 1991 under the previous Conservative Party. Tony Blair, the Prime Minister, set the tone for the new Strategy in July 1998 with a public address on the topic "The challenge for the NHS is to harness the information revolution and use it to benefit patients". The Strategy is an aggressive clinically oriented plan to modernise the NHS through better information and information technology. Thirty-six national and local targets and 81 action items were set for 2000, 2002 and 2005. The targets set for the Year 2000 include: ensuring the NHS copes with the millennium (Year 2000) problem, developing initial Local Implementation Strategies, completion of essential infrastructure, connecting all computerised GP practices to NHSnet, offering NHS Direct services to the whole population, completing the national NHS email project, establishing local Health Informatics Services, completion of the cancer information strategy, and completing beacon Electronic Health Record (EHR) sites plans. This paper will review the progress to-date, with a particular emphasis as to the degree to which the primary care agenda is being supported and whether or not it is indeed priority #1. The author's assessment is based on having been an external reviewer of the draft Strategy in the summer of 1998 and an on-site visit to England in the fall of 1999 to assist in developing an evaluation methodology for the Strategy. The paper will also identify the risks to the Strategy, the nation's state of readiness to implement the Strategy, and the likelihood of the Year 2000 targets being met.

Detection of pre-diabetics by Dermatoglyphics: results of a computer study

- Bernard Richards

This research is concerned with a technique for screening very young children to test whether they are likely to develop diabetes in later life. Such advance warning is very valuable to the parents and to the family doctor. The technique is non-invasive and cheap and can therefore be used by the GP and by community health workers as no additional equipment is required. Because no laboratory facilities are needed, this technique has value in rural and remote areas The Study compared palmar-prints of children with Diabetes against normal children, the result being a set of criteria which would enable the doctor to identify those children who were disposed to develop Diabetes in later life.

The technique consists of taking ink-prints of the palm, and therefore also the finger pads, of both hands and measuring the parameters associated with these palmar prints. The parameters showing disciminatory results are the distance b-c on the right hand and the position of the Axial Tri-radius on either hand. These results will be applicable to either sex.

Ethical Issues of Telemedicine in the U.K

- David Preston

The economic growth of a country is greatly influenced by the health and welfare of its population. There is great emphasis for efficient, affective, effective and quality health care. Technology is a vital commodity that continues to evolve and introduce new as well as diversified techniques to better our lifestyles. One new concept that is widely adopted in the health care sector today is, Telemedicine.

Despite holding the key to quality and quantitative improvements towards society the current dilemma is the ethical aspects of Telemedicine. The challenge is whether a relationship exists, confidentiality is preserved, security of data transmitted, ownership of data and legal obligation in terms of liability are met to ensure that Telemedicine does not in any way compromise the standards of the medical care given. This can be successfully overcome if there is an ethical framework.

For the purpose of this paper we shall focus our attention on introducing Telemedicine. Having established its roots and current development we investigate the ethical constraints that seem to be the potential threat to the success of Telemedicine. The results that are gathered from contacting various sources will then be analysed.

An investigation from the information gathered will determine if an ethical framework exists. From the existing framework we explore and identify areas that are in need for improvement.

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POPULATION-BASED SYSTEMS

Evaluation of Large Public Clinical Renal Databases

- Carol Wilcox

End stage renal disease is the 6th leading cause of death in Canada. The national average annual dialysis cost is $50,000 per patient. Treatment patterns and outcomes in this high cost, low volume renal replacement therapy differ markedly. The prevalence of renal disease while the renal death rate has remained relatively steady.

Like many clinical databases today, renal data systems began as manually recorded special-interest local-area registries. When transferred to computers, their effectiveness was limited by poor design, cost and available expertise and lack of agreement as to what constitutes an objective, comprehensive observational renal database. Such a database is needed to support the data and queries for administration and audit, data interchange, public relations and financing, epidemiological trending, evaluation of effectiveness of interventions across sites and research into low incidence and prevalence renal diseases.

The function, advantages and problems of several public renal databases used in Canada, the US, and Europe are reviewed and critiqued. The comparative advantages of small- and large-area database applications are critiqued and discussed. Small-area variation and member compliance is examined. Finally, recommendations are proposed to enhance the power and quality of clinical databases in the future. A model relational database is proposed for use in the treatment of renal disease in Canada.

Multimedia Courseware for Senior High School Students to Help Prevent the Spread of HIV

- Tsutomu Matsumoto

Public health information campaigns and education are the best vaccine against HIV. The activities of the ministry of Welfare in Japan have had no effect in removing discrimination and bias against HIV carriers. Furthermore public morals are lax and this has led to teens engaging in high-risk sexual behavior. This circumstance requires educators to develop courseware, which educates students and teachers alike about the prevention, transmission and treatment of HIV. Students should learn not only the most up to date medical information but also how to live with a carrier and how life as a carrier is. The courseware contains twenty-seven pages; each page consists of manuscript, narration, pictures and images. This courseware was used by approximately eight hundreds students in grade ten and grade eleven. The students used the courseware for two periods. We have some good feed back from students after class. In this report we describe the design of multimedia courseware for HIV and the results of practical usage in the class.

Developing an Information Infrastructure to Respond to Vancouver's HIV Epidemic: The Datawarehouse Approach

- Jason Holmes

Vancouver has experienced one of North America's worst epidemics of blood-borne pathogens, including HIV and HCV. Transmission continues to occur among increasingly marginalized populations, including those who are mentally ill, addicted, homeless, living in extreme poverty, involved in the sex trade and facing cultural barriers. The full impact of this outbreak is yet to come in terms of demands on community services and the health care system.

The Vancouver HIV/AIDS Care Co-ordinating Committee (VH/ACCC) is a multi-stakeholder committee comprised of over fifty consumer groups, non-profit organizations and government agencies from various sectors including health, social services, housing, education, and justice.

VH/ACCC's mission: to maximize information sharing, collaboration, planning and action by organizations with the potential to reduce the vulnerability of the general population and population groups to HIV infection, and to improve the health of populations infected and affected by HIV/AIDS.

VH/ACCC's current strategic plan uses a population health framework emphasizing the social determinants of health. The committee has identified current and emerging issues in HIV/AIDS epidemiology, research, education, prevention, care, treatment and support, and developed collaborative approaches to address these issues.

To achieve its mission, VH/ACCC recognized it had to develop both an information infrastructure and the capacity of members to conduct evidence-based decision making.

The challenge: identifying an information infrastructure which reflects the multi-factorial nature of the HIV epidemic and the corresponding complexity of data currently collected.

The solution: datawarehousing will enable the committee to identify trends and correlations within and between population groups, to build profiles and to design, implement and evaluate targeted programs.

Human Factors

Social and Cultural Ethics of New Technology *HFs Consideration*

- Rabiul Ahasan

Recently, with the global free market opportunity, the corresponding flow of various products, machinery and technologies across various ethnic and cultural borders rise questions on differing work practices and social changes. With the wide variation of social norms in different nations, rapidly changing technology needs to be adapted. The human factors associated with adapting a new technology to be suitable for a particular society should focus on various aspects of the users' physical, environmental and cognitive capacities. In addition, users' culture, language, perceived skills, educational level and standards of living are important. Other key elements are global economics, peculiar politics, and complex organisational structures and management system. Without due consideration of the level, type and infrastructure, maintainability and sensitivity of the socio-cultural norm, implementation of technology could unlikely be nonergonomic in terms of mismatching the users' system and human suffering. In this context, socio-technical aspects are explored in this paper, which are potential to the ever-changing situations of technological research and development.

Real Issue: How we think, organize, make decisions ... w/ health systems by not about applying tech but in thinking about problem

Avoiding Crisis Culture: Visualizing the Deep Structure of Health Care Capacity

- Shannon Turner

A culture of on-going crisis has arisen in the Canadian Health Care system. The symptoms are well known: lengthy waitlists, emergency room blockages, chronic bed shortages, and over-stressed caregivers. Beyond the political economics of the situation, are there deep systemic problems with health care planning and management that are not getting attention?

Whole systems analysis indicates that management attitudes, with narrowly focused performance measures and cost containment, which constitute a "paradigm of fragmentation", contribute greatly to the stress by inducing chaos. Recognition of the complex interdependencies and underlying coherence present in the system is required in our information systems. The integration capabilities that result will be demonstrated by animated models of health care delivery.

Implementation of this approach, called Dynamic Model-Based Management (DMBM) has been successfully applied in large logistics systems and industry in Australia. In Canadian health care, its application can produce an Integrated Delivery System capable of managing service capacity by accounting for the dynamics and context of health care. A powerful aspect of this "whole systems" approach is that it can be used for everyday operational scheduling and planning. DMBM provides a means for challenging our basic assumptions about how systems work and what is cost effective. It can be the path by which complexity is managed and real problems are solved.

"decision Culture" ↳ org. become what we measure,

"Coherence" Paradigm

Skills Enhancement for Health Surveillance: Training Public Health for the 21st century

- Jennifer Sealy

Expert analysis and interpretation of complex data interrelationships is important to the success of health surveillance programs. The Skills Enhancement for Health Surveillance project will help partners acquire the skills necessary to deliver effective surveillance. A needs assessment will be done and Internet-based learning tools will be developed to maintain and improve the skills of public health staff so that they will be better equipped to use the increasing information. The presentation will include a description of current and planned activities to support skill development.

* Accessibility limited by ↓ ability to use info

Issues and lessons learned in the development of a multi-level performance measurement system for addiction services in Ontario

- Brian Rush

Across Canada the specialized sector of community services for the treatment of addiction, including gambling, has been developing performance measurement systems. This paper reports on a decade-long process of developing, pilot testing and implementing a multi-level accountability framework for the approximately 200 addiction treatment services in Ontario. The framework has four components - the assessment of service availability; service utilization, including client characteristics; client outcomes; and service costs. Development of the individual components of the framework across this sector of services has been characterized by extensive stakeholder consultation; pilot testing and quality improvement of the data collection and feedback systems; and application of the information at the agency, district and provincial levels for planning and evaluation. A major focus of this presentation will be the results and lessons learned in the recently completed pilot test of the provincial outcome and costing components of the framework.

UNDERSTANDING INFORMATION NEEDS

Information Management in Public Health: The British Columbia Experience

- Layton Engwer

1. Pilot to Provincial Roll Out

An overview of the Public Health Information System from pilot to provincial roll out will be presented. The process and strategies used to roll out the system across the province will be highlighted with emphasis on the following:

2. Information management across multiple regional organizations

Given regionalization in BC, implementation was across many separate organizations with different organizational structures and resources available. In addition, the organizations provide services within urban and rural communities.

3. Data sharing, to improve the quality of service provided

Public Health Services necessitate the sharing of data between regions. The process to develop data sharing will be outlined.

4. User Training across the province with limited funds and tight time lines

A unique training program was introduced to educate the users on the new system and to develop capacities in the regions.

5. Benefits accrued to all the partners

Significant benefits accrued to all partners in the project. The benefits and the potential of these benefits to improve the health of communities will be presented.

Understanding the Use of Health Information by Youth: The Role of Information Technology in Equity and Access

- Sherry Biscope

Youth are immersed in technology. The Internet and other technologies (e-mail, cellular phones, pagers, web phones and video) are growing in popularity generally and specifically for health related uses. This explosion of growth creates exciting and novel ways for addressing the health resource needs of youth in larger numbers than previously possible. The proliferation of health-related applications raises questions of quality and whether or not these applications are addressing youth needs in a relevant and responsive manner. Applications need to be useful to their targeted audiences not just dazzling.

A series of 28 focus groups were conducted in the winter of 2000 gathering youth's experiences and views regarding health resources and technology. The focus groups were structured on a matrix of: age, sex, geography and culture. The outcome of this participatory research design was a best practices outline to more effectively engage and link youth to health resources through technology.

This presentation will explore the preliminary results of the focus groups and present a draft of the Best Practices of Engaging Youth in Health Promotion via Information Technology.

Health Information System Planning and Development in Countries of the Former Soviet Union

- Paul Fisher

More than 10 years after the break-up of the Soviet Union most of its former states are still struggling with the transition from "command"-based to "market"-based operations. The health care systems of these countries are no exception. It is not simply a matter of these countries acquiring the resources and infrastructure needed to deliver health care services, but, as a first step, of determining what resources and infrastructure are needed to build health care systems to effectively and efficiently address the real health care needs of the regions. The introduction of appropriately structured health information systems for the collection, processing and distribution of health care data and information, has been identified as a pivotal step in successfully making the transition to a truly responsive system of health care services. The author's work with the Canadian Society for International Health in Ukraine, Georgia and Armenia over the last 3 years provides examples of the advances that have been realized and the challenges that remain to be addressed.

The lack of liquid cash assets is certainly a grave problem for all of these countries, but even if they had the money, there is a lack of information with which do any but the most basic health care system planning. The governments of these countries remain strategically impotent in terms of health care planning without accurate geographic and demographic, health and disease profiles and the information systems and infrastructure required to develop these profiles and keep them current. The result is that resource distribution is not, and cannot be, mapped to the health care needs of the populations. Initial projects aimed at filling this data "void" involve the training of existing professionals in health information management and strategic health care planning the development of of information systems that use minimum hardware and software configurations. These efforts are in the form of peri-natal child and maternal health promotion demonstration projects since the need is most apparent in this sector and the need can be addressed most economically by health promotion. However, the health information management training and education acquired in the course of the projects is intended to be laterally transportable into other health care sector.

Research Meets Reality: Administrative Data to Guide Planning for Canadian Regional Health Authorities

- Janice Roberts

This study describes a population health information system (POPULIS), which uses administrative files to provide profile data at the regional and sub-regional levels and facilitate comparisons with provincial and Regional Health Authority (RHA) averages. Key indicators include an index of socio-economic factors, premature mortality rate, measures of health service supply and distribution (physicians, hospital beds, and nursing home beds), and measures of service use.

The role of POPULIS in health planning is illustrated using data from fiscal years 1995 through 1997 for Manitoba's rural South Eastman RHA. Despite South Eastman's relatively high standard of living and overall ease of access to urban centres, POPULIS analyses highlighted three areas of immediate concern: the relatively poor health status and high risk for poor health among residents of the RHA's Southern District, physician maldistribution, and inconsistent patterns of service utilization.

POPULIS data have proven central to the South Eastman strategic planning process. Based on the data, the RHA has begun to address regional imbalances by improving population access to primary health care.

Appropriately analyzed administrative data provide cost-effective and timely information not readily obtainable using other methodologies. The POPULIS-based approach draws attention to problem areas and to potential impacts of changes in service delivery, not only on resource distribution and efficiencies, but on levels of population health. As more jurisdictions move towards basing service delivery on evidence of population needs, the principles underlying POPULIS have increasing applicability beyond Manitoba.

Managing Knowledge: the Manitoba Experience

- Charles Burchill

The Manitoba Centre for Health Policy and Evaluation has developed a strategy for managing the knowledge it has developed about health and health care. The strategy involves: a)organizing key concepts as publicly accessible on the Internet, b)presenting reader-friendly documents and Powerpoint presentations to accompany the release of Centre deliverables to the provincial government, c)taking advantage of abstracts generated by Pub Med.

These building blocks can then be put together to: 1) teach students and fellows at all levels. Such material can be readily constructed for courses and lectures which will have a world wide reach. 2) complement normal efforts at dissemination of research results. The documents can provide more in-depth information through links to maps, concepts, and abstracts. Examples of this synergy can be viewed through the MCHPE home page at: http://www.umanitoba.ca/centres/mchpe


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