

**Population Health:
A Canadian perspective
on opportunities and challenges for
developing health statistics
and health information**

Presentation to NCVHS

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Canadian landmarks:

1974: A New Perspective on the Health of Canadians

1986: Ottawa Charter on Health Promotion

1994: Why Are Some People Healthy and Others Not?



Canadian landmarks:

1994: Strategies for Population Health: Investing in the Health of Canadians

1997: National Forum on Health

1999: Developmental Health & the Wealth of Nations: Social, Biological & Educational Dynamics



What is Population Health?

Population health refers to the health of a population as measured by health status indicators and as influenced by social, economic and physical environments, personal health practices, individual capacity and coping skills, human biology, early childhood development, and health services. (ACPH 1997)



What is Population Health?

As an approach, involves measurement of health status, analysis of the health issue, applying resulting knowledge to develop policies and actions to improve health and well-being, and evaluating results. (ACPH 1997)

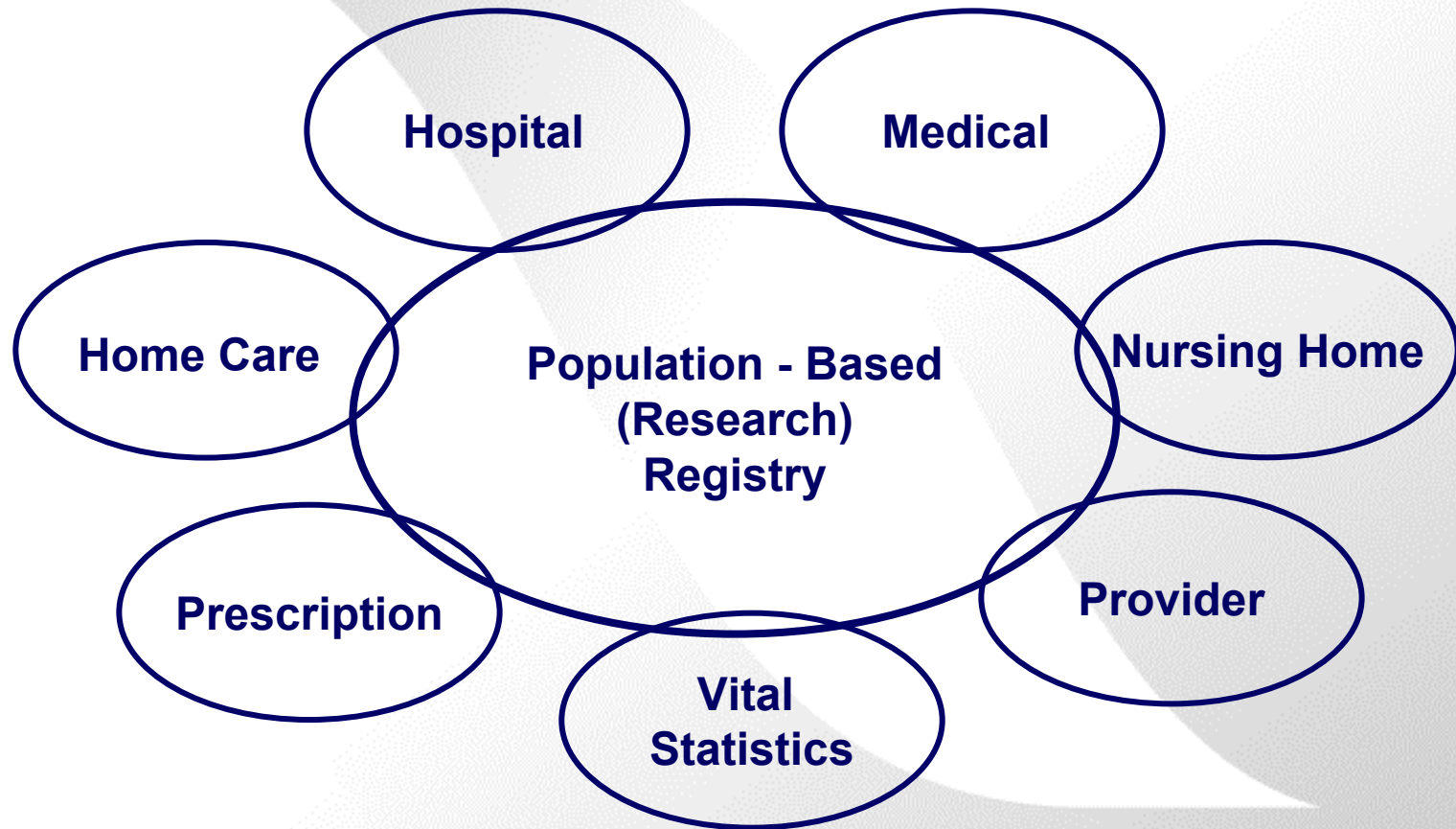


What is a health information system?

A health information system has as a primary goal the transformation of data into information useful for planning and decision-making about programs and policies relating to health and health care



The strength of Canadian provincial administrative data systems



What have we learned?

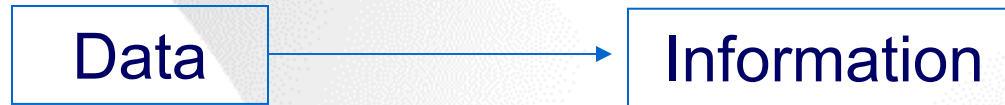
“Data are unlike other tools... They provide the raw material from which information can be created...unlike printed tables which, like a postcard, provide a larger view of a larger phenomenon, data can act as a camera, allowing the researcher to manipulate the background, change the foreground and more fully investigate the object under study.”

Watkins W. The Data Liberation Initiative: A new cooperative model.
EI Partnerships Dec 1994 - Feb 1995



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Development of key concepts and indicators

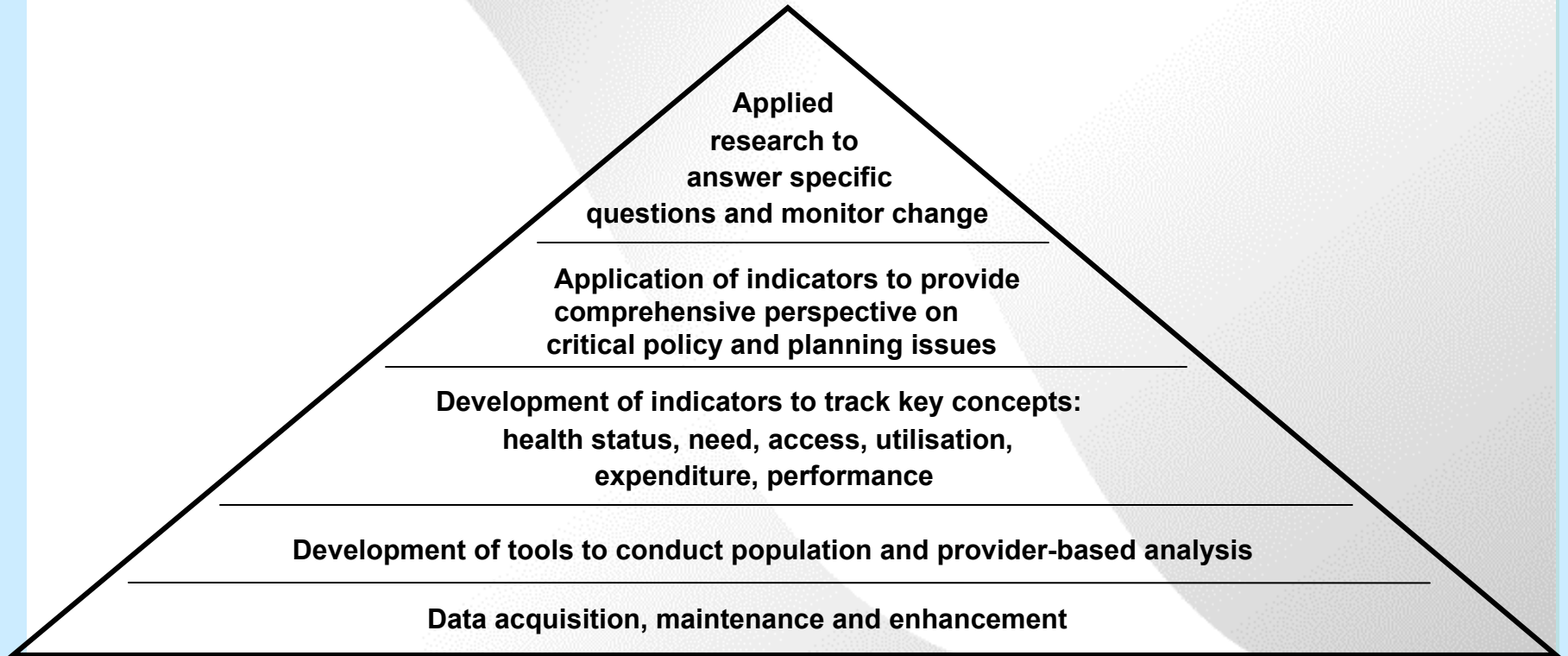


- Population Registry
- Utilization Records:
 - Physician
 - Hospital
 - PCH
- Census Results
- Vital Statistics

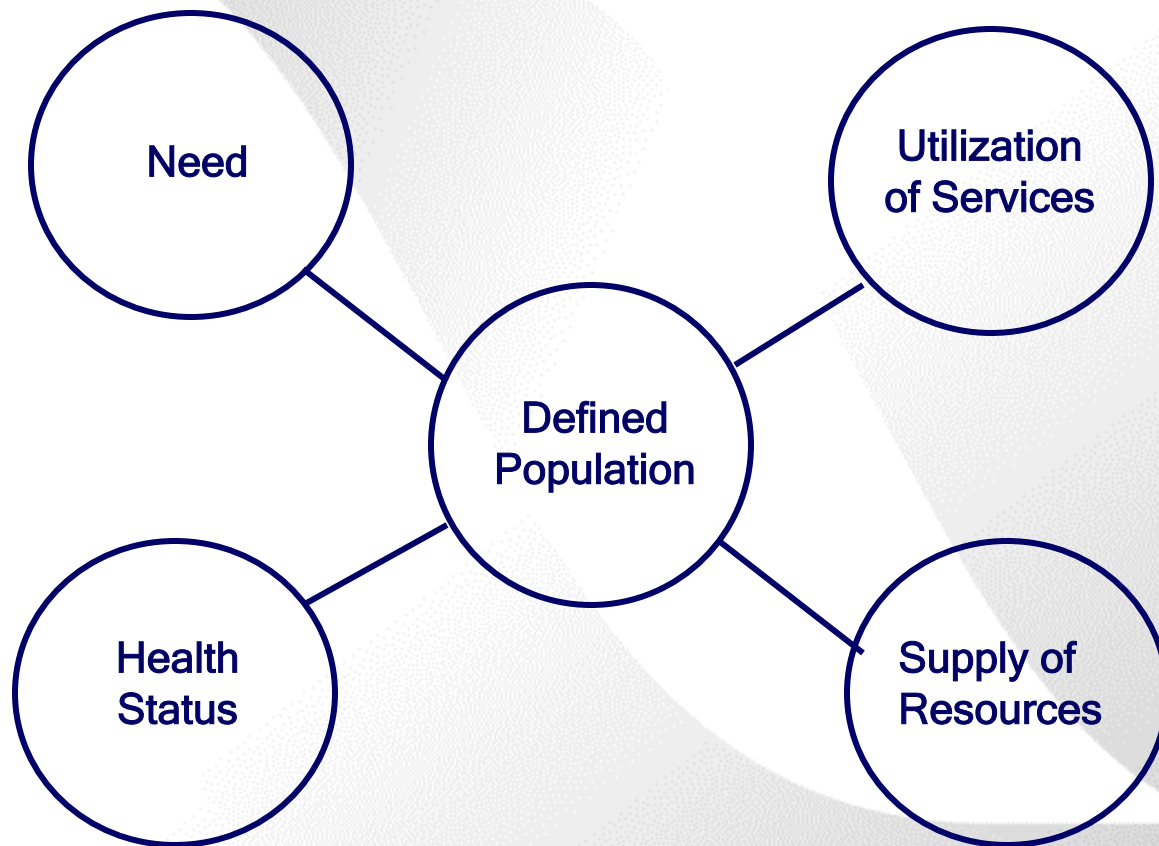
- Need
- Health Status
- Utilization of Services
- Supply of Resources



Translating data into information to support policy and planning



The power of comparative population-based analysis



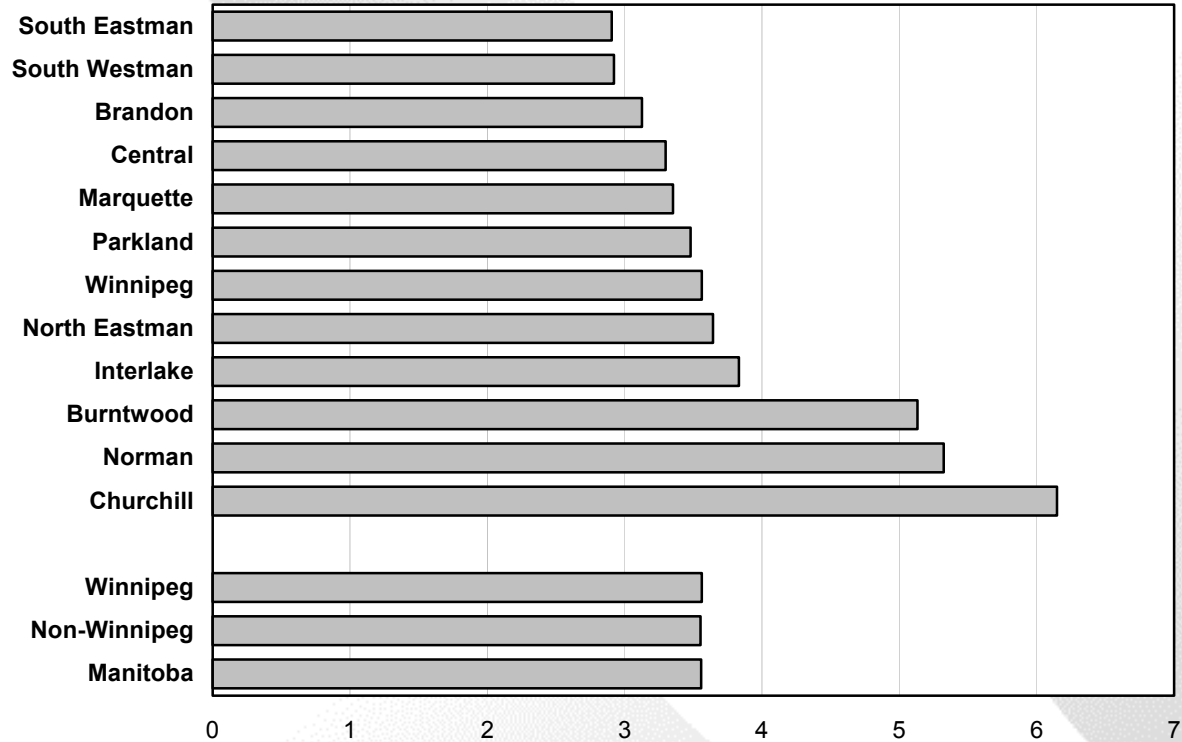
The Population Health Perspective: What's different?

- Reorients us to consider health and the improvement of health as fundamental goals
- Encourages us to think of populations defined by characteristics other than by their interactions with the medical care system
- Encourages us to consider a broader range of factors that influence health
- Encourages us to consider marginal contributions of our investments

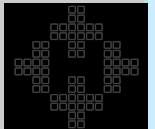


Premature Mortality Rates, 1991-1995

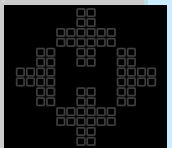
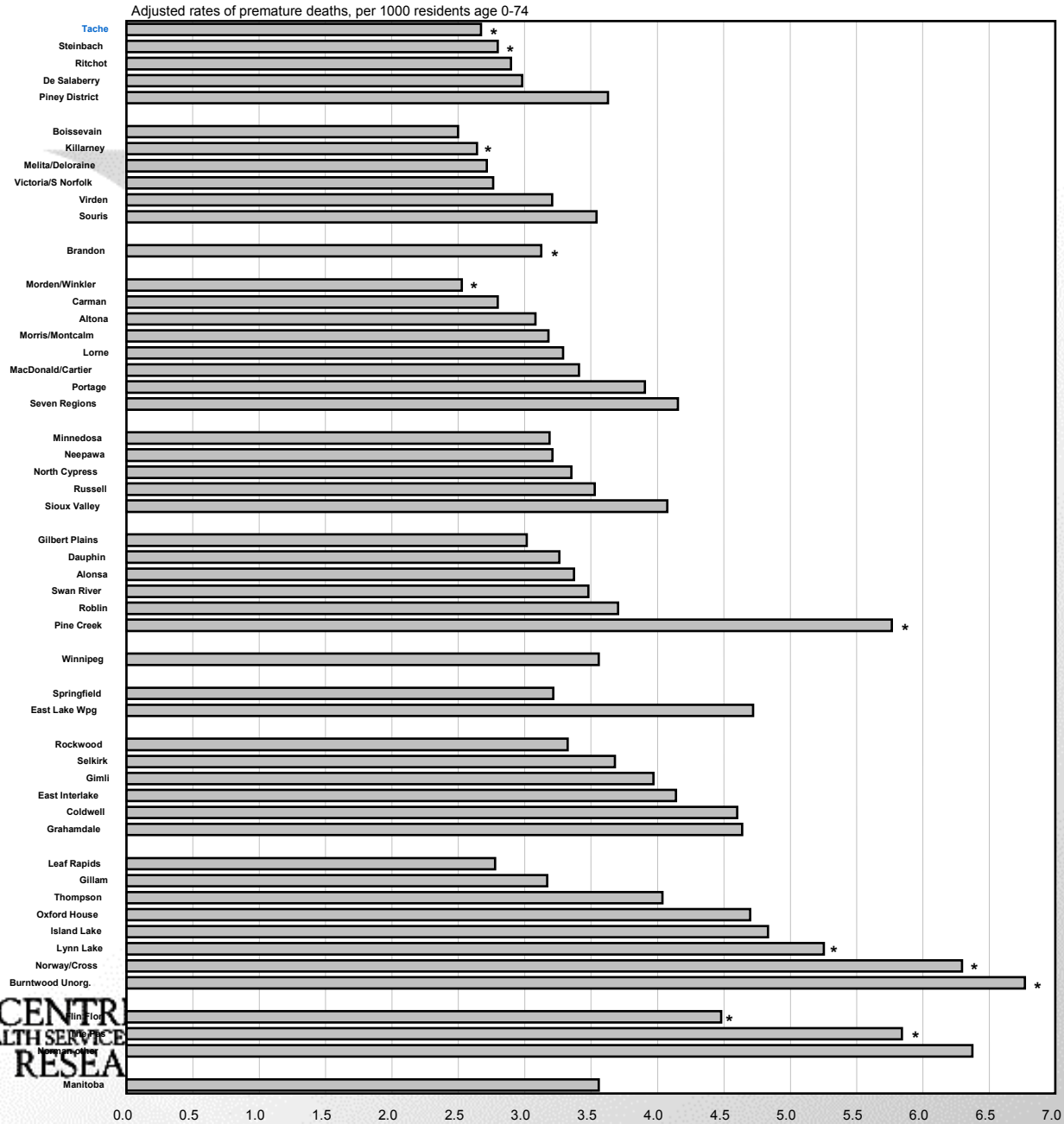
Adjusted rates of premature deaths, per 1000 residents age 0-74



* Indicates rate is statistically different from the Manitoba average.

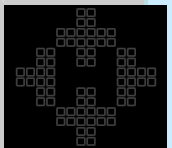
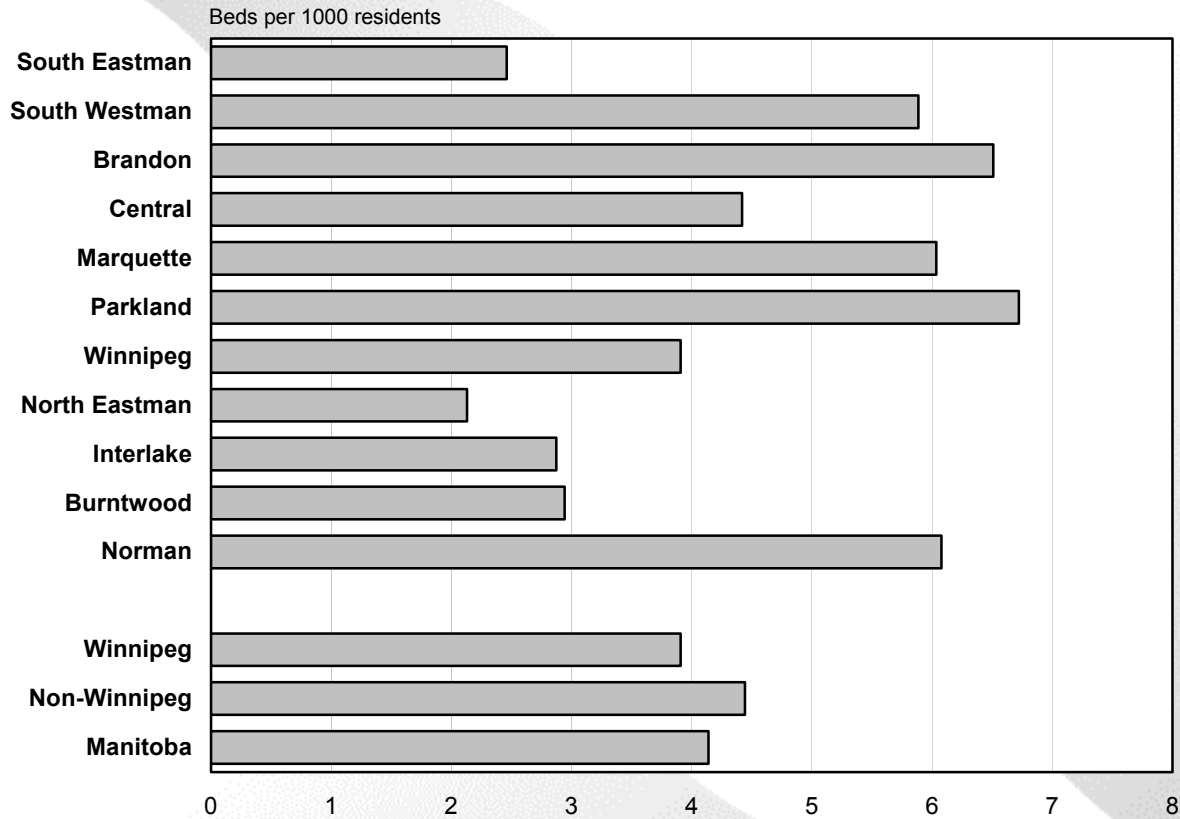


Premature Mortality Rates, 1991-1995



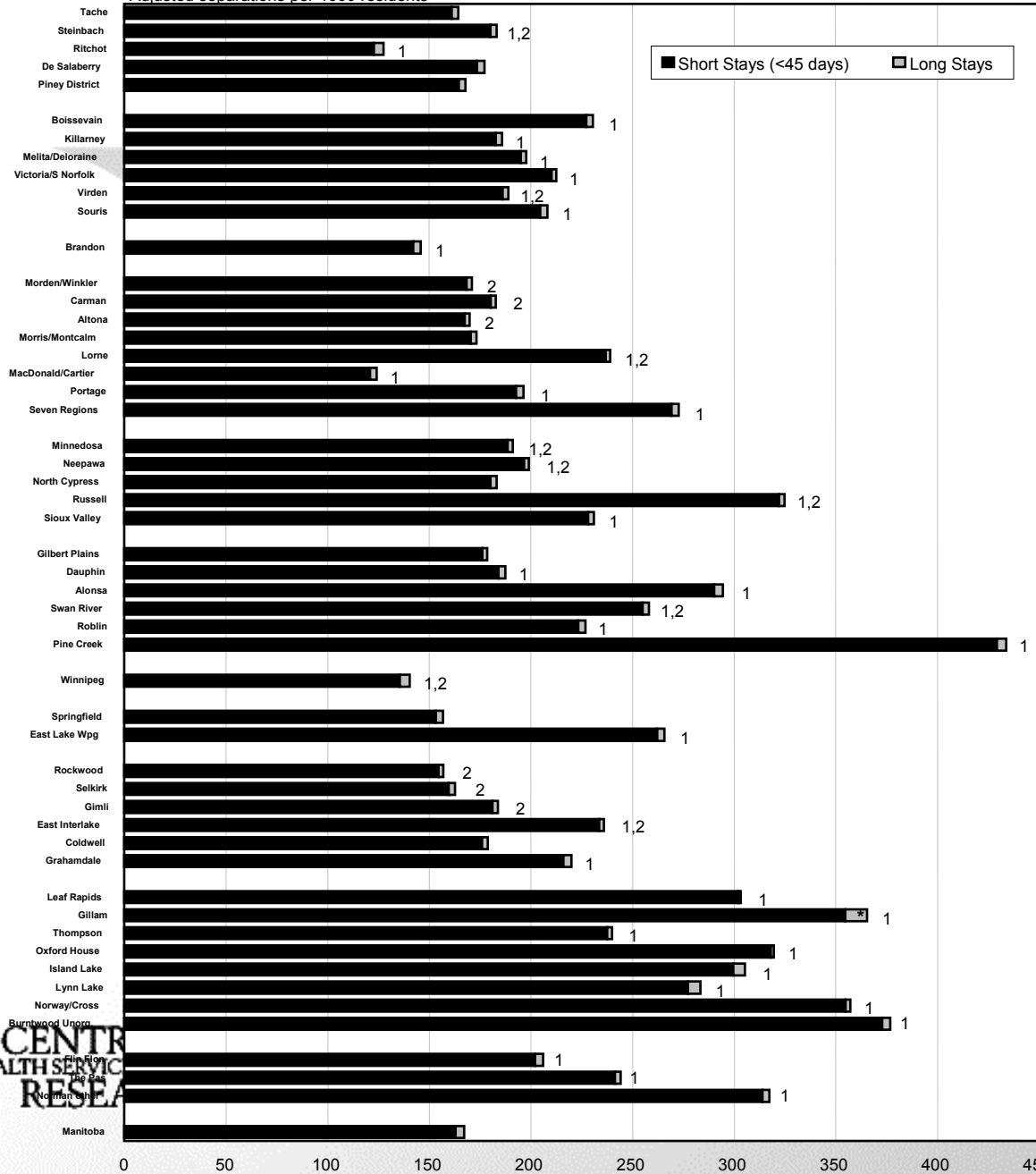
Supply of Setup Hospital Beds, 1995/96

(excluding Churchill)

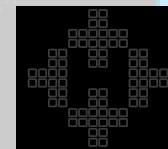


Hospital Separation Rates

Adjusted separations per 1000 residents



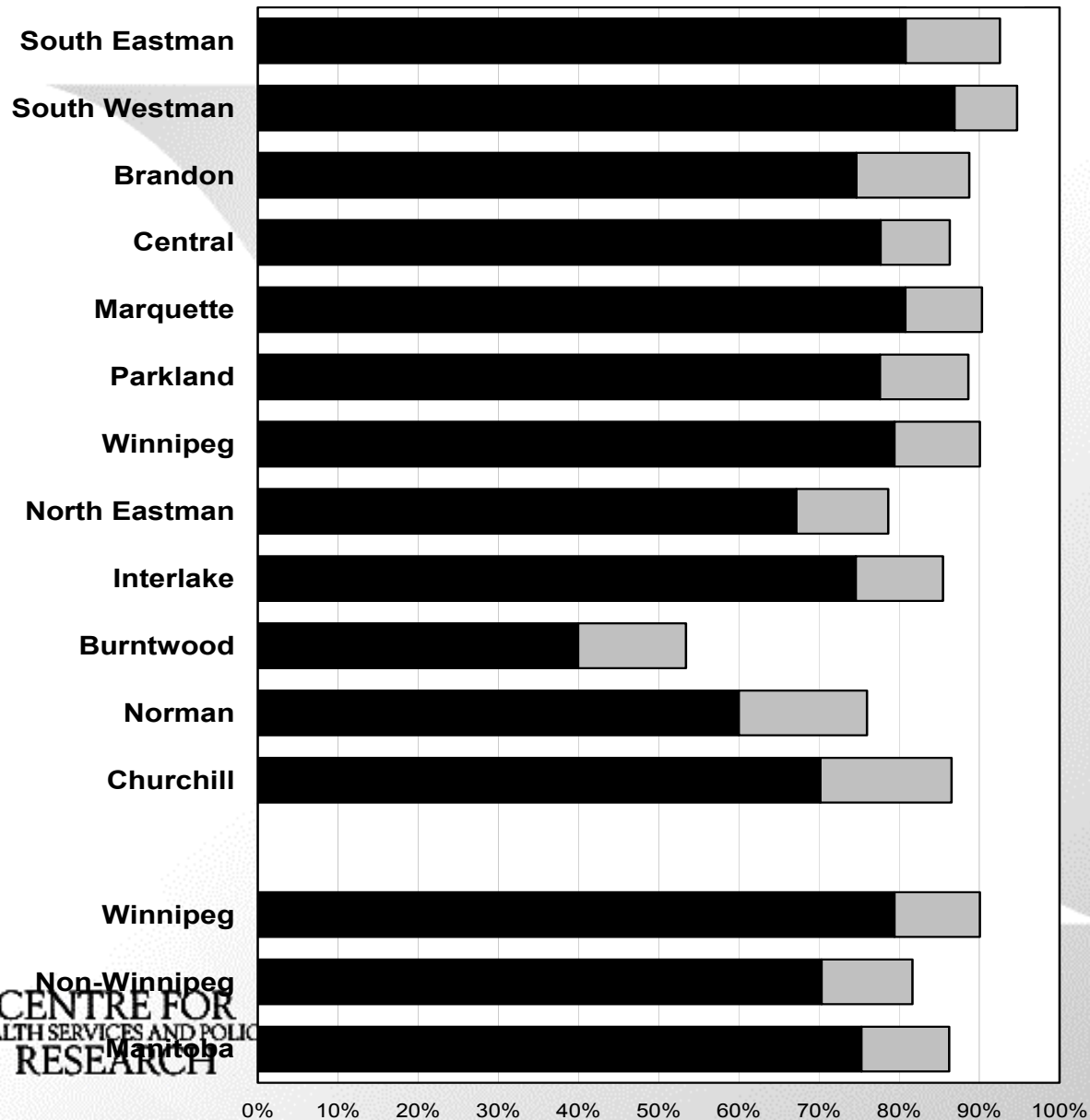
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Childhood Immunization Rates

% of children with complete immunization schedules at

■ 2 Years
□ 1 Year



Non-Winnipeg
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Manitoba

What have we learned from using administrative data systems for research?

Population-based administrative data systems have weaknesses:

- Lack of depth
- Critical pieces are missing
- Lack of standardization
- Can be difficult to access and use



What have we learned from using administrative data systems for research?

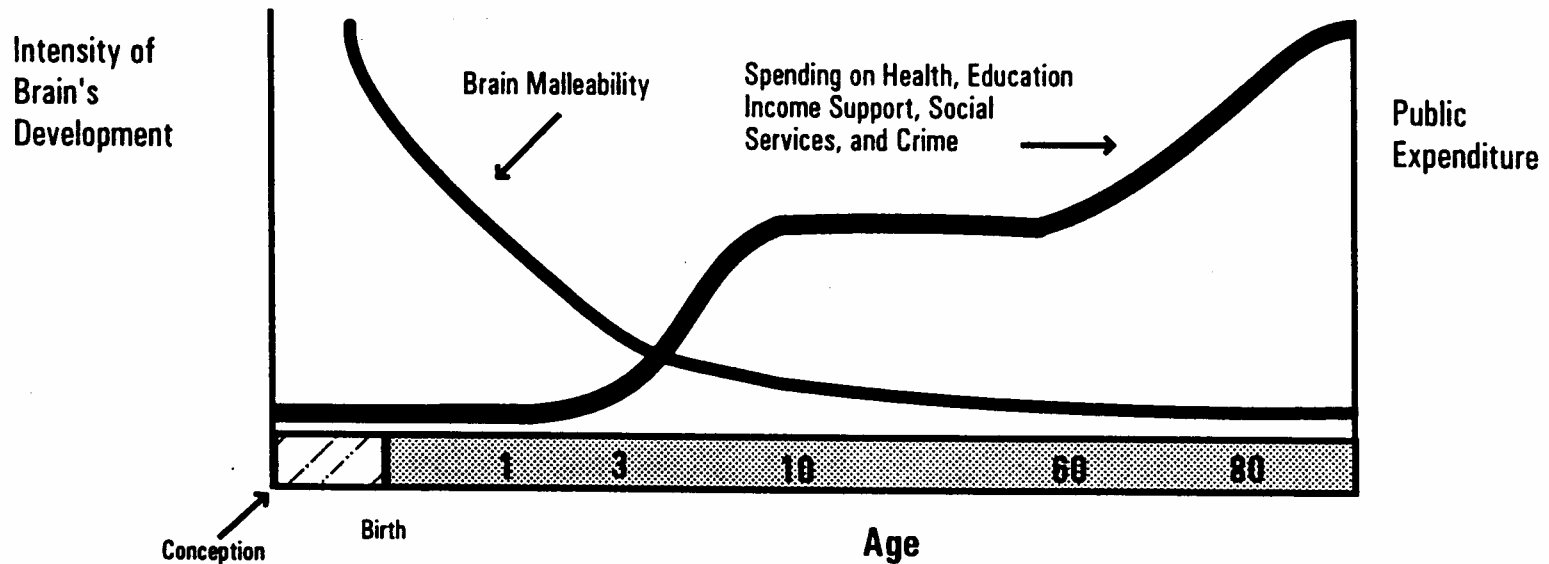
Population-based administrative data systems also have great strengths:

- Surprising ability to provide perspective on health and health care
- Population registry provides a critical hub for more specific data
- While criticized for lack of depth, they have great breadth
- Provide an infrastructure for development, addition, and triangulation of other data systems



FIGURE 4.2 BRAIN DEVELOPMENT · OPPORTUNITY AND INVESTMENT

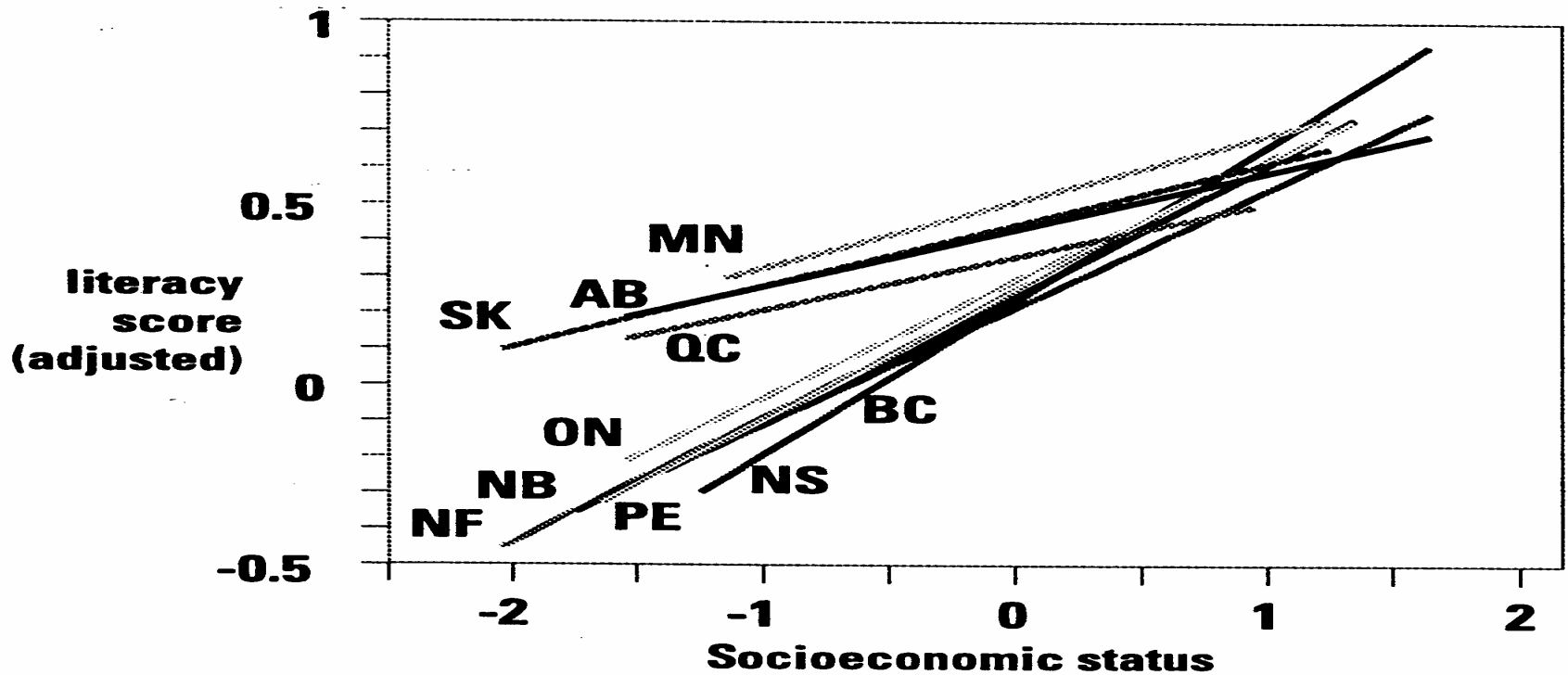
Brain's Wiring and Development



Perry (1996)

Source: Early Years Study: Reversing the Real Brain Drain. Co-chairs: McCain MN & Mustard JF. Toronto ON, April 1999.

LITERACY AND SES GRADIENTS FOR YOUTH BY PROVINCE, 1994



Willms (1997)

Source: Early Years Study: Reversing the Real Brain Drain. Co-chairs: McCain MN & Mustard JF. Toronto ON, April 1999.

The next stage of development of population health information systems

Adding depth and breadth to our administrative data systems:

- Educational attainment
- Environmental conditions/exposures
- Social circumstances
- Other factors that influence health



What have we learned from using administrative data systems for research?

There are emerging threats and opportunities to develop future potential of these systems:

- Privacy agenda
- Privatization of service delivery
- Privatization of payment for health services
- Privatization of data collection and data stewardship activities
- Provincial variation in system development



Examples of challenges in the Canadian context

- Data collection and stewardship arrangements:
BC pharmacy data vs. MB
- Privacy enhancement solutions:
AB pharmacy data vs. MB & SK
- Provincial variation in system development
Inability to conduct cross-provincial
comparisons
- Data access structures:
BC vs. MB vs. ON



What have we learned from using administrative data systems?

Need to separate research holdings and real-time systems:

- Research holdings must maximize anonymity while maximizing our ability to link data to “put the pieces together”
- Real-time systems need identifiable information and must be highly accurate
- At the same time, we should maximize interaction across these two domains of activity to improve information system development



What have we learned from using administrative data systems?

Population registry is critical

Need similar registries to track populations of providers (individuals, facilities, etc.)

Need state of the art and standardized data collection tools

Comprehensive data collection for all health-related services provided to Canadians

Need to be able to develop anonymized person-oriented longitudinal data

Privacy sensitive and quality enhancing



Administrative data: Like paper clips?

What if we actually designed data and information systems that would support applied health services and health policy research???

It is clearly important to understand the possibilities and design systems that benefit from the advantages of population-based analysis in developing the next generation of IT applications





"Life Expectancy" by Sidney Harris, reproduced by permission of the artist.

