

## Panel: What Works? What Impact?

## What works at MCHP?

Patricia Martens PhD
Director, MCHP;
Professor, Community Health Sciences, Faculty of Medicine, University of Manitoba;
CIHR/PHAC Applied Public Health Chair

Edmonton, Alberta: May 2, 2011



CIHR IRSC



## MCHP: Who we are

- The Manitoba Centre for Health Policy
  - Community Health Sciences, Faculty of Medicine
  - 5-year grant relationship with Manitoba Health since 1991 ... but a long history pre-dates this
- A "magnet" centre
  - Attracts the attention of other national and international research centres
    - Constant visits from and consultations with other provinces and national/international groups
- Reports (deliverables) PLUS external funding
  - ½ of budget from peer-reviewed grants (varies)





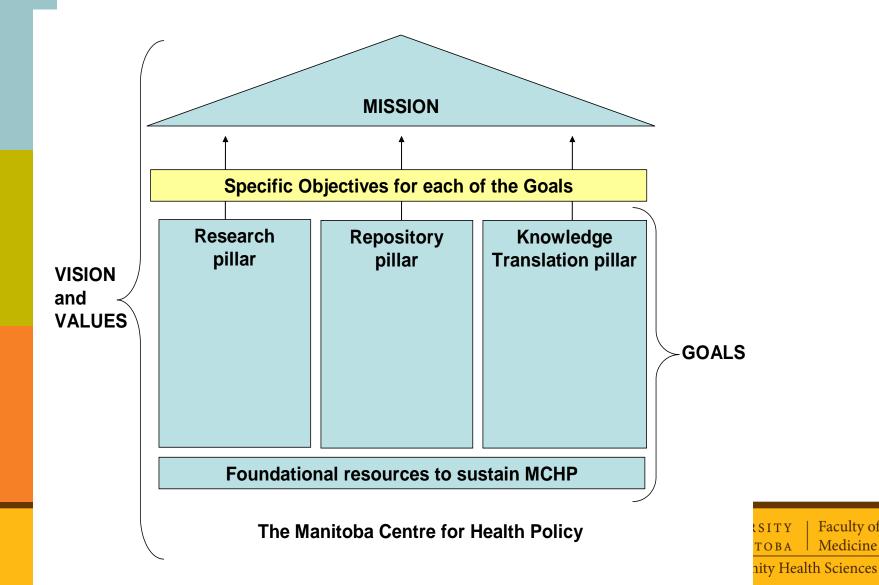
## MCHP's Mission

The Manitoba Centre for Health Policy (MCHP) is a research centre of excellence that conducts world class population-based research on health services, population and public health, and the social determinants of health. MCHP develops and maintains the comprehensive populationbased data repository on behalf of the Province of Manitoba for use by the local, national and international research community. MCHP promotes a collaborative environment to create, disseminate and apply its research. The work of MCHP supports the development of policy, programs and services that maintain and improve the health of Manitobans.





## The three pillars



Faculty of

Medicine



Repository ... "paperclips"? Social Family Education 5 Housin∯ Service's mmunization Hospital Population-Medical Home Care **Based Health** Mursing **,**Registry Home harmaceuticals Provider Cost Vital Census Data **Statistics** at EA level Clinical data e.g. ICU









Tools Help



























ity of Manitoba -

avorites



FACULTY OF MEDICINE

Manitoba Centre for Health Policy

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#### **Data Repository**

Overview Applying for Access Accreditation

#### Research

Published MCHP Reports (Deliverables) Upcoming MCHP Reports Journal Publications

#### Knowled

The Need to Workshops Education R

## HEALTHCARE POLICY Politiques de Santé

Health Services, Management and Policy Research Services de santé, gestion et recherche de politique

Volume 6 • Special Issue

"Going for the Gold": Celebrating 20 Years of Experience in Population-Based Research in Manitoba and Beyond

« À la recherche de l'or » : célébrer 20 ans d'expérience en recherche fondée sur la population au Manitoba et ailleurs

A LONGWOODS PUBLICATION

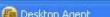


WWW.HEALTHCAREPOLICY.NET

www.umanitoba.ca/faculties/medicine/units/mehp/entality Concept Dictionary & Glossary

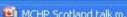
















## MCHP: What we do with the information - KT

- At the government level
  - Deliverables (i.e., research reports); briefing of ADMs,
     DM, Minister of Health, other Ministers, workshops
- At the RHA level
  - Annual Workshop Days (WRHA, MH, non-Winnipeg RHAs), dissemination of reports, website data
  - The Need To Know Team
- At the researcher level
  - Research reports, publications, conferences etc.
  - Concept Dictionary and Glossary, website
- At the public/clinician level
  - Four-pagers; clinician one-pagers; media interviews, op eds,, responses to news, website





## Involvement and influencing health policy

- MCHP's Annual Workshop Days
  - Rural & Northern RHAs,
     Winnipeg RHA, Manitoba
     Health Days
  - Look for the STORIES!
  - Evidence-based stories lead to evidenceinformed decisionmaking





## MCHP's involvement in CIHR IRSC influencing health policy

### The Need To Know Team

- MCHP, RHAs, Manitoba Health
  - CIHR-funded, 2001-2006 through the Community Alliances for Health Research (CAHR) program, 2008-2013 CIHR/PHAC Applied Public Health Chair for Martens
  - CIHR 2005 KT Award for Regional Impact
  - Highlighted as 1 of 5 "knowledge to action" stories in the 2009/2010 annual report of CIHR













#### Knowledge to Action









"Our whole philosophy is health planning based on evidence"

- Arlene Wilgosh, CEO of the WRHA, former DM of Health

#### Acting on the



#### Using Recount to Change

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In health services - where the demands are unlimited but the budgets are fixed - producing reports that collect dust is something no one can afford.

#### Receased Response

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"Our whole philosophy is health planning based on evidence."



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UNIVERSITY Faculty of OF MANITOBA Medicine

When Health Services Researchers and Policy Makers Interact: Tales from the Tectonic Plates

INVITED PAPER



by PATRICIA J. MARTENS, PHD
New Investigator, Canadian Institutes of Health Research
Director, Manitoba Centre for Health Policy
Associate Professor, Department of Community Health Sciences
Faculty of Medicine, University of Manitoba
Winnipeg, MB

NORALOU P. ROOS, PHD
Canada Research Chair in Population Health
Founding Director, Manitoba Centre for Health Policy
Professor, Department of Community Health Sciences
Faculty of Medicine, University of Manitoba
Winnipeg, MB

## MAKING AN IMPACT

A Preferred Framework and Indicators to Measure Returns on Investment in Health Research







Lewis S, Martens PJ, Barre L. Estimating the Return on Investment for health services research: A theoretical and empirical analysis. In Canadian Academy of Health Sciences. Making an Impact: A preferred framework and indicators to measure returns in investment in health research. Ottawa, Canada: Canadian Academy of Health Sciences, January 2009. Appendix A (Commissioned Papers): A21-A42. Available at http://www.cahsacss.ca/e/assessments/completedprojects

.php





## So what works? ... researchers, decision-makers

- USER INVOLVEMENT FROM START TO FINISH
  - integrated KT
- INTERACTIVE FORUMS
- EVIDENCE-BASED STORY TELLING potentially leads to EVIDENCE-INFORMED DECISION MAKING





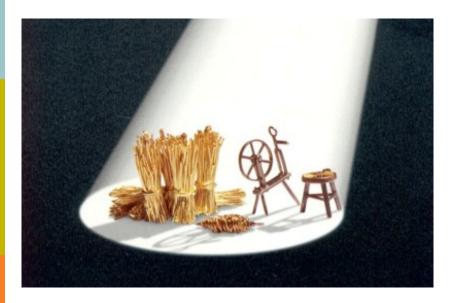
## So what does it take?

## To develop collaborative relationships around data stewardship and use, it takes:

- TIME and \$ commitment
- SHARED LANGUAGE
- TRUST
- RELATIONSHIP BUILDING
- "LETTING GO" of traditional roles
- PATIENCE
- UNDERSTANDING
- Bowen S, Erickson T, Martens P. More than "using research": the real challenges in promoting evidence-informed decision-making. Healthcare Policy 2009;4(3):69-84.
- Bowen S, Martens PJ. A model for collaborative evaluation of university-community partnerships. J. Epidemiol. Community Health 2006; 60: 902-907.
- Bowen S, Martens PJ, *The Need To Know* Team. Demystifying "Knowledge Translation": Learning from the community. Journal of Health Services Research & Policy 2005;10(4):203-211.
- Martens PJ, Roos NP. When health services researchers and policy-makers interact: Tales from the tectonic plates. Healthcare Policy 2005;1(1):72-84.



## And ... the research! Straw into Gold?



Martens 2011

Straw into Gold: Lessons Learned (and Still Being Learned) at the Manitoba Centre for Health Policy

Changer la paille en or : leçons retenues (et qu'on continue d'apprendre) au Centre des politiques de santé du Manitoba



PATRICIA J. MARTENS, PHD
Director, Monitole Courte for Health Paley
Professor, Department of Community Health Science, Faculty of Medicine
University of Manhable
Winnipeg, MB

#### Abstract

What lessons have we learned at the Manitoba Centre for Health Policy (MCHP) about knowledge translation (KT) over the past 20 years, and what is our vision for the future? How does that KT interrelate with our other activities — research and the Population Health Data Repository? Who first noticed that 'there's gold in them that hills,' and what did they do about it? How did we weave administrative database 'struw' into gold, how have we panned for gold and how do we look for the pot of gold in the future? This paper describes how MCHP began with an integrated KT research relationship with government, and through The Newl to Know Team, extended KT regional health authority planners. It describes the various push—pull KT mechanisms that MCHP has used, including dissemination of research to planners through interactive workshops, and to other researchers through Web-based resources.

[44] HEALTHCARE POLICY YOU Speed June 2013



## Markob bservational data are powerful!! (you don't always need an RCT)

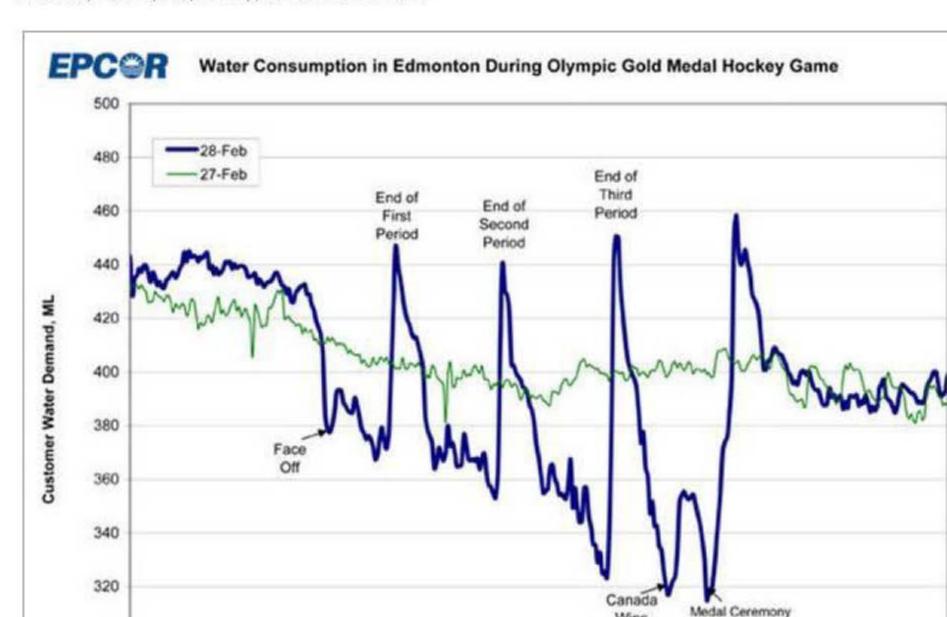
- Time series are powerful for population health interventions
  - Time trends with comparison groups
  - Interrupted time series
  - Toilet flushing and the Olympic hockey game – water consumption graph

 Sometimes, RCTs don't capture the effect of social network causal factors



### What If Everybody in Canada Flushed At Once?

Written by Pats Papers | Monday, 8 March 2010 12:42 PM





## The Mental Health Report:



Five-year prevalence of mental illness in Manitoba, age 10+

### cumulative mental illnesses

(depression, anxiety, personality disorders, substance abuse, schizophrenia)

24%

### other mental illnesses

(e.g. dementia)

13%



no mental

illnesses

63%









## Who sees psychiatrists?



For 100 people with cumulative mental illness disorders

– Urban richest: 100 visits

Urban poorest: 70 visits

Rural richest: 30 visits

Rural poorest: 10 visits

– Middle aged: 80 visits

– Older (70+): 15 visits

Who accesses psychiatrists?

**Urban** people in the **wealthier** neighbourhoods

... and middleagers





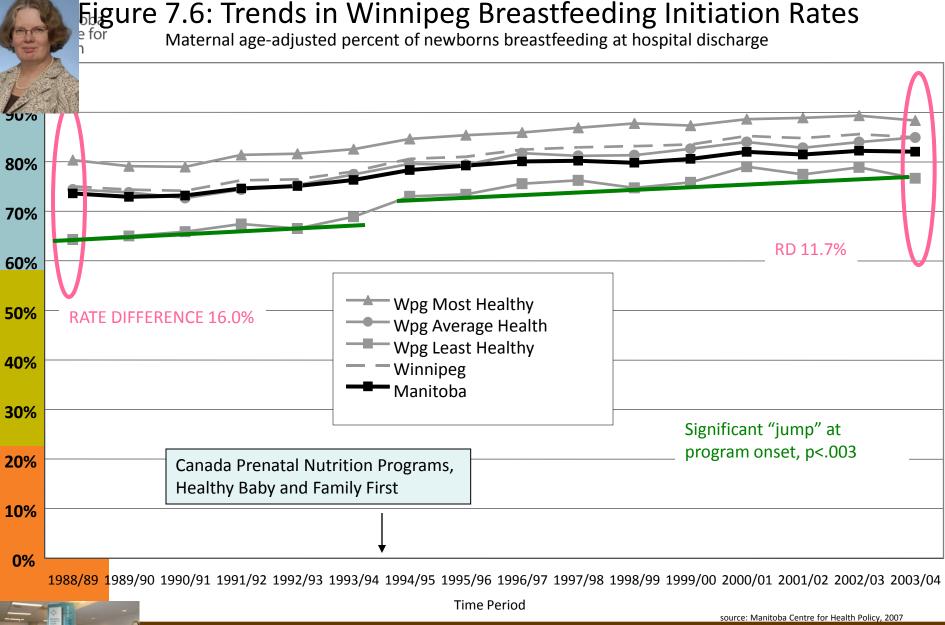


## KT in action: Mental Illness Report

"Our Branch has specifically used it to work in four key areas: (a) It is informing the Provincial Suicide Prevention Strategy; (b) we are using it as further evidence for the need for a new mental health (and addictions) data system - and this is moving along; (c) we have used it to pull together a planning group to look at current and future needs in the area of access to psychiatrists; (d) we are using it as further evidence for the need for collaboration between mental health and primary health care initiatives...

Personally the piece that stood out for me is the whole thing about how all health concerns are increased when there is a mental illness diagnosis. This is a piece that I pull out frequently in briefings, meetings etc."





What Works Report
Martens et al. 2008





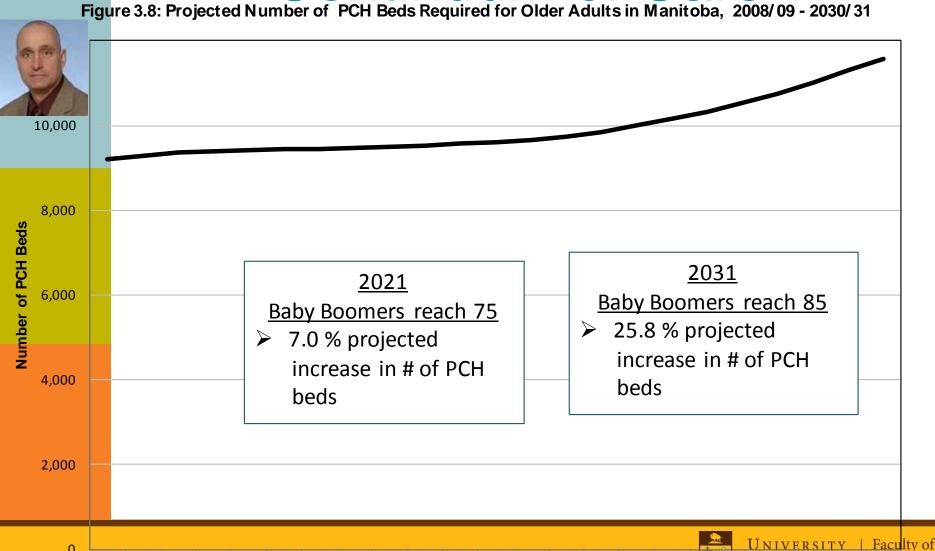
## Initial analysis of Emergency Departments (EDs)



- Frequent users of ED (9+ visits per year):
  - 54% have a history of 2+ mental illness diagnoses
  - But they also have high use of other health care providers (2,400 people; 80,000 health care contacts)
- Very frequent users (18+/yr): 85% have 2+ mental illness diagnoses
- A different way to approach EDs for those living with mental illness – WRHA vision



## Population Aging and the Continuum of Care Figure 3.8: Projected Number of PCH Beds Required for Older Adults in Manitoba, 2008/09 - 2030/31





### February 18, 2011 release

## PROVINCE RENEWS LONG-TERM CARE PLAN TO MEET GROWING DEMAND FOR SERVICES

## \$216-million Investment Provides More Choice, More Independence, Better Quality of Life for Growing Number of Seniors: Selinger

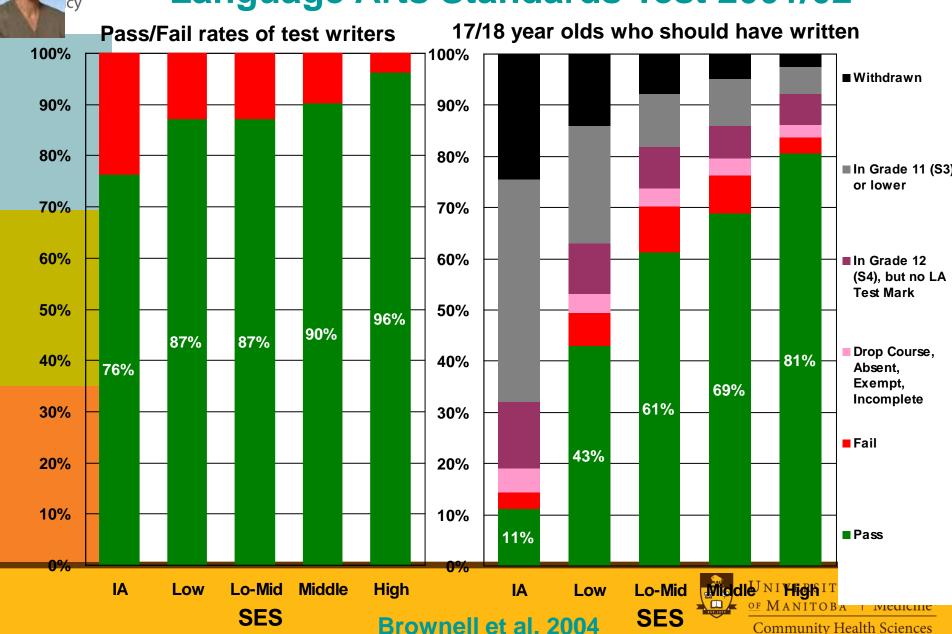
Manitoba families will benefit from enhanced access to home-care services, more affordable supportive-housing options and an expansion of personal-care home (PCH) beds under a renewed long-term care plan announced today by Premier Greg Selinger.

"Seniors and their families now have access to a wide range of care options as a result of our investments over the past 10 years," said Selinger. "Many people aren't aware the first universal home-care program in North America started right here in Manitoba. Today we are building on this legacy by announcing new supports and innovations to enable older Manitobans to live at home longer."





## **Grade 12 (S4) Performance by SES Group Language Arts Standards Test 2001/02**





## **Evaluation of Healthy Baby Program (Brownell et al. 2010)**



- Prenatal Benefit (PB) reaches the majority of low income women as an income supplement in their 2<sup>nd</sup> and 3<sup>rd</sup> trimesters, and is associated with positive maternal/child outcomes
  - Decrease in preterm birth and low birth weight;
     increase in breastfeeding rates

Table 2: Summary of outcomes associated with Healthy Baby program components

#### What outcomes were associated with receiving the Prenatal Benefit?

1.4% - 9.0% Reduction in low birth weight births

0.4%-6.0% Reduction in preterm births

10.0% - 21.0% Increase in breastfeeding initiation



## **Metis Health At**

Martens, Bartlett et

### **Burden of disease:**

- Poorer health status for Metis compared to all other Manitobans; mostly higher (13%-49%) rates of illness
  - Particularly high diabetes-related illnesses
  - Health care use is higher for Metis, associated with greater need

## **Child health:**

- Very high risk in indicators of education & social services
- Higher behavioural risks for youth, high teen pregnancy

MMF is doing community dialogues through Knowledge Networks, to give context to the data

Pr<del>evention an</del> screening:

- Metis rates mostly similar or better than all others;
- Continuity of care consistently associated with higher uptake of prevention and screening

## Geography:

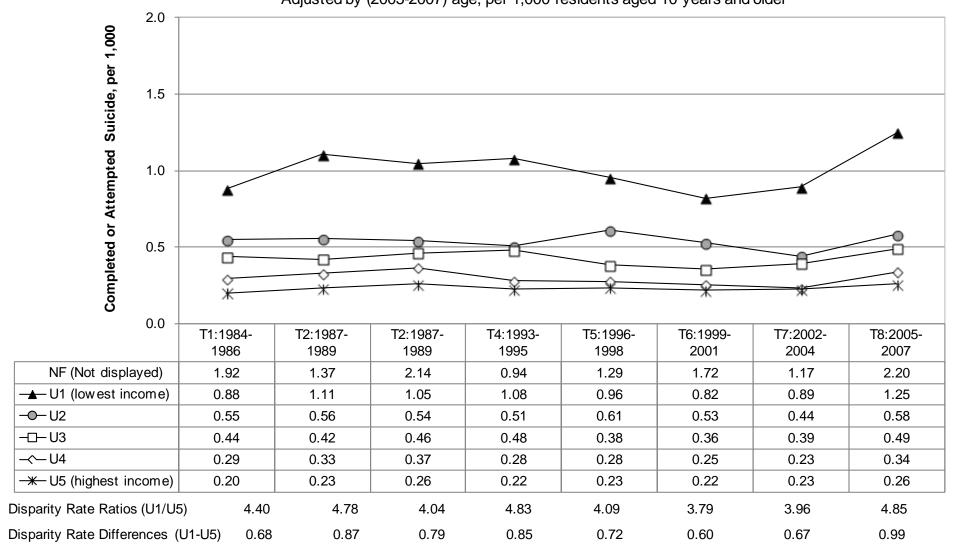
 Geographical variation provides context of "promising practices"



# Health Inequities: Is the socioeconomic gap in health widening or narrowing?

- Time trend graphs, Lorenz curves
- Of the 18 indicators for both rural and urban:
  - ½ showed increase in gap
  - ½ showed no change
  - only 1 indicator (breastfeeding in urban areas) showed decreased gap.

Figure 7.17: Prevalence of Completed or Attempted Suicide Over Time by Urban Income Quintile
Adjusted by (2005-2007) age, per 1,000 residents aged 10 years and older



Time Period (years)

Comparison of Disparity Rate Ratios T8 to T1: 1.10 (95% CI 0.70, 1.73 ) NS

Comparison of Disparity Rate Differences T8 to T1: 1.46, p<.01

Martens et al. 2010

Source: Manitoba Centre for Health Policy, 2010

Figure 7.18: Prevalence of Completed or Attempted Suicide Over Time by Rural Income Quintile

Adjusted by (2005-2007) age, per 1,000 residents aged 10 years and older 2.0 Suidide, per 1,000 1.5 **Completed or Attempted** 1.0 0.5 0.0 T1:1984-T2:1987-T2:1987-T4:1993-T5:1996-T6:1999-T7:2002-T8:2005-1986 1989 1989 1995 1998 2001 2004 2007 NF (Not displayed) 1.92 1.37 2.14 0.94 1.29 1.72 2.20 1.17 → R1 (low est income) 1.08 1.30 1.47 1.56 1.52 1.91 1.32 1.64 **-**0− R2 0.90 0.97 0.91 1.15 0.69 0.75 0.83 0.68 -□-R3 0.47 0.64 0.56 0.50 0.57 0.65 0.73 0.68 -<>− R4 0.56 0.59 0.44 0.49 0.64 0.57 0.47 0.41

Disparity Rate Ratios (R1/R5)	2.01	2.61	2.23	2.75	3.25	3.65	4.11	5.01
Disparity Rate Differences (R1-R5)	0.55	0.80	0.73	0.94	1.08	1.11	1.24	1.53

0.53

0.59

Time Period (years)

0.48

0.42

Comparison of Disparity Rate Ratios T8 to T1: 2.49 (95% CI 1.61, 3.85) p< .001

0.50

0.54

Comparison of Disparity Rate Differences T8 to T1: 2.81, p<.001

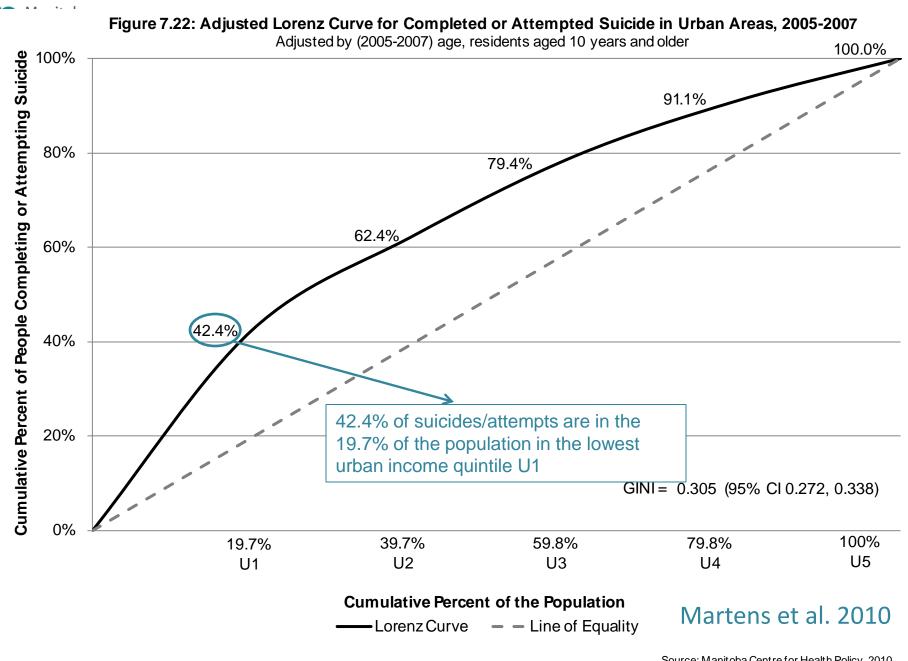
──── R5 (highest income)

Martens et al. 2010

0.40

Source: Manitoba Centre for Health Policy, 2010

0.38



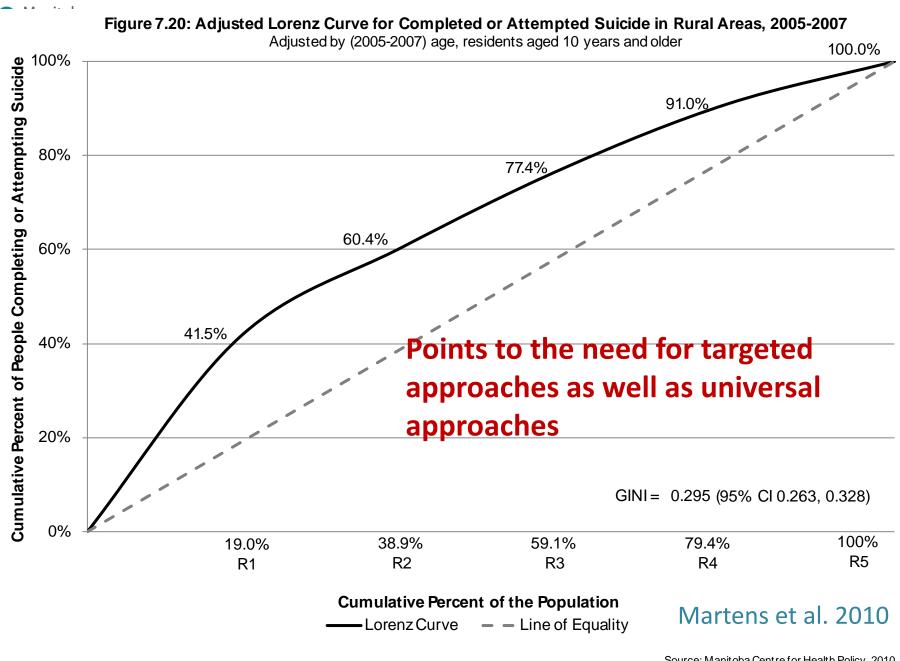


Figure 7.14: Adjusted Lorenz Curve for Dementia in Urban Areas 2004/05-2008/09 Adjusted by (2004/05-2008/09) age, residents aged 55 years and older 100% 100.0% 80.8% 80% **Cumulative Percent of Dementia** 64.6% 60% 44.9% 40% 26.1% 20% GINI = 0.056 (95% CI 0.040, 0.073)0% 100% 40.0% 61.2% 80.7% 20.4% U5 U1 U2 U3 U4 **Cumulative Percent of the Population** 

— Lorenz Curve

Line of Equality

Source: Manitoba Centre for Health Policy, 2010

Martens et al. 2010

Figure 7.12: Adjusted Lorenz Curve for Dementia in Rural Areas 2004/05-2008/09 Adjusted by (2004/05-2008/09) age, residents aged 55 years and older 100% 100.0% 82.8% 80% **Cumulative Percent of Dementia** 61.3% 60% 40% 38.0% 20% 17.0% Points to the need for universal approaches GINI = 0.003 (95% CI 0, 0.013, NS)0% 100% 39.1% 61.3% 82.4% 16.9% R5 R1 R2 R3 R4 **Cumulative Percent of the Population** Martens et al. 2010 Line of Equality Lorenz Curve



Table E.5: Percentage of health events occurring in the lowest income quintile group, for most recent time period

Indicator	Percentage of the health event which occurs in the lowest income quintile group				
	(bracketed number shows the exact percentage of the				
	in the lowest income quintile group for that indicator)*				
	Rural percentage	Urban percentage			
Premature death before age 75	<b>29.1%</b> (20.0%)	<b>33.4%</b> (19.5%)			
Potential years of life lost	<b>33.0%</b> (20.0%)	<b>38.5%</b> (19.5%)			
Death before age five	<b>31.2%</b> (26.2%)	<b>37.7%</b> (24.0%)			
Teen pregnancy	<b>44.7%</b> (22.5%)	<b>44.6%</b> (17.4%)			
High school completion	<b>13.9%</b> (19.9%)	<b>11.0</b> % (16.5%)			
Dental extractions ages 0-5	<b>53.6%</b> (26.0%)	<b>55.9%</b> (23.7%)			
Breastfed newborns	<b>22.3%</b> (27.7%)	<b>23.2%</b> (26.2%)			
Diabetes age 19 and older	<b>28.8%</b> (18.2%)	<b>27.4%</b> (20.2%)			
Amputation due to diabetes	<b>45.9%</b> (26.2%)	<b>44.9%</b> (26.0%)			
Ischemic heart disease	<b>24.4%</b> (18.2%)	<b>23.9%</b> (20.2%)			
Multiple sclerosis	<b>13.5%</b> (18.4%)	<b>19.0%</b> (19.8%)			
Continuity of care	<b>16.3%</b> (18.3%)	<b>19.5%</b> (20.8%)			
Hospitalization for TB	<b>57.8%</b> (19.9%)	<b>52.3%</b> (20.0%)			
Pap tests	<b>14.6%</b> (18.3%)	<b>16.7%</b> (19.1%)			
Mental illness age 10 and older	<b>20.1%</b> (18.9%)	<b>25.0%</b> (19.8%)			
Dementia age 55 and older	<b>17.0%</b> (16.9%)	<b>26.1%</b> (20.4%)			
Suicide/suicide attempts age 10+	<b>41.5%</b> (19.0%)	<b>42.4%</b> (19.7%)			
Beta-blocker prescriptions post-heart	<b>22.5%</b> (23.6%)	<b>24.3%</b> (25.0%)			
attack		·			

\*note: if the health events are distributed equally amongst the five income groupings in rural and urban Manitoba, then the percentage of health events should equal the percentage of the population in the income group, i.e., around 20% of health events in 20% of the population

Martens et al. 2010





## A little diversion into epidemiology

### TWO IMPORTANT IDEAS

- How to design the world for change
- The importance of lots of people doing a bit (rather than focusing on a few people doing a lot)
  - Elements of the Rose Theorem



Export \*

















Ensayo

### Paradigmatic obstacles to improving the health of populations -Implications for health policy\*

John B. McKinlay, Ph.D.(1)

McKinlay JB. Paradigmatic obstacles to improving the health of populations -Implications for health policy. Salud Publica Mex 1998;40:369-379.

### Abstract

While there are promising developments in public health, most interventions (both at the individual and community levels) remain focused on "downstream" tertiary treatments or one-on-one interventions. These efforts have their origins in the biomedical paradigm and risk factor epidemiology and the behavioral science research methods that serve as their handmaidens. This paper argues for a more appropriate balance of "downstream" efforts with a more appropriate whole population public health approach to health policy -what may be termed a social policy approach to

McKinlay JB.

Obstáculos paradigmáticos para mejorar la salud de las poblaciones: implicaciones para las políticas de salud. Salud Publica Mex 1998;40:369-379.

### Resumen

Aunque existen desarrollos prometedores en el área de la salud pública, la mayoría de las intervenciones (en los ámbitos individual y comunitario) se enfocan al tratamiento terciario de tipo curativo o se trata de intervenciones individuales. Estos esfuerzos tienen sus orígenes, tanto en el paradigma biomédico y la epidemiología de factores de riesgo, como en los métodos de investigación de las ciencias de la conducta, que actúan como sus herramientas. Este documento plantea un balance entre los esfuerzos de atención curativa y los esfuerzos más apropiados de una política

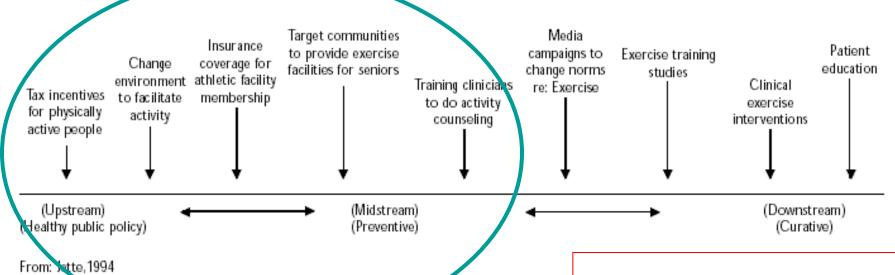
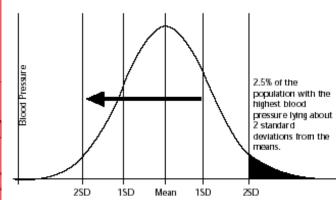


FIGURE 3. POINTS OF INTERVENTION FOR PLYSICAL INACTIVITY

## Paradigmatic obstacles to improvir the health of populations -Implication for health policy\*

John B. McKinlay, Ph.D.(1)



The public health approach involves a shift in the entire distribution to the left.

From: reference 64

FIGURE 2.THE NORMAL DISTRIBUTION OF BLOOD PRESSURE IN A HUMAN POPULATION

McKinlay JB.
Paradigmatic obstacles to improving
the health of populations -Implications
for health policy.
Salud Publica Mex 1998;40:369-379.

McKinlay JB.

Obstáculos paradigmáticos para mejorar la salud de las poblaciones: implicaciones para las políticas de salud. Salud Publica Mex 1998:40:369-379.





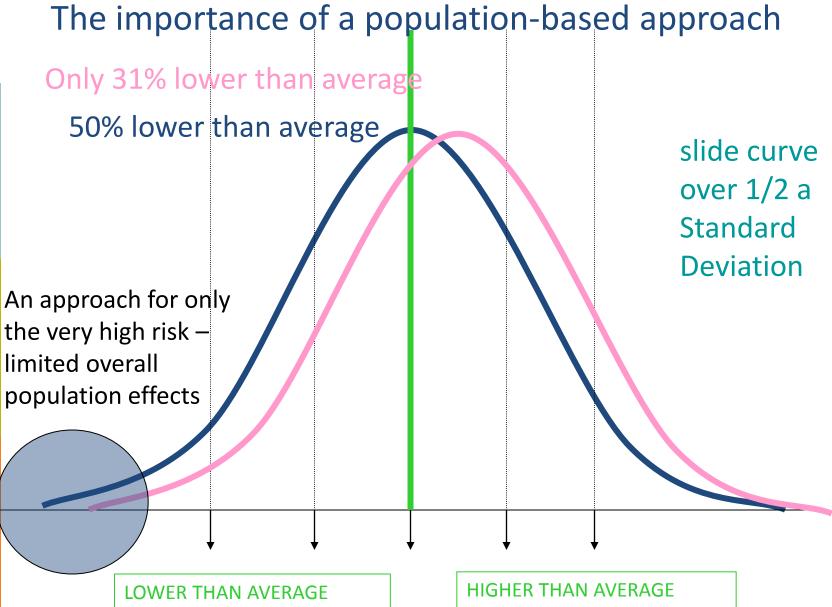
### The importance of a population perspective on public health

 Rose's Theorem: "a large number of people at small risk may give rise to more cases of disease than a small number who are at high risk."

 Rose, G. The Strategy of Preventive Medicine. Oxford, England: Oxford University Press; 1992.









### ORIGINAL ARTICLE

### Breastfeeding and Child Cognitive Development

er's be-

clusive

New Evidence From a Large Randomized Trial

Michael S. Kramer, MD; Frances Aboud, PhD; Elena Mironova, MSc; Irina Vanilovich, MD, MSc; Robert W. Platt, PhD; Lidia Matush, MD, MSc; Sergei Igumnov, MD, PhD; Eric Fombonne, MD; Natalia Bogdanovich, MD, MSc; Thierry Ducruet, MSc; Jean-Paul Collet, MD, PhD; Beverley Chalmers, DSc, PhD; Ellen Hodnett, PhD; Sergei Davidovsky, MD, MSc; Oleg Skugarevsky, MD, PhD; Oleg Trofimovich, BSc; Ludmila Kozlova, BSc; Stanley Shapiro, PhD; for the Promotion of Breastfeeding Intervention Trial (PROBIT) Study Group

Context: The evidence that breastfeeding improves cognitive development is based almost entirely on observasubtle

IQ: mean is 100, SD is 15.

Breastfeeding research often finds a 4 to 7.5 point difference (even in the pfrom RCT of Kramer et al. 2008)

i.e. ¼ to ½ a SD!!

ention modeled on the Baby-Friendly Hospital Initiative by the World Health Organization and UNICEF.

Main Outcome Measures: Subtest and IQ scores on the Wechsler Abbreviated Scales of Intelligence, and teacher evaluations of academic performance in reading, writing, mathematics, and other subjects.

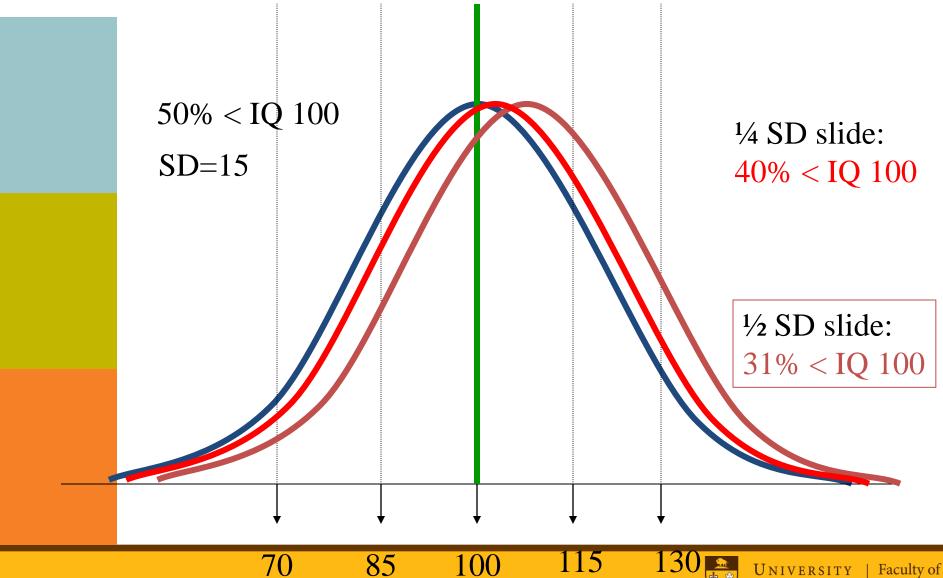
**Results:** The experimental intervention led to a large increase in exclusive breastfeeding at age 3 months (43.3% for the experimental group vs 6.4% for the control group; P < .001) and a significantly higher prevalence of any breastfeeding at all ages up to and including 12 months. The experimental group had higher means on all of the Wechsler Abbreviated Scales of Intelligence measures, with cluster-adjusted mean differences (95% confidence intervals) of +7.5 (+0.8 to +14.3) for verbal IQ, +2.9 (-3.3 to +9.1) for performance IQ, and +5.9 (-1.0 to +12.8) for full-scale IQ. Teachers' academic ratings were significantly higher in the experimental group for both reading and writing.

**Conclusion:** These results, based on the largest randomized trial ever conducted in the area of human lactation, provide strong evidence that prolonged and exclusive breastfeeding improves children's cognitive development.

Trial Registration: isrctn.org Identifier: ISRCTN37687716

Arch Gen Psychiatry. 2008;65(5):578-584



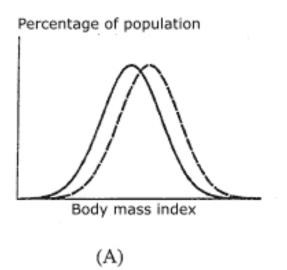


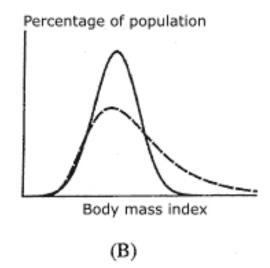
Medicine

OF MANITOBA

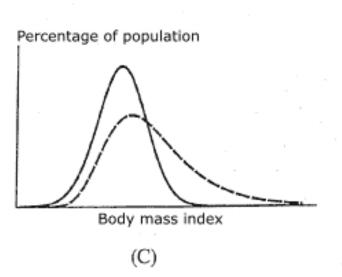
Community Health Sciences





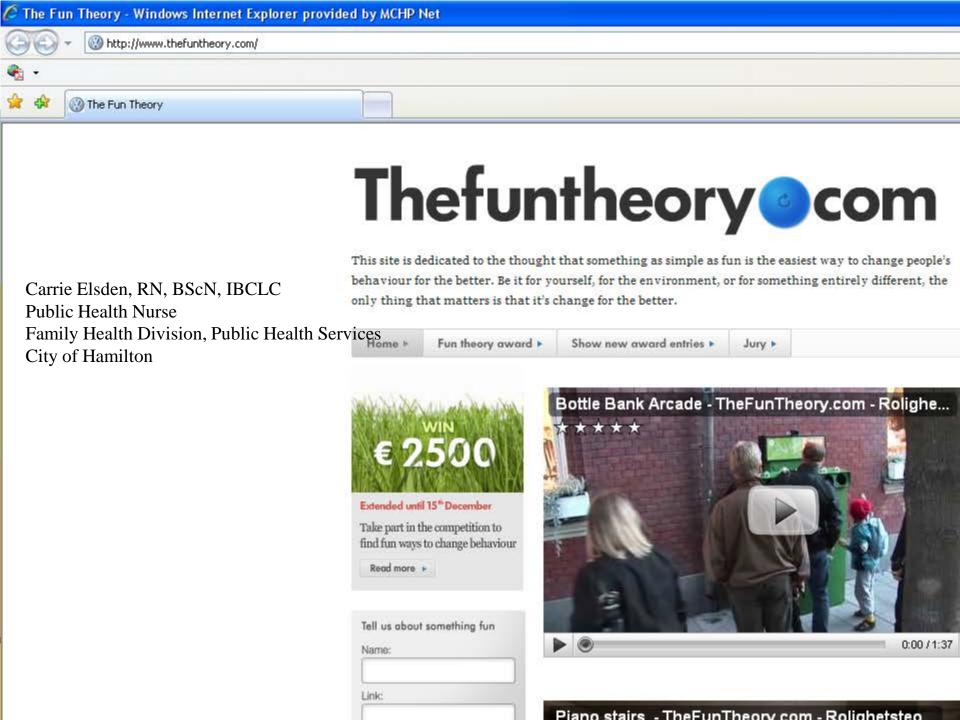


So how do you not "leave people behind" in a shift?? Shift and squish? Use upstream, midstream and downstream simultaneously!

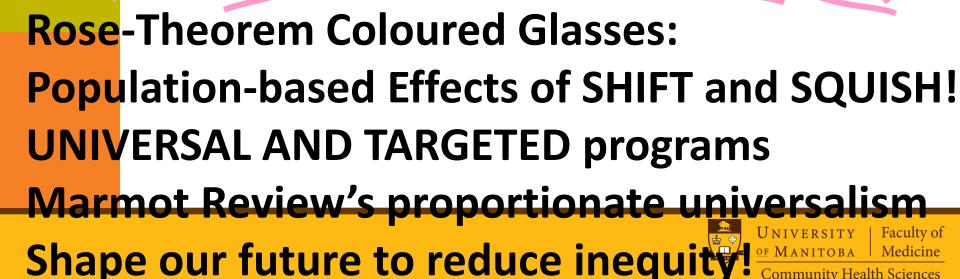




- Making the "right" choice the easy choice
  - Upstream measures are essential (in combination with mid- and downstream)









### What does it take to shape our future together?

- Rose Theorem perspectives put on those Rose-Theorem glasses
- Reduction of inequity
- Research on what works to shift and squish
- Research and health messages turned into stories (melt the ice)
- Relationships across all sectors





# Manitoba Centre for Health Policy

www.umanitoba.ca/faculties/medicine/units/mchp/

Youtube video about our workplace ...

http://www.youtube.com/watch?v=r--a96JEuXo&feature=youtube\_gdata

