

MANITOBA CENTRE FOR HEALTH POLICY

Have we been successful? A policy-maker's guide to the galaxy of measuring inequities over time

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CIHR IRSC

Strategic Knowledge Cluster on Population Change
and Lifecourse: SSHRC – Ottawa, ON March 27, 2013

Manitoba Centre
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A bit of history and background of MCHP

- Department of Community Health Sciences, Faculty of Medicine
- Worldwide recognition
- Funding:
 - research grants from provincial and national agencies (like the Canadian Institutes of Health Research, CIHR)
 - an ongoing grant relationship with Manitoba Health since 1990/91 ... a long history since 1970's



Sea

- Home
- About MCHP
- Data Repository
- Research
- Knowledge Translation
- News & Events
- Privacy & Confidentiality
- Contact



Informing Health & Social Policy

Data Repository

- Overview
- Database List
- Applying for Access
- Accreditation
- Concept Dictionary & Glossary

Research

- Published MCHP Reports (Deliverables)
- Upcoming MCHP Reports
- Journal Publications
- Presentations
- Other Reports & Special Supplements

Knowledge Translation

- The Need to Know Team
- Workshops & Events
- Education Resources
- SAS Training

MCHP Quick Facts

- Faculty & Staff
- Media Releases
- Newsletters
- Contact
- Privacy & Confidentiality

News

Curling champs...

Events

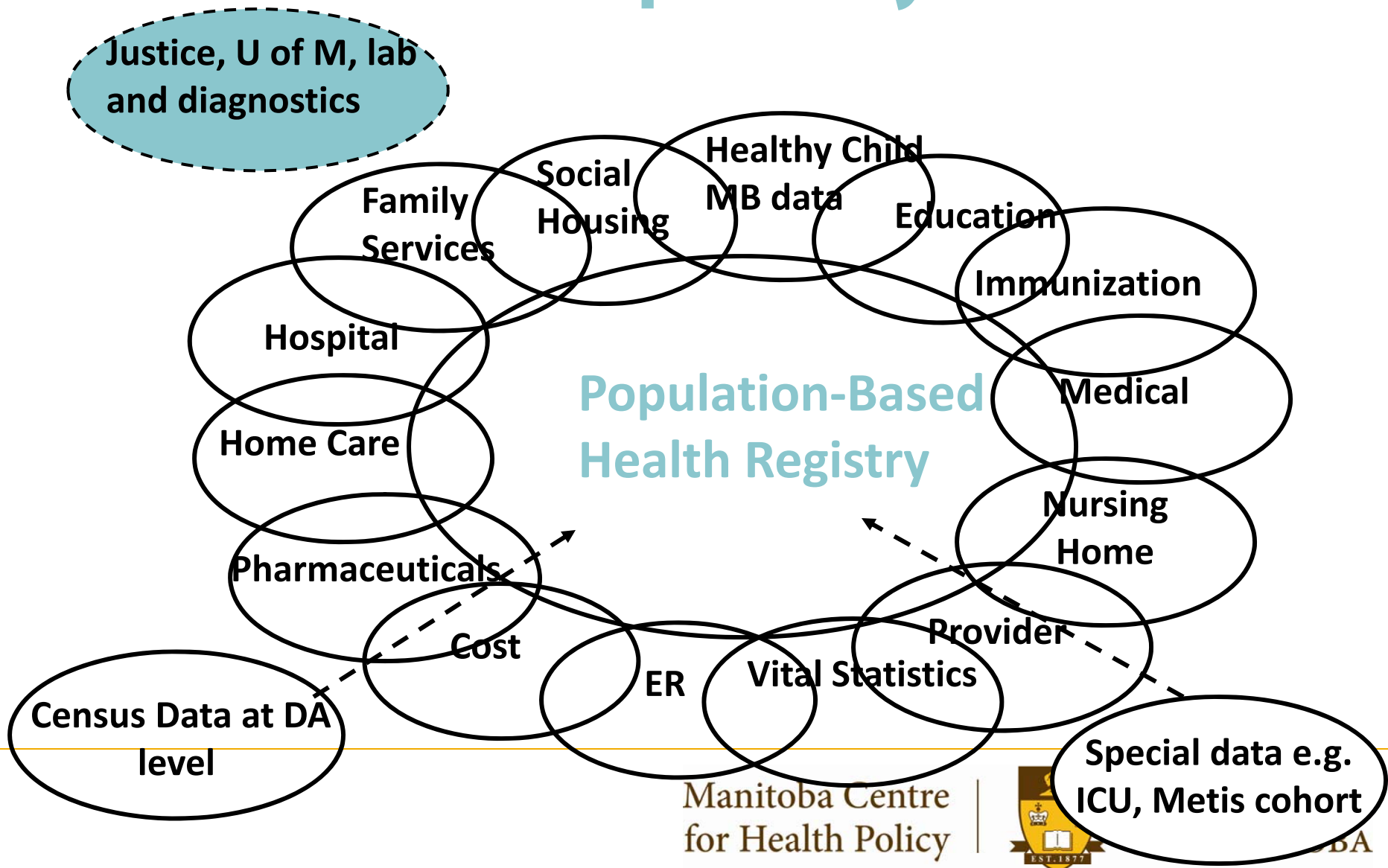
St. John's College Art ...

New Report Available
 Understanding the Path
 of Ambulatory Care in
 Manitoba

Click on...

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

A World-Class Repository





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, **Healthy Child Committee of Cabinet**
- At the public/clinician level
 - Four-pagers; clinician one-pagers; media interviews, op eds,, responses to news, website
- At the researcher level
 - Research reports, publications, conferences etc.
 - Concept Dictionary and Glossary, website
- At the RHA level
 - Annual **Workshop Days** (WRHA, MH, non-Winnipeg RHAs, Education/Family Services), dissemination of reports, website data
 - *The Need To Know Team*

The Need To Know Team: MCHP, with RHA & Manitoba Health top level planners (integrated KT)

- Creation of new knowledge, capacity building, disseminate/apply research at the regional level, all undergirded with relationship building
 - 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

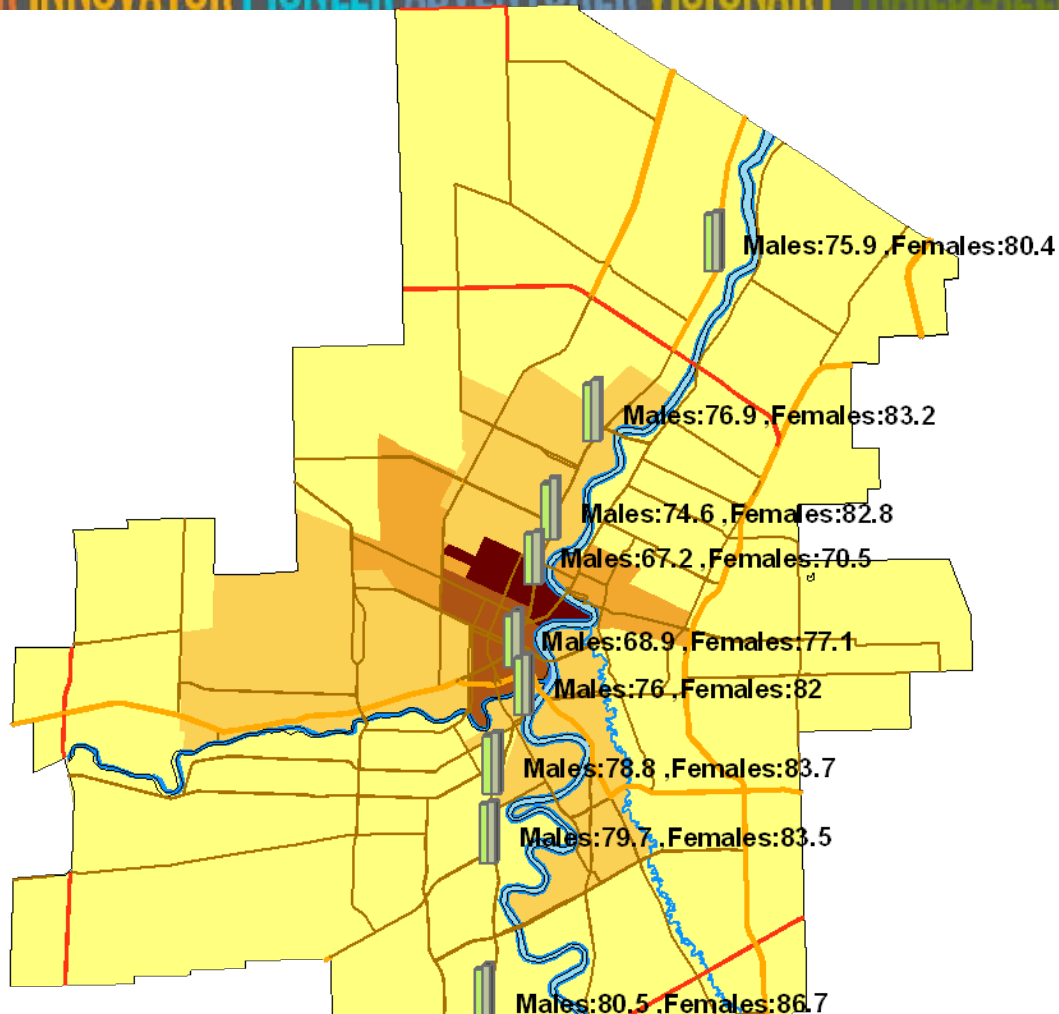


Involvement and influencing health policy

- MCHP's Annual Workshop Days
 - Rural & Northern RHAs, Winnipeg RHA, Manitoba Health Days, Gov't Days
 - **Look for the STORIES!**
 - **NTK facilitates round tables: Evidence-based stories lead to evidence-informed decision-making**

Change in Male and Female Life Expectancy South-North following Pembina Hwy (ite 42) and Main St (ite 52)

EXPLORER INNOVATOR PIONEER ADVENTURER VISIONARY TRAILBLAZER



Bus trip up Pembina Highway to downtown:

Life Expectancy at birth (in years):

South Pembina Highway:

Males: 81 years

Females: 87 years

Downtown:

Males: 67 years

Females: 71 years

Fransoo et al. 2009

Legend

Premature Mortality

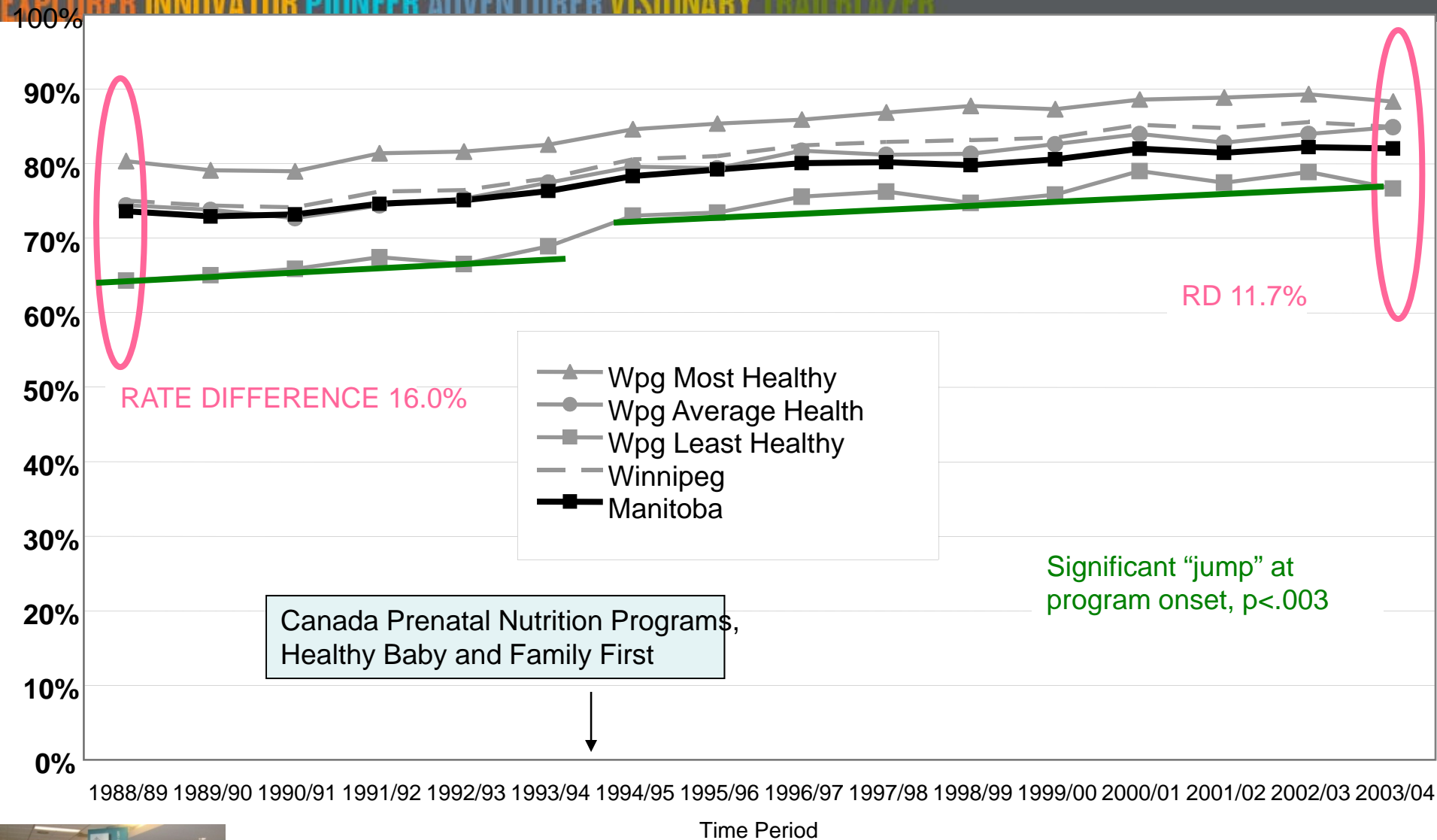
1.86 - 3.07

3.08 - 4.28

4.29 - 5.49

Figure 7.6: Trends in Winnipeg Breastfeeding Initiation Rates

Maternal age-adjusted percent of newborns breastfeeding at hospital discharge



What Works Report
Martens et al. 2008

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source: Manitoba Centre for Health Policy, 2007



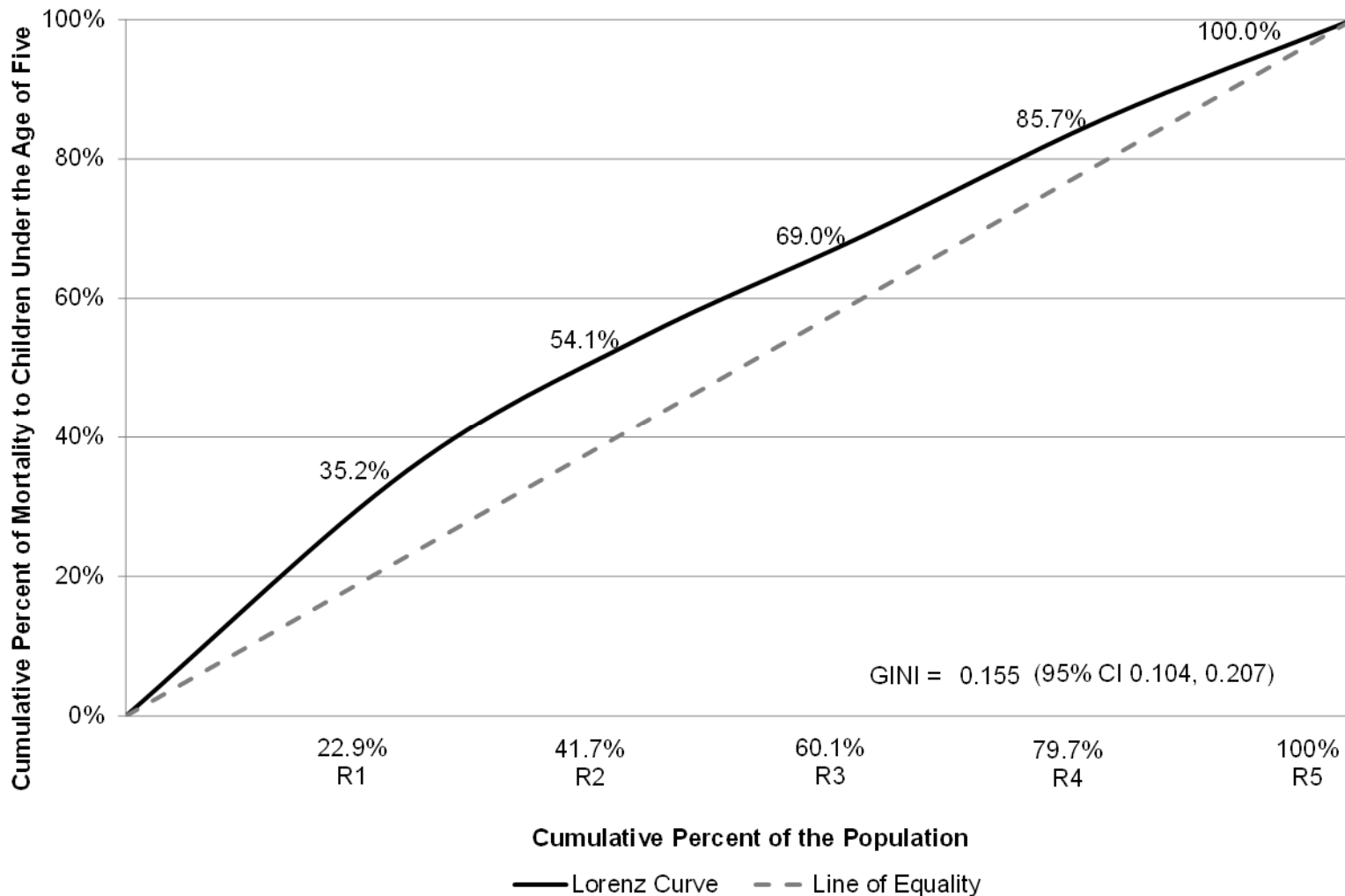
Concentration curves are intuitive

- If you don't dwell on the mathematics, Concentration curves can tell stories to decision makers
 - How bad is the inequity?
 - In the words of Michael Marmot and proportionate universalism, what end of the spectrum do we focus upon – targeted or universal?
 - Is the inequity getting better or worse over time?



Concentration curves are intuitive

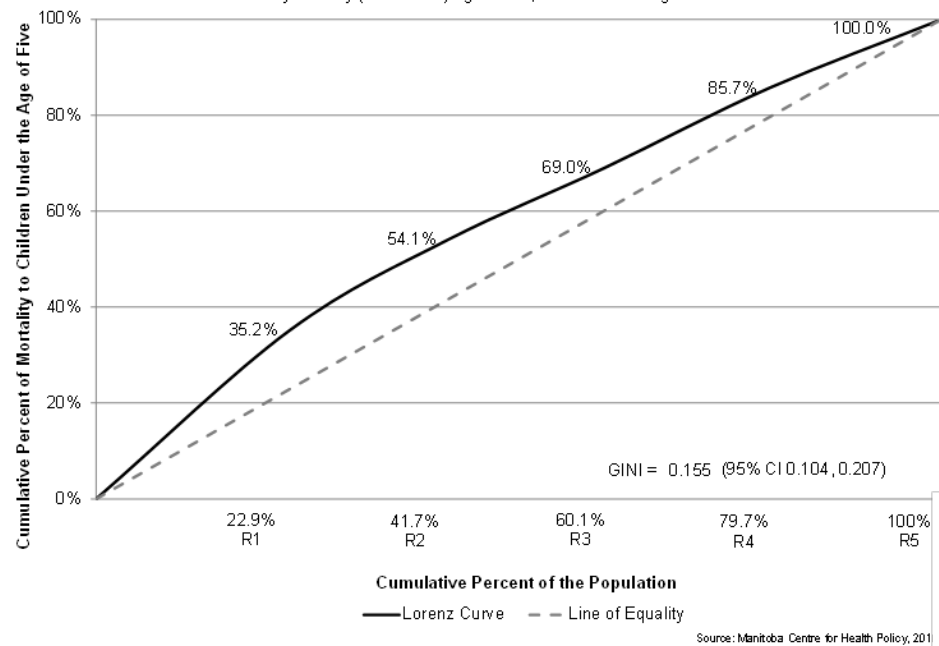
Figure 3.19: Adjusted Lorenz Curve for Mortality to Children Under the Age of Five in Rural Areas 1984-1988
 Adjusted by (2004-2007) age & sex, children under age 5





EXPLORER INNOVATOR PIONEER ADVENTURER VISIONARY TRAILBLAZER

Figure 3.19: Adjusted Lorenz Curve for Mortality to Children Under the Age of Five in Rural Areas 1984-1988
Adjusted by (2004-2007) age & sex, children under age 5

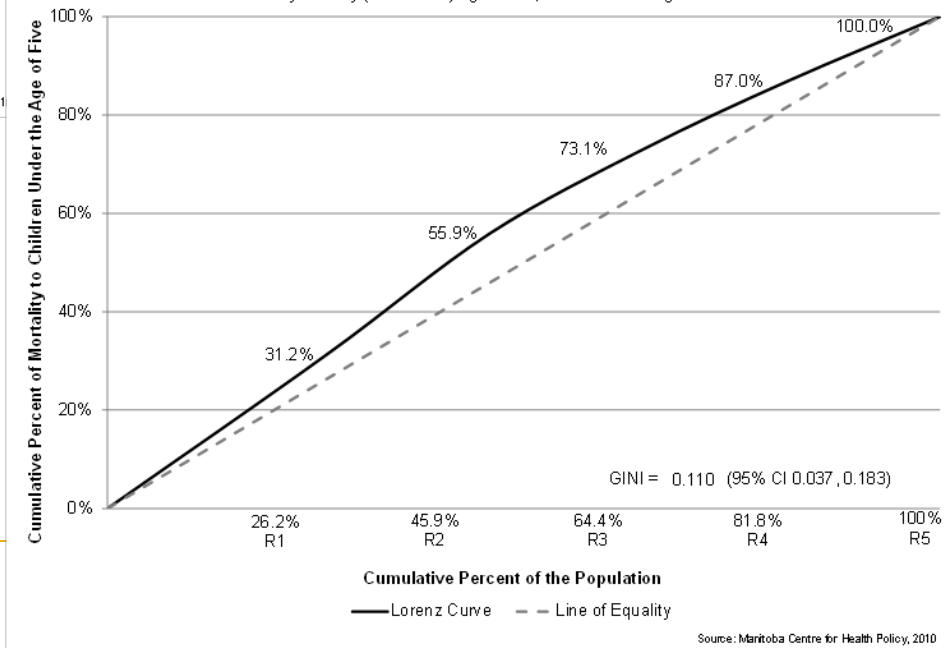


35% of infant deaths in lowest SES, representing 23% of population

31% of infant deaths in lowest SES, representing 26% of population

Change in Gini Coefficient over time: p=.08, NS

Figure 3.20: Adjusted Lorenz Curve for Mortality to Children Under the Age of Five in Rural Areas 2004-2007
Adjusted by (2004-2007) age & sex, children under age 5



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

- **USER INVOLVEMENT FROM START TO FINISH**
 - **integrated KT**
- **INTERACTIVE FORUMS**
- **RELEVANT RESEARCH FOR REGIONS**
- **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.

**But what about health inequities,
and translating this research into
policy?**

Key Article under discussion:

Martens PJ. The right kind of evidence – integrating, measuring, and making it count in health equity research. *Journal of Urban Health* 2012;89(6):925-936. DOI: 10.1007/s11524-012/-9738-y

- Online First TM Open Access (July 7, 2012) at: <http://www.springerlink.com/content/nglt87w44731q737/>

THE RIGHT KIND OF EVIDENCE—WHAT COUNTS AROUND THE DECISION-MAKING TABLE?

“Are we producing the right kind of evidence to advance health and health equity? And what kind of research impact do we want and can we expect from health and health equity research? The right kind of evidence is probably a moot point if we work in an integrated KT mode—“right” by research standards means the best possible approaches to answer the questions in the most valid and reliable way, and right by decision-maker standards means a research project which answers something relevant and of high importance.”

(Martens 2012:page 929)



Measuring SES gap over time: an exercise in what makes intuitive sense for planning and policy

- Pretend that you are the CEO of an RHA, or the Deputy Minister or Minister of Health. Someone gives you these graphs. Jot down the immediate message that the graph is giving you
 - Remember, we're trying to answer the question as to whether the gap between rich and poor for this fictitious disease is getting better, worse, or not changing over time



What's a Relative Risk (RR)?

- Relative Risk (RR) or Rate Ratio
- Take the rate for one group divided by the rate for the other group
 - If one group rate is 30 per 1000, and the other is 15 per 1000, then the $RR = 30/15 = 2$
 - i.e., the first group has double the rate of the second group
- For example, in these case studies:
 - Rate of disease per 1000 for lowest SES group divided by rate of disease per 1000 for highest SES group

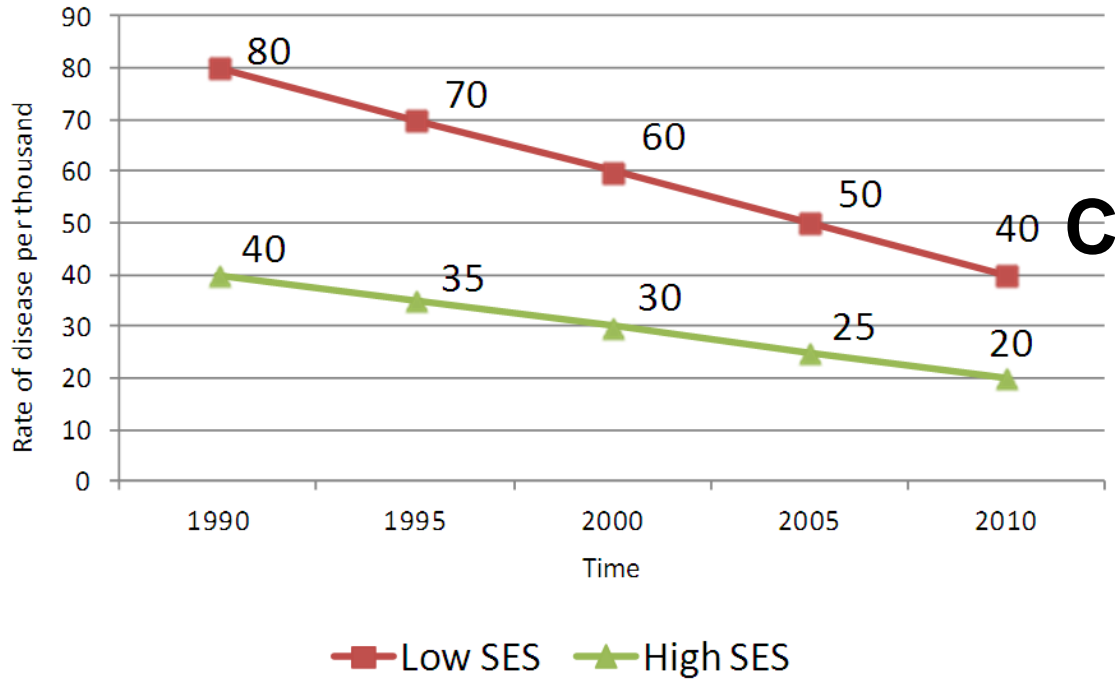


What's a Risk Difference (RD)?

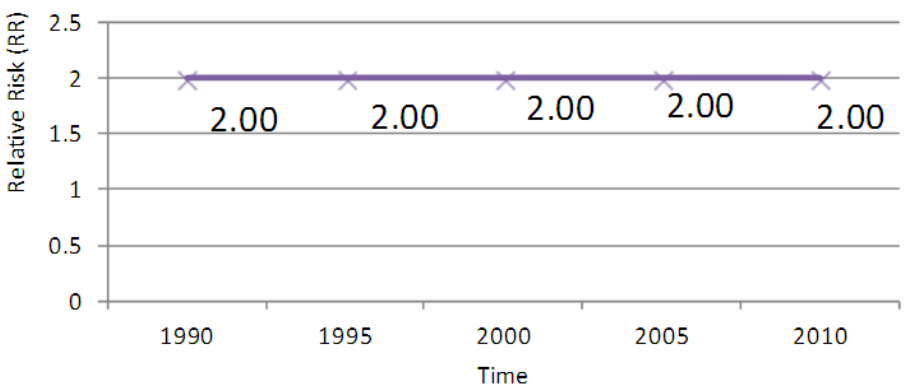
- Risk Difference (RD) or Rate Difference
- Take the rate for one group and subtract the rate for the other group
 - If one group rate is 30 per 1000, and the other is 15 per 1000, then the $RD = 30 - 15 = 15$ per thousand
 - i.e., the first group has 15 people MORE per thousand with the disease compared to the second group
- For example, in these case studies:
 - Rate of disease per 1000 for lowest SES group minus the rate of disease per 1000 for highest SES group



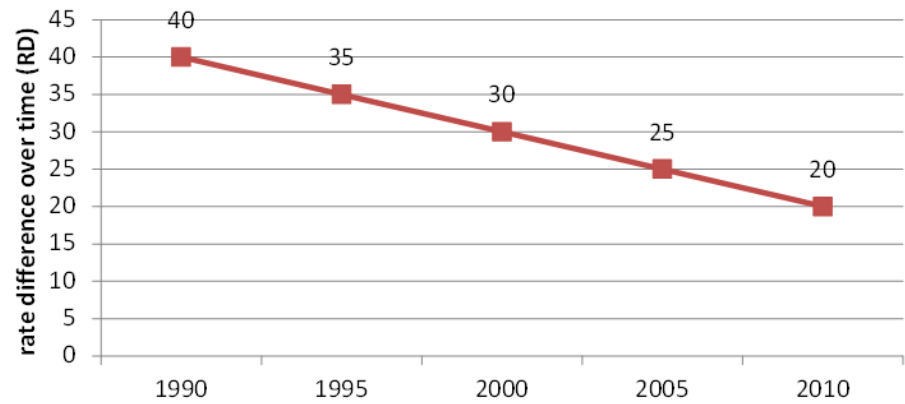
Case studies 1, 5, 9



Relative Risk of Disease over Time (Low SES compared to High SES)



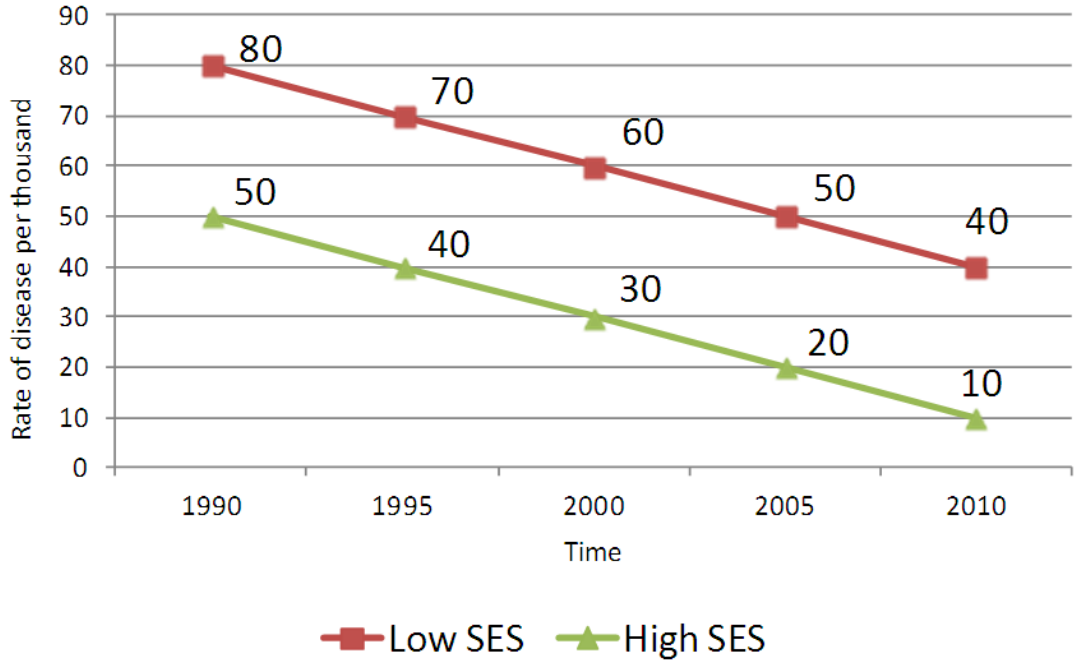
Risk Difference of Disease over Time: Low SES compared to High SES



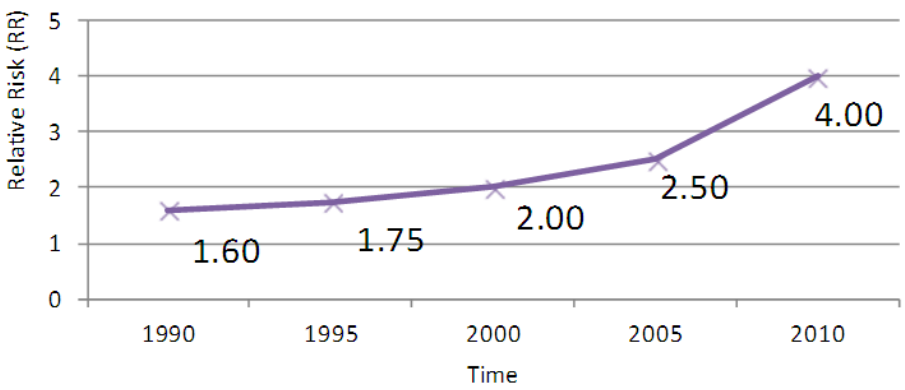


LAZER

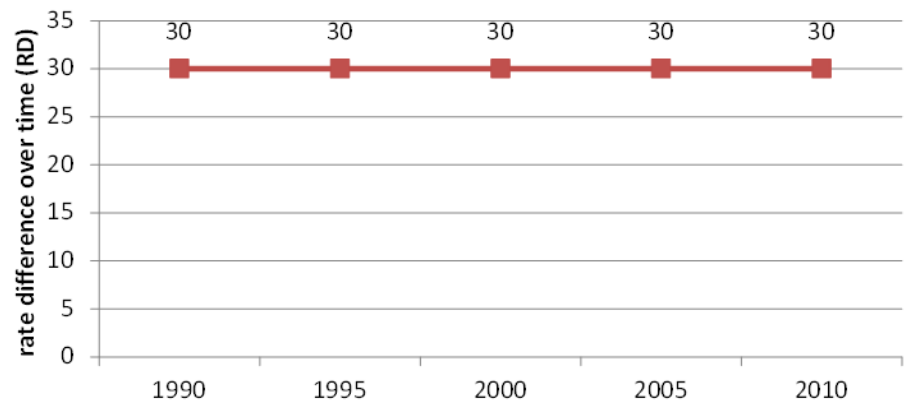
Case studies 2, 6, 10



Relative Risk of Disease over Time (Low SES compared to High SES)



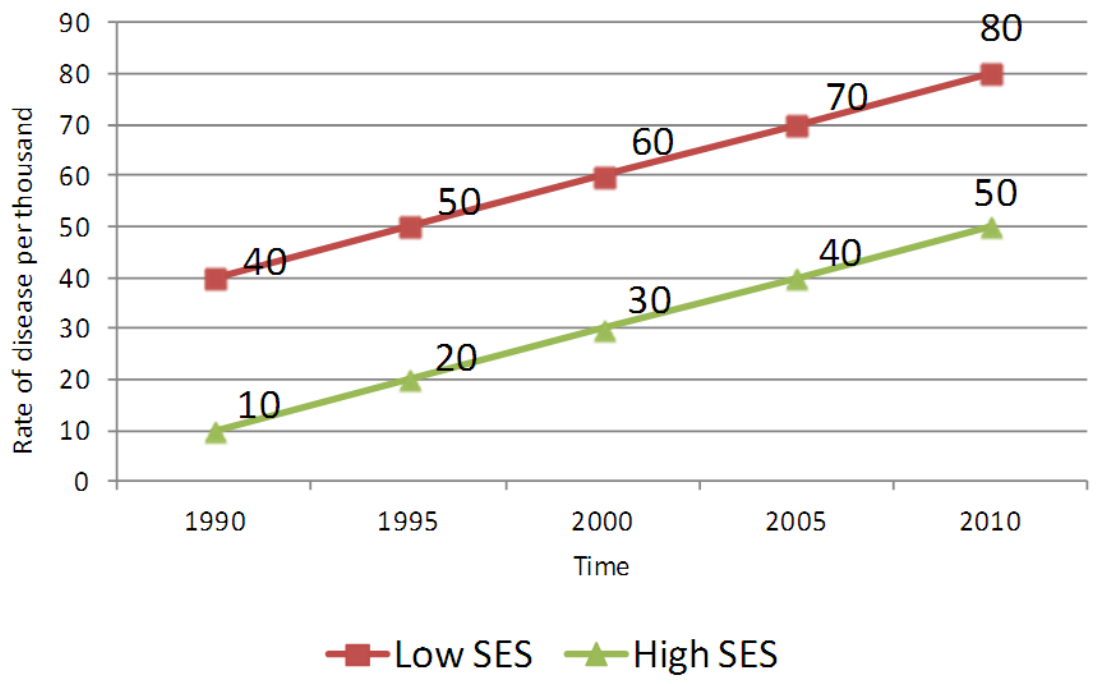
Risk Difference of Disease over Time: Low SES compared to High SES



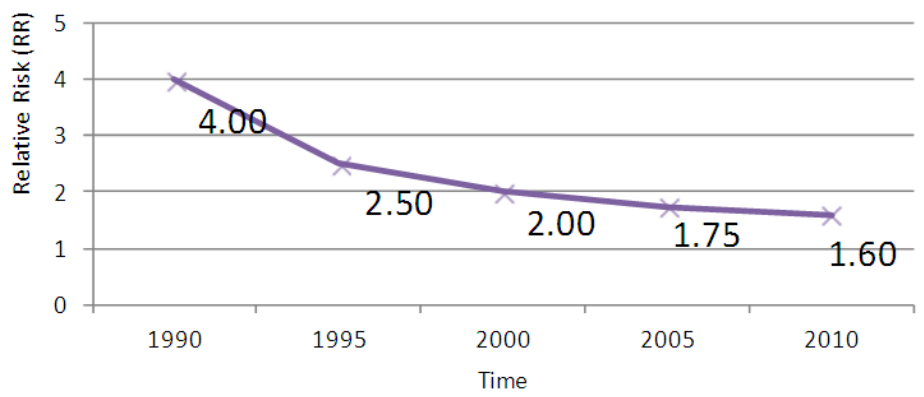


AZER

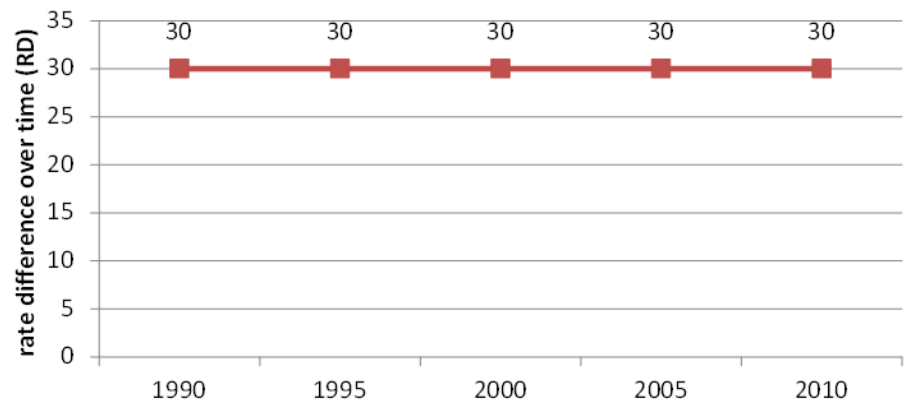
Case studies 3, 7, 11



Relative Risk of Disease over Time (Low SES compared to High SES)

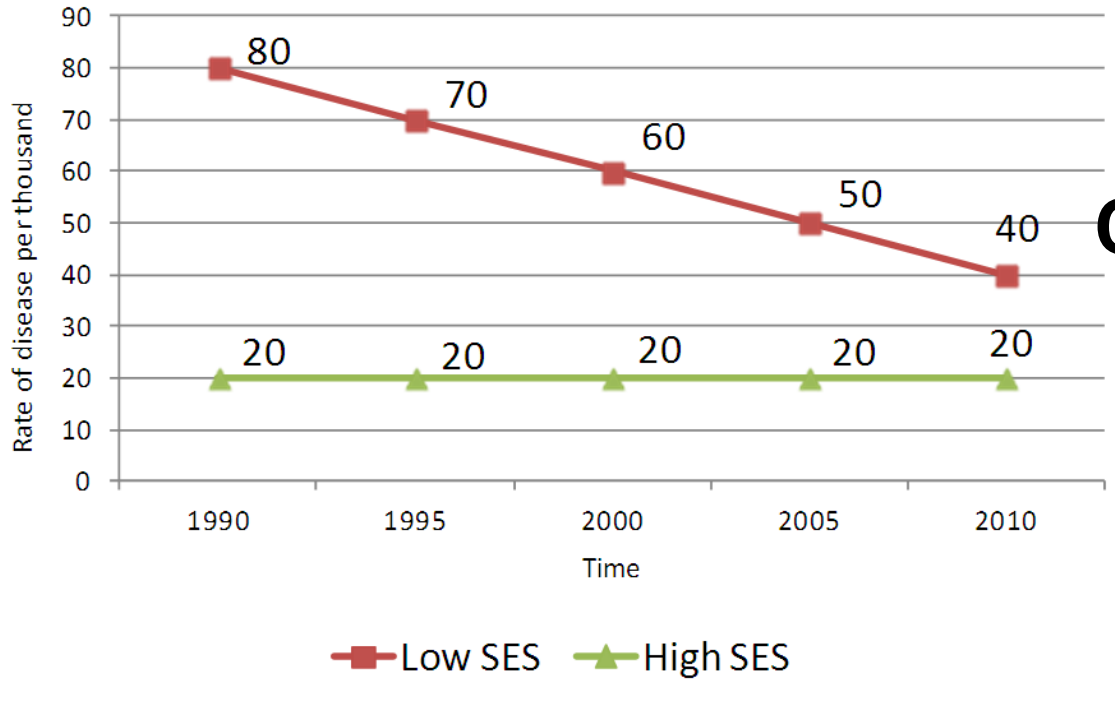


Risk Difference of Disease over Time: Low SES compared to High SES

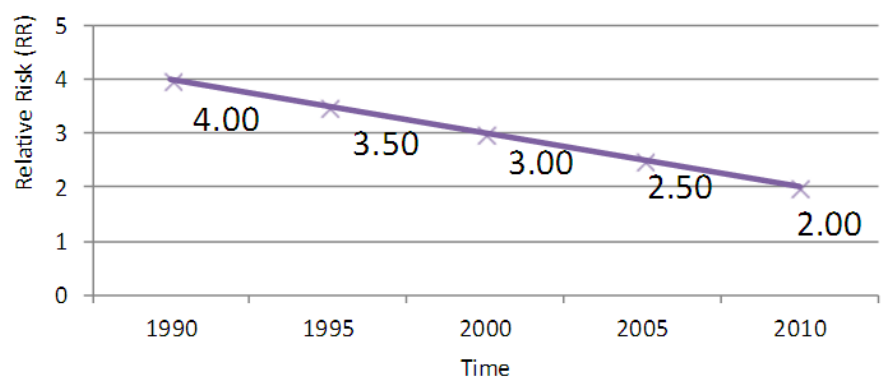




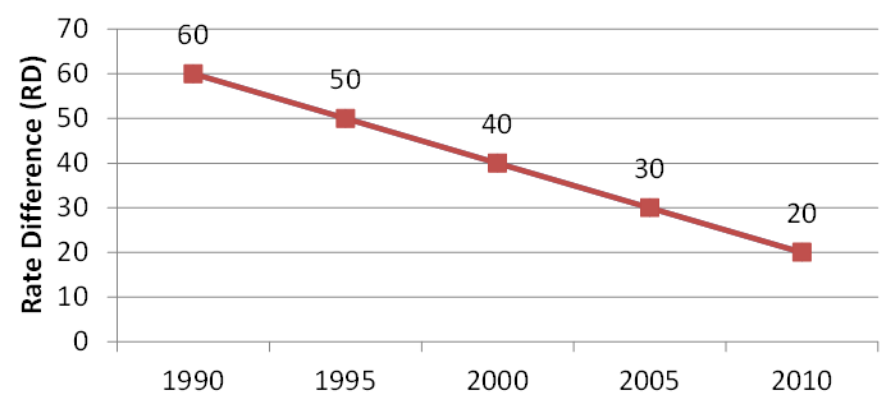
Case studies 4, 8, 12



Relative Risk of Disease over Time (Low SES compared to High SES)



Risk Difference of Disease Over Time (Low SES compared to High SES)



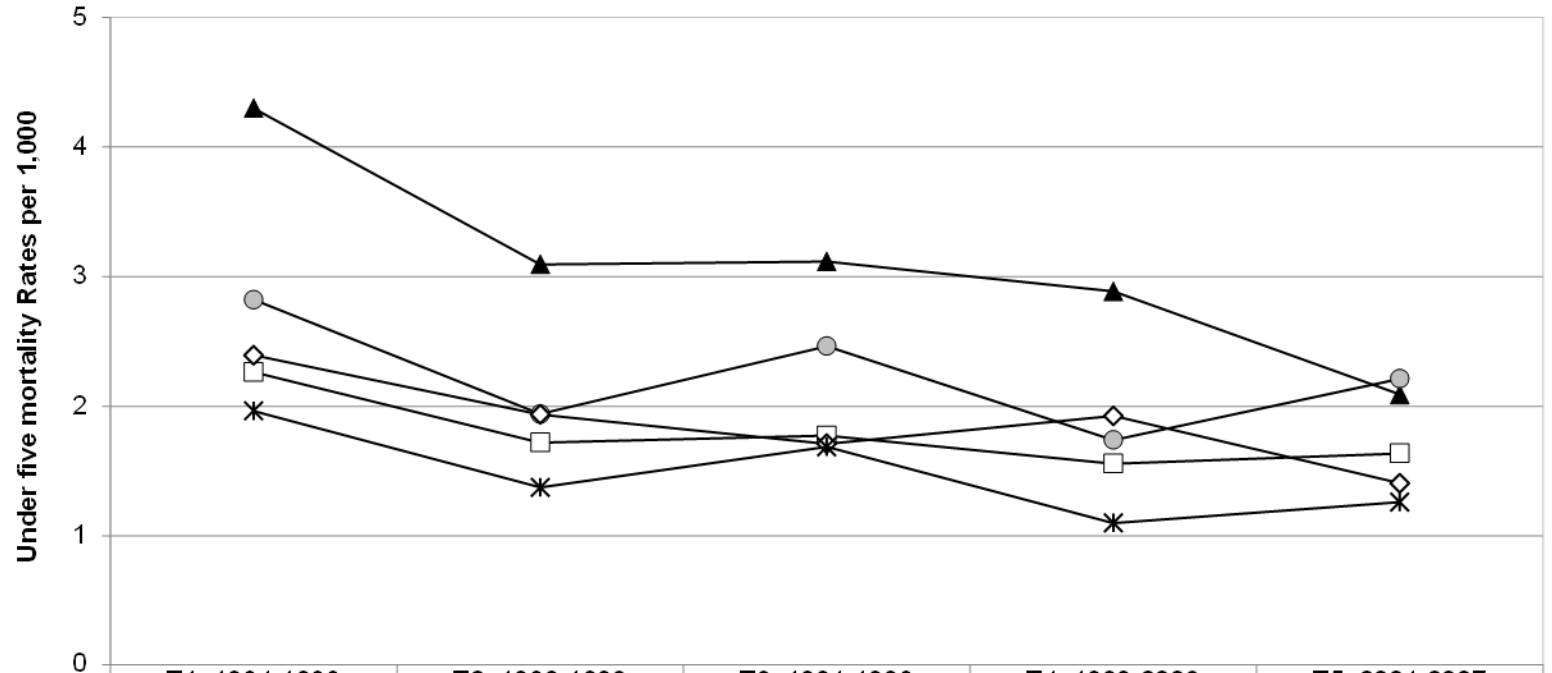


So what does that tell us?

- Be VERY careful of relative measures
 - The meaning may only be intuitive when the reference group in a time trend analysis has a rate that changes very little.
- If you are going to present relative measures, combine that with the **real rates**, and with other measures (like rate differences)
- **Age adjustment?**

Figure 3.17: Under Five Mortality Rates Over Time by Rural Income Quintile

Adjusted by (2004-2007) age & sex, annual rate per 1,000 children under age 5



	T1: 1984-1988	T2: 1989-1993	T3: 1994-1998	T4: 1999-2003	T5: 2004-2007
NF (Not displayed)	10.96	s	s	0.00	12.08
▲ R1 (lowest income)	4.30	3.09	3.12	2.89	2.09
● R2	2.82	1.94	2.46	1.74	2.21
□ R3	2.26	1.72	1.77	1.56	1.64
◇ R4	2.39	1.94	1.71	1.93	1.41
* R5 (highest income)	1.96	1.37	1.69	1.10	1.26

Disparity Rate Ratios (R1/R5) 2.19 2.25 1.85 2.63 1.66

Disparity Rate Differences (R1-R5) 2.33 1.72 1.43 1.79 0.83

Time Period (years)

Comparison of Disparity Rate Ratios T5 to T1: 0.76 (95% CI: 0.45, 1.27) NS

Martens et al. 2010

Comparison of Disparity Rate Differences T5 to T1: 0.36, p < .01

Source: Manitoba Centre for Health Policy, 2010

Lessons from deer signs (very short version)

Collected over a decade by
Pat Martens and friends!

Message #1

- Are the deer really different, or do we just perceive them as being different? We need comparative data to tell us that.
- Even regions can have very different populations within them –we need contextual data

Message #2

- Look for indicators and measures wherever you can find them to assist in your research projects!
- And if you can't find GOOD data, figure out how to collect it (with input from researchers, planners, decision-makers, health care providers, AND privacy people!)

Message #3

- We must analyze and interpret data with the highest standards of research skill
 - Ask the users of the data, and the people closest to the situation to help you interpret the data and work toward change, so you “get it right” (and don’t sound foolish to the insiders!)

Message #4

- Never lose sight of the fact that indicators and numbers are telling you a story about REAL PEOPLE, so **don't get frustrated** trying to get evidence into action

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twitter.com/mchp_umanitoba
(@mchp_umanitoba)



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

Youtube video about our workplace ...

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

EXPLORER INNOVATOR ADV

REBEL ADVENTURER TRAILBLAZER

INNOVATOR CHALLENGER REBEL VISIONARY

REBEL PIONEER CREATOR EXPLORER TRAILBLAZER INNOVATOR

ADVENTURER EXPLORER ADVENTURER TRAILBLAZER REBEL PIONEER CREATOR EXPLORER REBEL PIONEER

PIONEER CREATOR EXPLORER DEFENDER TRAILBLAZER REBEL PIONEER EXPLORER ADVENTURER TRAILBLAZER REBEL EXPLORER PIONEER DEFENDER TRAILBLAZER CREATOR



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