Health Inequity in Saskatoon:
Using Local Data to Influence Programs and Policies that Build Equity

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Outline

- Increasing availability of data and tools for analysing data sources at small area geography levels
- Statistics: the foundation for building a local response
  - The need for robust local data
  - Building public and political awareness and will
- How is it being used?
  - Changes to Public Health programs and policies
  - Inter-sectoral work (e.g. advocacy for policy change (SDOH); community action plans, data access and monitoring i.e. Saskatoon's "CommunityView" system)
  - Working with the rest of the Health System (embedding the work in quality improvement, Chronic disease management / health care equity audit approach)

Introduction

- Factors driving the demand for local data in decision making:
  - Exponential improvements to computing capacity (“Moore’s Law”),
  - emerging desktop and internet based software designed to take advantage of this capacity (database storage, GIS and interactive mapping, analysis software)
  - Improved methods for population based analysis and intervention research
  - Research findings in the areas of health inequities, built environment, place and health, neighbourhood analysis
  - Emphasis on quality and safety in health care
  - Increasing number and quality of data sources available at low levels of aggregation
  - Funding pressures demanding more sophisticated analysis for decision making
  - etc

The Need for Local Statistics

- Robust analysis of large datasets at high levels of aggregation
  - Excellent for quantifying, describing, and proving attributable risk, causation, theoretical relationships, etc
  - Less useful for local decision making, program and policy changes
- Descriptive analysis using small area, local geographies at lower levels of aggregation
  - Excellent for knowledge translation to decision makers, resource allocation and program planning exercises
  - Pitfalls of ecologic analyses need to be taken into account

Local Solutions and Activities

- Program of research started for small area geography analysis focusing on Health Disparities
- Health Status reports start publishing data by various stratifications (age, sex, geography, Social Determinants)
- Media interest leads to increased public awareness and demand for change
- Decision makers start demanding more work on solutions, comparative research, and monitoring effectiveness of interventions
- Policy and program change picks up speed

National and International Work on Health Inequalities/Inequities

WHO Commission on the Social Determinants of Health Final Report August 2008 “Closing the Gap in a Generation: Health Equity Through Action on the Social Determinants of Health”

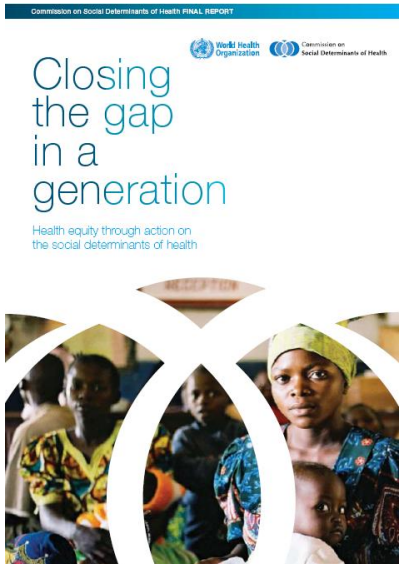
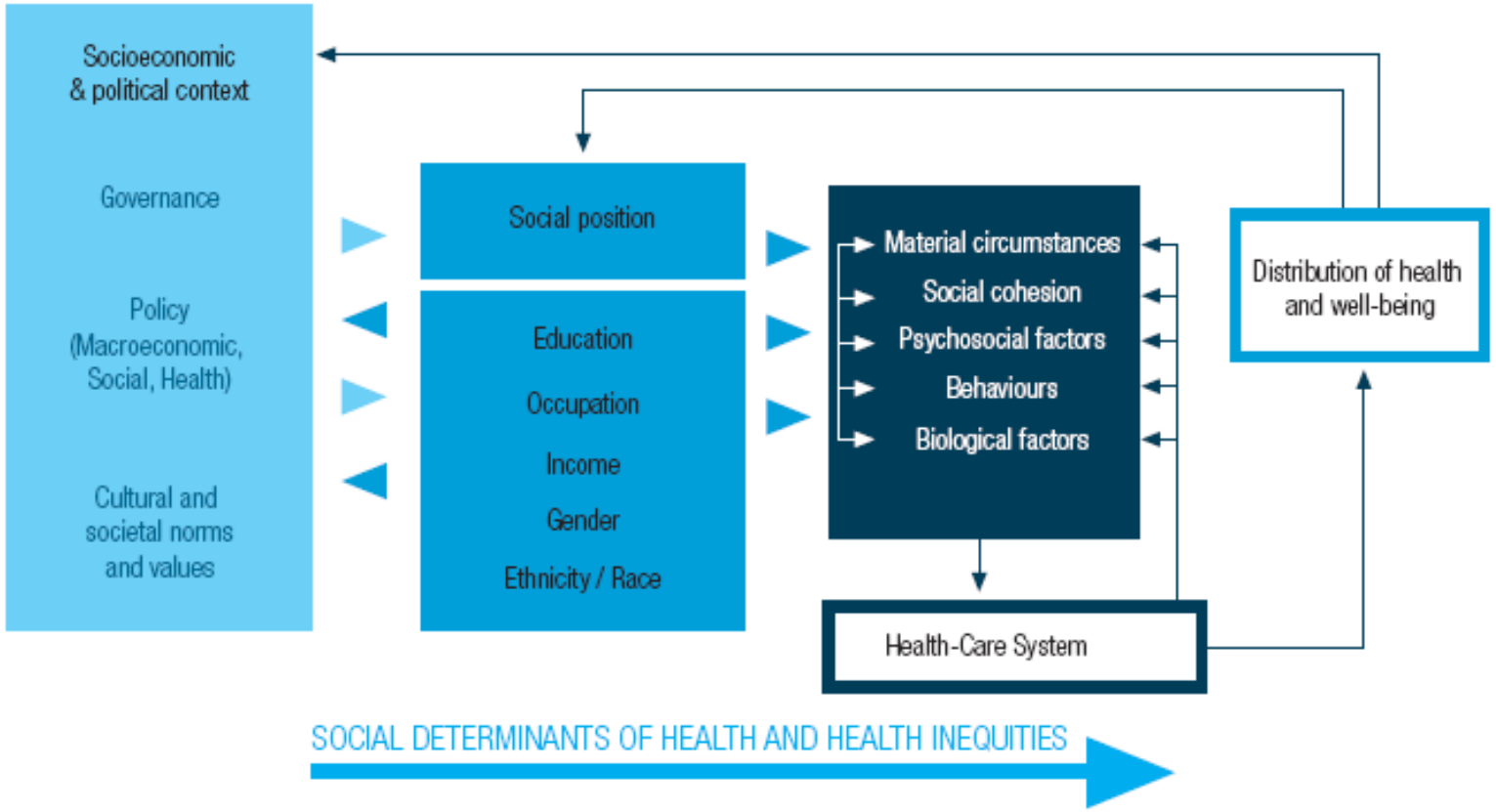
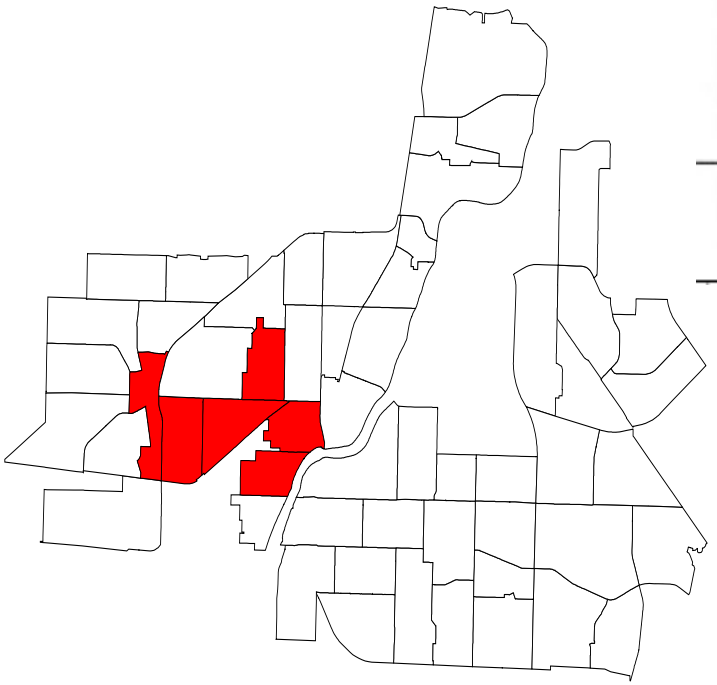


Figure 4.1 Commission on Social Determinants of Health conceptual framework.



Source: Amended from Solar & Irwin, 2007

Saskatoon neighbourhood analysis boundaries, excluding industrial and development areas, 2005



Legend

- Affluent neighbourhoods
- Rest of Saskatoon
- Low income neighbourhoods

Comparison of Socio-economic Status in Saskatoon Neighbourhoods

	Low-income Neighbourhoods	Rest of Saskatoon	Affluent Neighbourhoods
Population size*	18,228	184,284	16,683
Average family income	$30,429	$63,705	$99,096
Incidence low income, % (CI)†	44.0 (42.5-45.6)	12.3 (12.0-12.6)	3.7 (3.2-4.3)
Less than grade 9 education, % (CI)	14.8 (14.2-15.5)	5.3 (5.1-5.4)	2.2 (2.0-2.5)
Unemployment, % (CI)	18.1 (17.2-19.1)	6.5 (6.3-6.6)	4.3 (3.9-4.7)

Information Source: 2001 Statistics Canada Census

* Population size is based on the Saskatchewan Health covered population

† (CI) refers to 95% confidence interval

Health Issue	**Rate Ratio Core : Total Saskatoon**	**Rate Ratio Core : Affluent**
Hospitalizations		
Suicide Attempts	3.75 (275%)	15.58 (1458%)
Mental Disorders	1.85 (85%)	4.27 (327%)
Injuries and Poisonings	1.54 (54%)	2.46 (146%)
Diabetes	3.98 (298%)	12.86 (1186%)
COPD	1.38 (38%) n/s	1.53 (53%) n/s
Coronary Heart Disease	1.34 (34%)	1.70 (70%)
Stroke	1.33 (33%) n/s	1.82 (82%) n/s
Cancer	0.89 (no difference) n/s	1.02 (no difference) n/s

Health Issue	Rate Ratio (% higher) Core : Total Saskatoon	Rate Ratio (% higher) Core : Affluent
Physician Visits		
Mental Disorders	1.52 (52%)	2.28 (128%)
Injuries and Poisonings	1.35 (35%)	1.91 (91%)
Diabetes	1.71 (71%)	2.11 (111%)
COPD	1.43 (43%)	2.42 (142%)
Coronary Heart Disease	1.12 (12%)	1.44 (44%)
Stroke	0.88 (no difference) n/s	1.58 (58%)
Cancer	0.77 (no difference) n/s	1.00 (no difference) n/s
Prescription Drug Use		
Mental Disorders	1.21 (21%)	1.62 (62%)
Diabetes	1.80 (80%)	2.60 (160%)

Health Issue	Rate Ratio (% higher) Core : Total Saskatoon	Rate Ratio (% higher) Core : Affluent
Public Health / Reportable Diseases		
Chlamydia	4.32 (332%)	14.89 (1389%)
Gonorrhea	7.76 (676%)	n/a
Hepatitis C Notifications	8.04 (704%)	34.60 (3360%)
Complete MMR coverage by age 2 yrs	Core 46.4% Avg. 68%	Affluent 94.9%
No MMR by age 2	Core 10.7% Avg. 3.5%	Affluent 1.7%
Health Status Indicators		
Teen Births	4.21 (321%)	16.49 (1549%)
Infant Mortality Rates	5.48 (448%)	3.23 (123%) n/s
Low Birth Weight	1.46 (46%)	1.10 (10%) n/s
All Cause Mortality	1.04 (no difference) n/s	2.49 (149%)

Adult Survey to gauge attitudes and support for policy change

- 5000 adults in SHR surveyed before results of research on health disparities released
- Determined degree of knowledge of health disparities, attitudes about change, and support levels for various policy options to reduce health disparity
- The vast majority of people recognized that disparities exist, and felt something could be done to reduce them, but underestimated the size and pervasiveness of the problem
- High levels of support for many policy options, but disagreement on how to fund these interventions

Survey Data Summary

- 5000 respondents in and around Saskatoon with representation from Inner city (including interviews with homeless people and those without telephones), rest of Saskatoon, and rural residents.
- Response rate 62%. Representative by age, income, neighborhood, income, cultural status. F slightly > M
- Asked about their knowledge and attitudes towards health disparities, and their degree of support for various policy change options

Survey Data Summary

- 80% of people agree that the poor are more likely to suffer from poor health
- However, they tend to assume it is only in areas such as suicide attempts, diabetes, HIV/STI's, while they feel there would be no difference for mental illness, injury, heart disease, breathing problems, stroke and cancer
- If health status does differ by income, they believe an "acceptable level" would be:
  - 0% 49% of people
  - 10% 12% of people
  - 25% 17% of people
  - 50% 20% of people
  - >100% 4% of people
- High level of support for many policy options that have been shown to decrease disparity in health, education, employment, education etc.
- Highest levels of support for policies that focused on children and families
- Lack of consensus on how to finance these policies

Public Release of Initial study

- Fall 2006 – Large media event with several days of front page coverage and mini-documentaries on the issue and potential solutions.
- Many partners participated with us, showing their solidarity, and announcing immediate and planned program and policy change
- SHR pledge to study the issue in more detail, compare ourselves to other centres, and provide evidence based policy and program solutions with our partners in the coming years

Public Health Follow up and Research grants

- Reducing Health Disparity in Saskatoon (major focus on middle school aged children) 2007 - 2010
- Improving childhood immunization coverage rates in inner city neighborhoods 2007-2010
- UPHN / CPHI Urban Health Disparity reports 2008, 2010
- From Analysis to Intervention policy options report 2008
- Health Promotion Department changes and Building Health Equity program evaluation
- Health Care Equity Audits
- Intersectoral work
- Work with Business community, faith community, other partners

School based intervention research

- Survey results conveyed to school division leaders, teachers and students. Priority areas for intervention chosen:
  - Physical activity promotion
  - Mental Health treatment and promotion
  - Bullying and violence prevention

HEALTH DISPARITY IN SASKATOON

Analysis to Intervention

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Evidence-Based Policy Options

- **46 Evidence – based policy options listed in areas such as:**
  - **Income distribution**
  - **Housing**
  - **Social policy**
  - **Education**
  - **Health**
  - **Aboriginal self – governance**
- **Aimed at local, provincial and federal levels**

Credits

Research Team

Mark Lemstra, Ushasri Nannapaneni, Christina Scott, Tanis Kershaw, Wendy Sharpe, Norman Bennett, Josh Marko, Lynne Warren, Terry Dunlop and Gary Beaudin

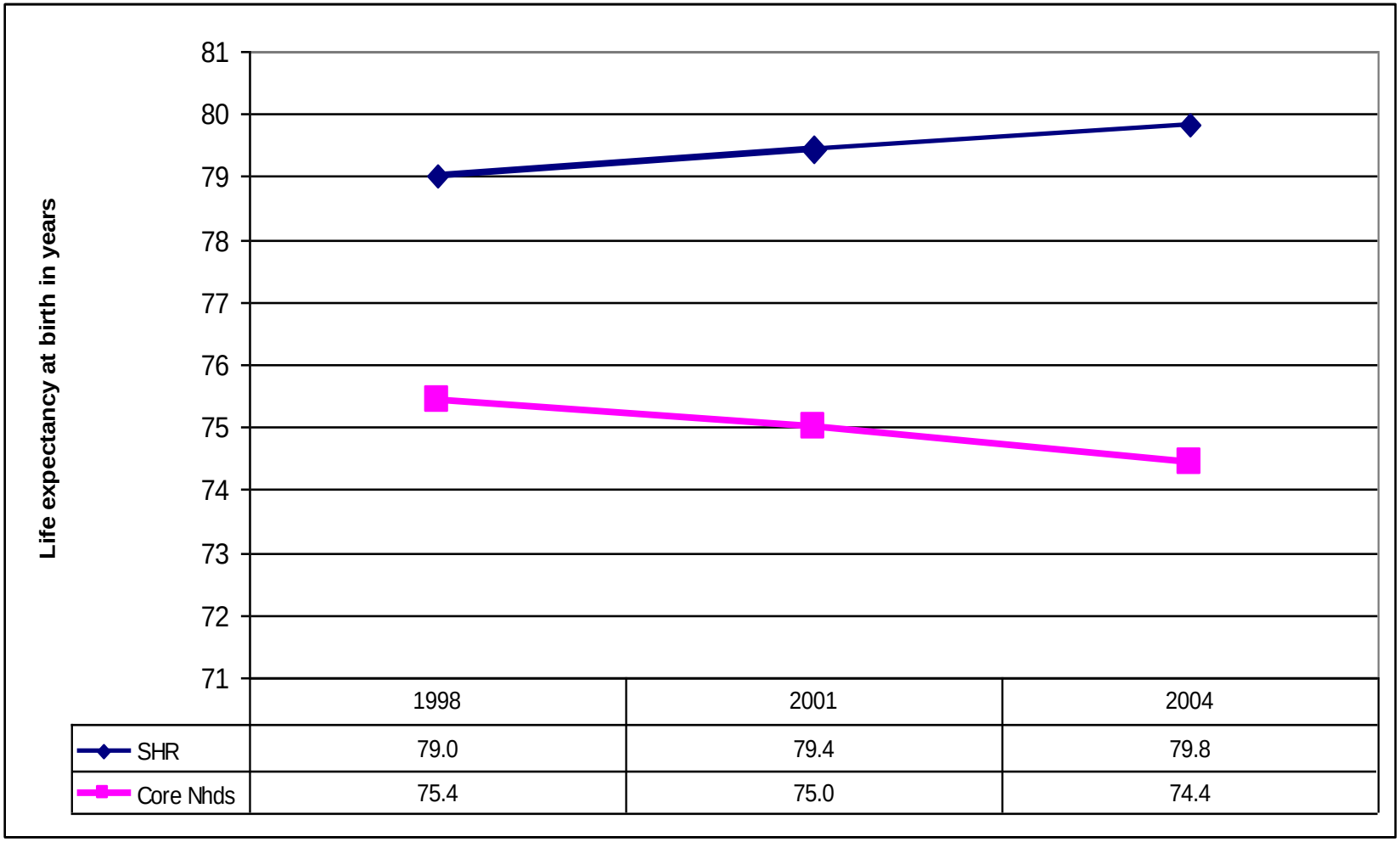
Funding

The Canadian Institutes for Health Research for their grant titled: “Reducing Health Disparity in Saskatoon”

HEALTH STATUS 2008 REPORT

A Report of the Chief Medical Health Officer

Saskatoon Health Region
Life expectancy in years, 1998-2004

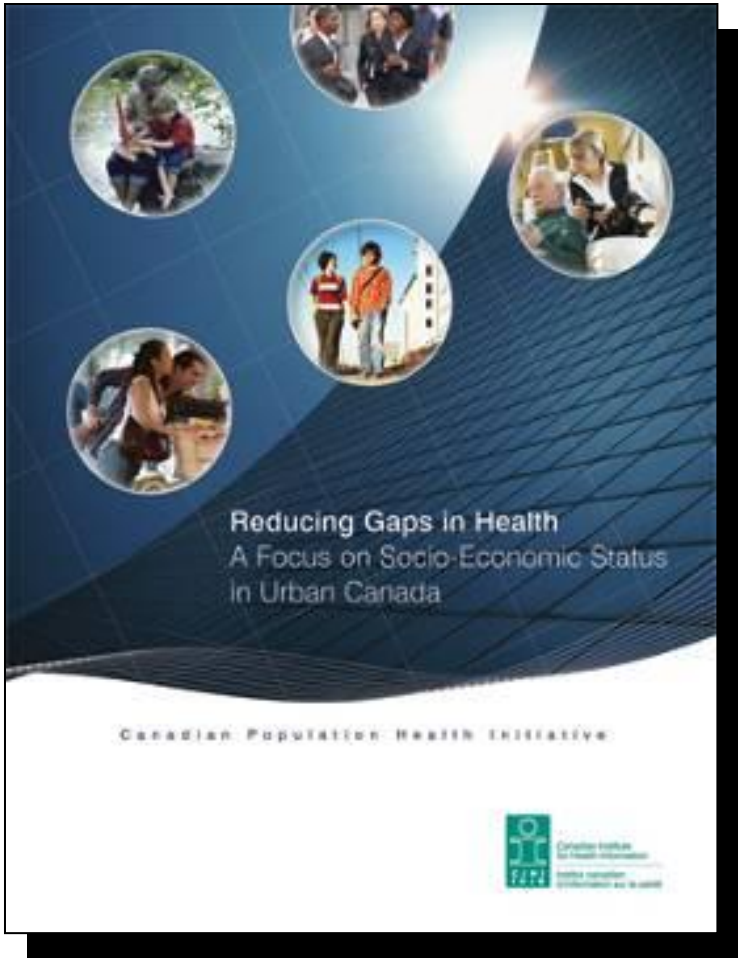


	1998	2001	2004
SHR	79.0	79.4	79.8
Core Nhds	75.4	75.0	74.4

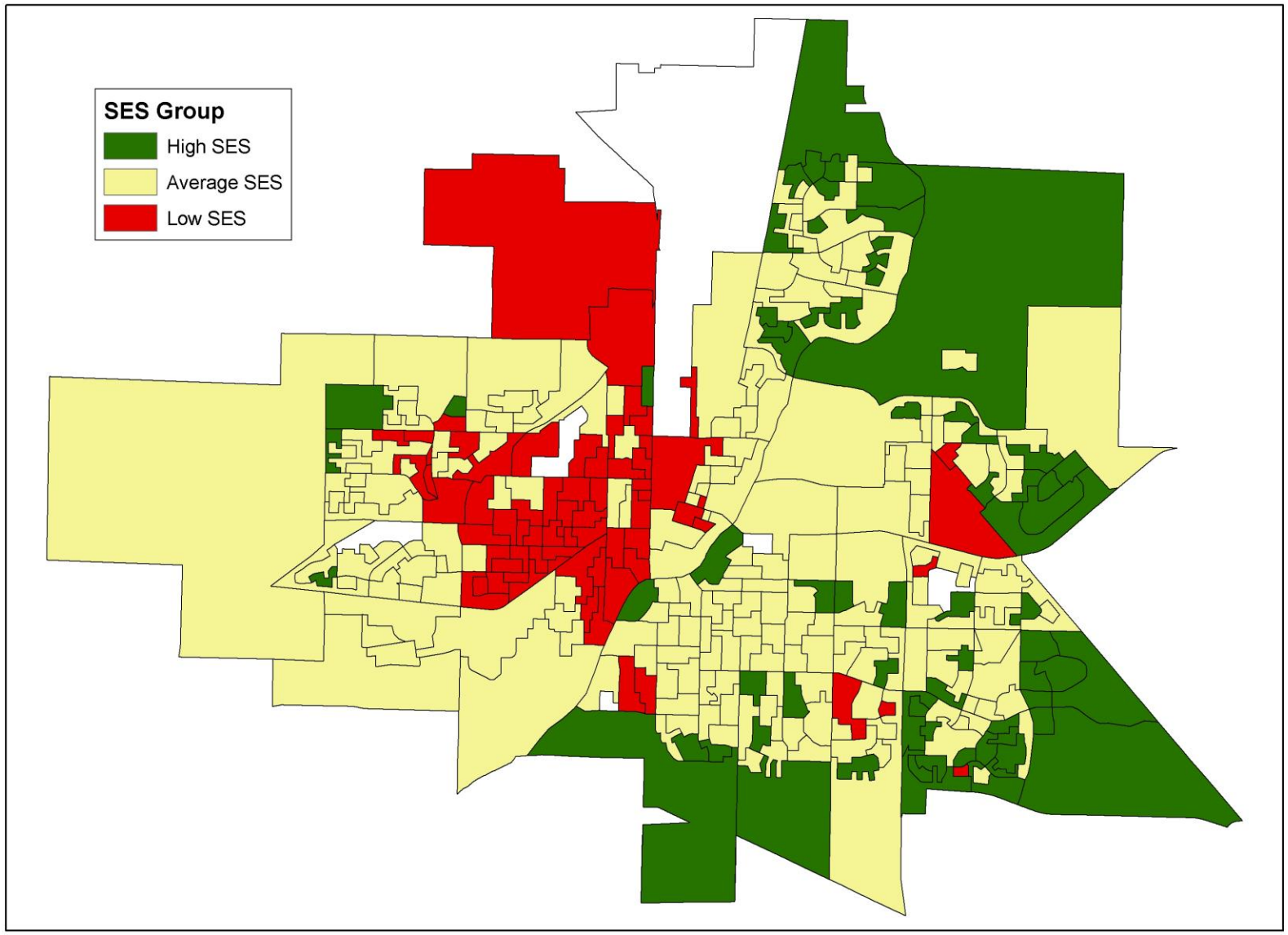
A collaboration between the

Canadian Population Health Initiative and the

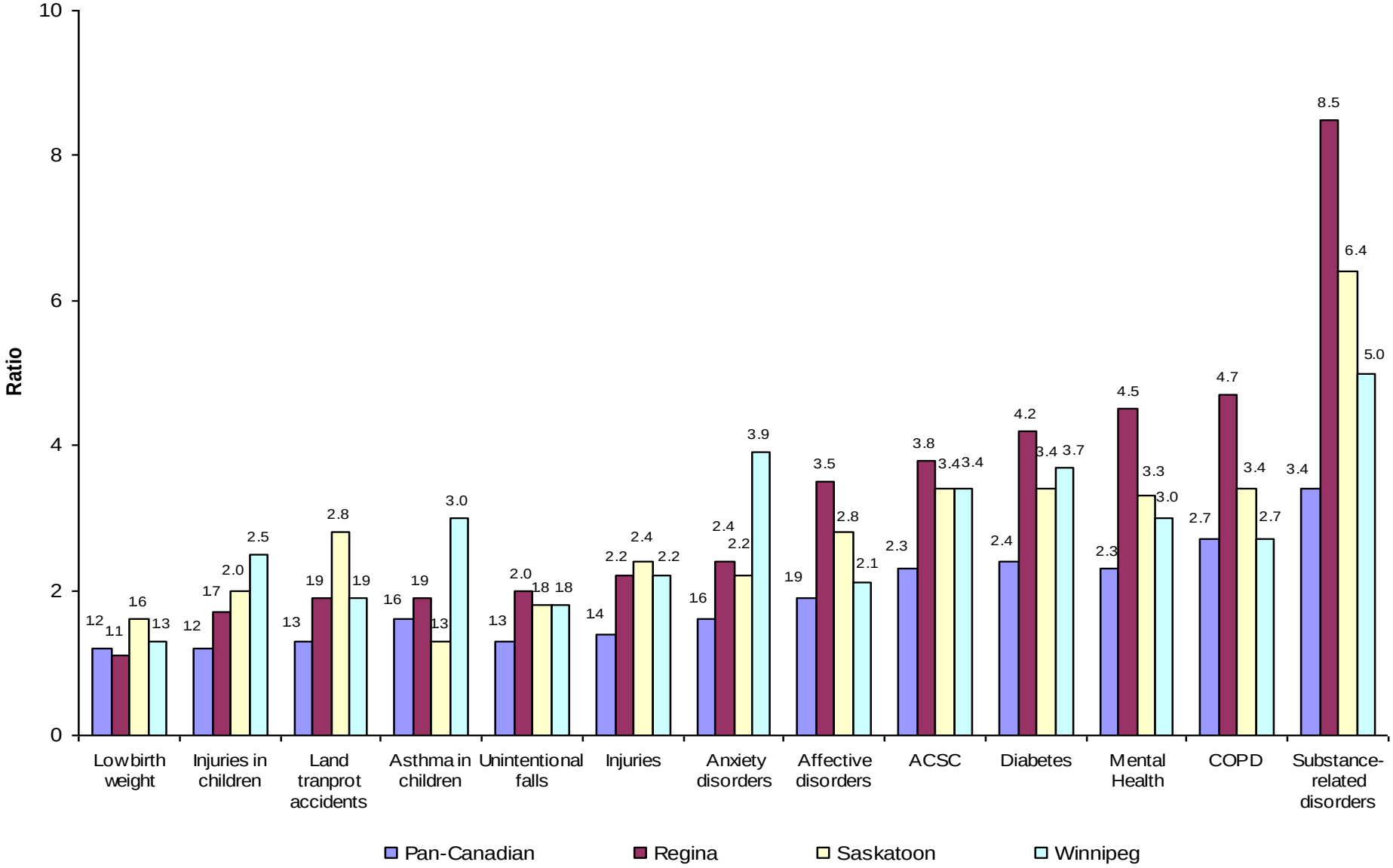
Urban Public Health Network



Saskatoon Analysis of Dissemination Areas by Deprivation Index Quintiles



Ratio of Age Standardized Hospitalization Rates Between Low and High SES Groups, Pan-Canadian, Regina, Saskatoon and Winnipeg



Source: RQHR presentation on CPHI study

Reorient local Public Health Services

- Examples:
  - "Building Health Equity" program
  - School Health interventions:
    - Mental health promotion
    - Physical activity promotion
    - Violence prevention
  - Immunization coverage enhancements

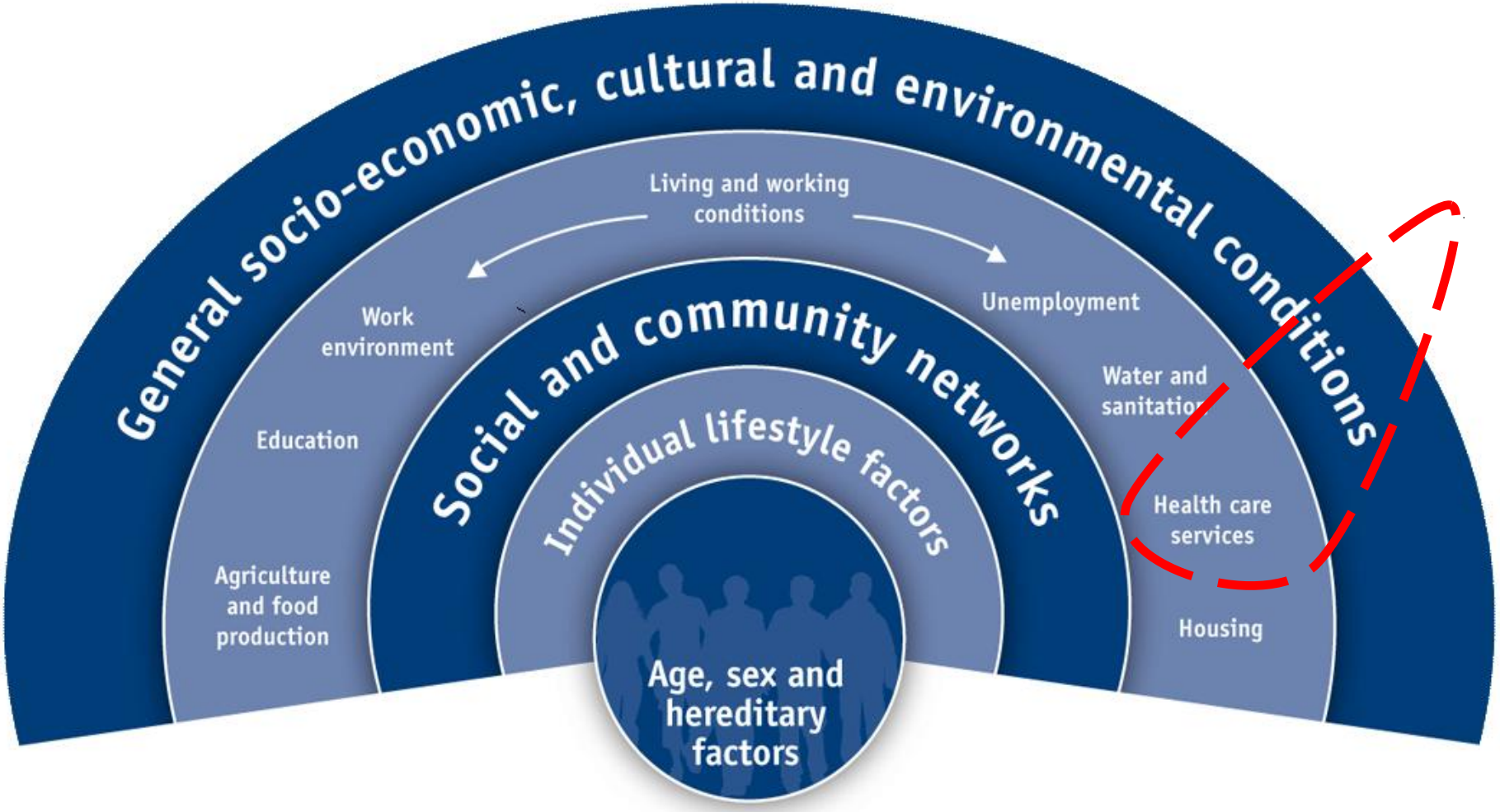
Saskatoon Inter-sectoral work at community level

- Report for Regional Inter-sectoral Committee
- Action Plan to reduce poverty
  - Work with faith community, business sector, social justice groups, people living in poverty
  - Realign health promotion dept, secondment of manager
  - Policy analyst work to refresh report and monitor progress
  - “Community View Collaboration” as an online tool for Knowledge Translation and Evaluation

Work within the rest of the health system

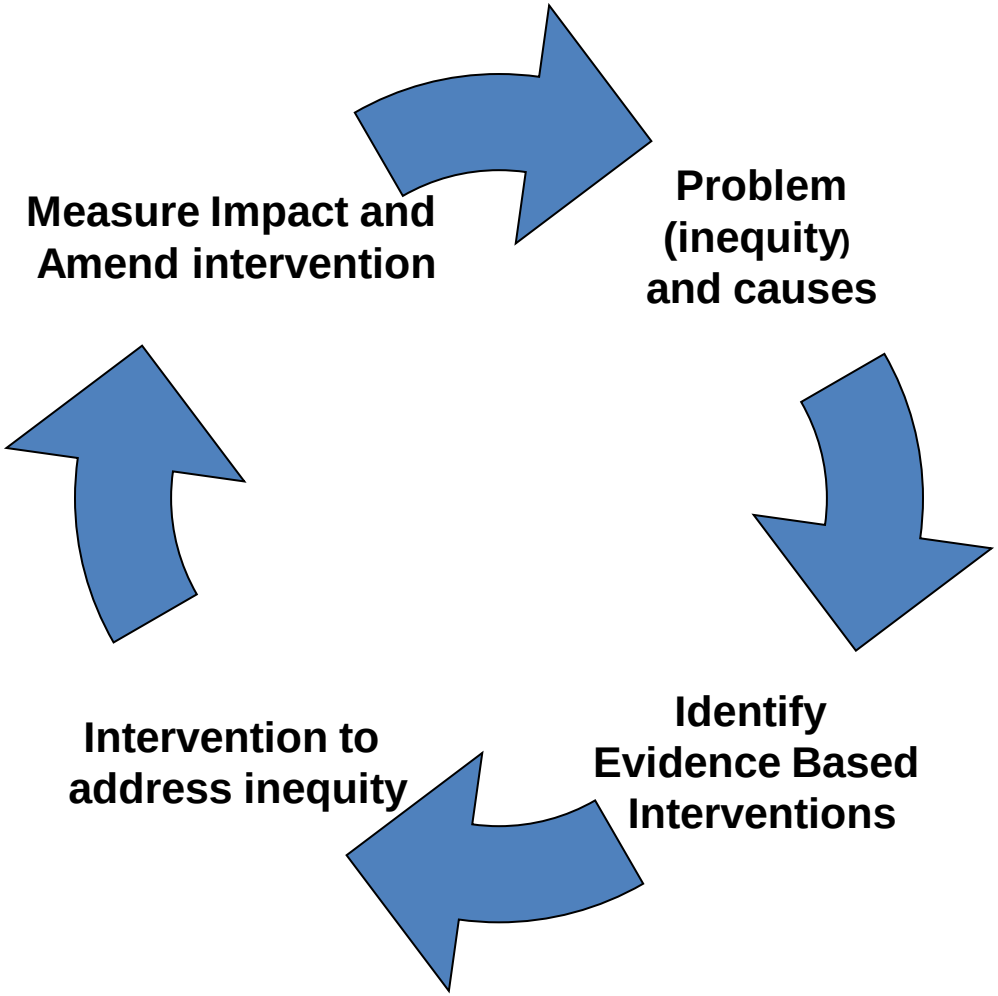
- Health Care equity audits
  - In public health
    - progress to date from immunization initiatives
  - In a medical area
    - Data from diabetes audit, and plans for interventions with specialists, primary care, CDM&P, public health
  - In a surgical area
    - Data from surgical audit and plans for further analysis and intervention

Factors that influence our health



Source: Dahlgreen, G. & Whitehead, M. (2006). *European strategies for tackling social inequities in health: Levelling up Part 2.* World Health Organization.

Health Care Equity Audit Cycle



Health Care Equity audit Immunisation

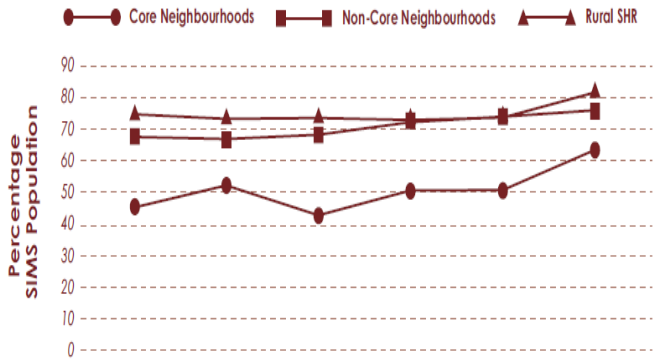
Problem
Low Immunisation rates
Core Neighbourhood

Lit Review –
Evidence Based practice
for Improving Rates

Implement Phone based
reminder system for parents
And other service changes

Measure Impact and
Amend intervention

Figure 4.3: Two Year Old Coverage Rate for Rubella and Measles (Two Doses), Saskatoon Health Region, 2003-2008



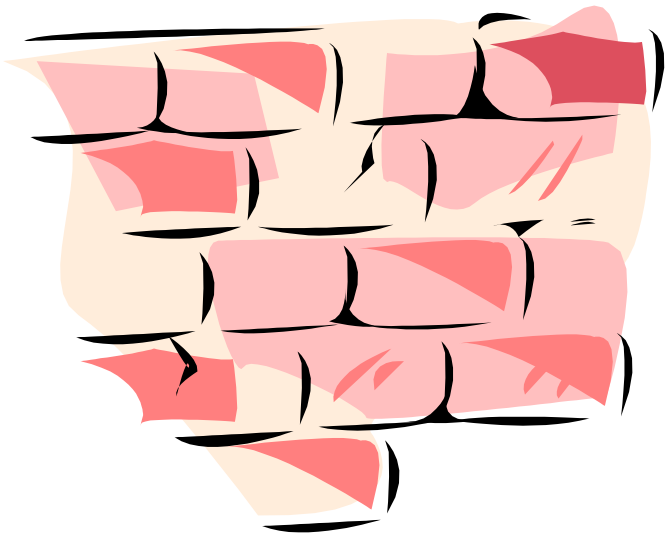
	2003	2004	2005	2006	2007	2008
Core Neighbourhoods	45.4	52.3	42.9	50.7	50.9	63.5
Non-Core Neighbourhoods	67.6	66.9	68.3	72.2	74.0	76.0
Rural SHR	74.7	73.3	73.5	72.9	73.7	81.6

Source: Saskatchewan Immunization Management System

Barriers to Quality Healthcare

Patient

- Affordability
- Family responsibilities
- Emotional stress
- Demands of work
- Language
- Lack of awareness



Service

- Availability of service
- Culturally insensitive services
- Complexity of access
- Bad experience of service
- Discrimination
- Clinical practice

Health Equity Audit Next Steps

- Meetings with key health care providers and patients in each of the studied areas (diabetes, Home care, Psychiatry, others?) to determine modifiable causes of inequity and design interventions

What Can We Do?

- **Recommend an All-of-Government approach to this issue. Work to make "Reducing the Gap" or "Promoting Prosperity" a foundational goal (with a focus on children and youth).**
  - E.g. 3 priority areas for action in UK:
    - Increase social and economic supports (income, education, etc)
    - Improve access to health services for the poor (esp. primary care and targeted interventions on lifestyle related issues)
    - Support people to improve their lifestyles (make it easier for people to make healthy choices) Allen Johnson (UK Sec of State) Nov 2008
- **Make it clear that it is a political choice to set the poverty rate in a jurisdiction.**
  - E.g."The Min of Finance can choose what level of poverty we will live with" M.Marmot 2008
- **Don't let special interest groups sway resolve by claiming "now is not the time"**
  - Largest gains in Life expectancy in UK came in the 2 decades of world war (social solidarity leading to the welfare state) therefore there is opportunity in our current economic crisis. M.Marmot 2008
  - There is a business case to be made for intervention and prevention

What Can We Do?

- **Need 2 things to effect change on health inequities:**
  - Community support
  - Political will
- **Reducing the Gap is an ethical imperative, not a partisan issue, but it needs to be translated into whatever language is understood by the various sectors to which you are speaking. Different ideologies may support different elements within an overall strategy. E.g**.
  - Business sector – how will they benefit economically (reduced costs overall), morally/ethically, workforce stability and productivity, labour availability
  - Religious community – poverty and social justice issues in close to 3000 verses in the Bible, historical role of the church in solutions
  - Gov't – cross ministerial approaches, overall decrease in costs to government over time. Healthy Public Policy approach (Health Impact Assessment (QC), Health Equity Audit (UK), Equity Impact Review (USA) Needs to be a plank in all party platforms as an overarching strategy, not individual solutions advanced in silos
  - Aboriginal government issues – discrimination and racism is underlying contributor, self governance helps.

What Can We Do?

- Partner in ongoing research on health inequity
- Promote robust, regular reporting on progress – report cards, repeated health inequities reports and research to monitor situation and evaluate interventions
- Promote mechanisms that allow or encourage inter-ministerial solutions
- Become aware, and educate politicians and the public about the causes and solutions
- Adopt what has worked in other places, or work together with other provinces to collectively ask for federal policy changes
- Take part in Provincial, National and North American action in response to WHO Commission report
- Change what you can in your own sphere of influence (home, school, workplace, neighbourhood, community, etc) locally, provincially, nationally, globally
- Educate students about the impacts of inequity and social injustice
- Make the case for more investment in Determinants of Health

Ongoing reporting plans

- 2011 Health Inequity report, using 15 years of data, more data sources, refined geographies and measures of SES looking at trends and priorities (est. late fall release)
- School health survey final report (early 2012)
- Child health status report (spring 2012)

Summary

- Local small area level data is being used by diverse groups for better understanding the demographic distribution of the population
- When underpinned by sound methodology and awareness of its limitations, this improved understanding of the community is being used for social planning, program planning and quality improvement, and evaluation
- Health utilization and outcome data analysed in this manner can be used for improving population health through program change, quality initiatives, and advocacy