Improving Health Equity: Lessons Learned from the Saskatoon Experience

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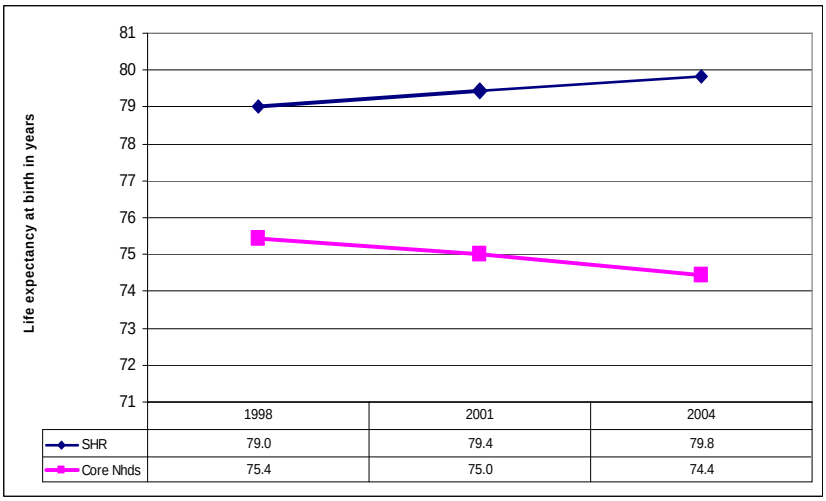
Chief Medical Health Officer
Saskatoon Health Region

Outline

- Introduction: Definition of terms, Health Inequity reporting at International, National and local levels
- Summary of Saskatoon approach 2005 - 2008: the foundation for building a local response
  - The need for robust local data
  - Building public and political awareness and will
- 2009 to present: What can a Health Authority do about Health Inequity?
  - Inter-sectoral work
    - advocacy for policy change (SDOH);
    - community action plans,
    - data access and monitoring e.g. Saskatoon's "Community View" system
  - Changes to Public Health programs and policies
  - Working with the rest of the Health System
    - Embedding equity in quality improvement and performance monitoring,
    - Use of health care equity audits or Health Impact Assessments
- Lessons Learned

Saskatoon Health Region
Life expectancy in years, 1998-2004



Introduction: What does it all mean??

Health Disparity – differences or variations between groups

Health Inequality – implies the need for equality

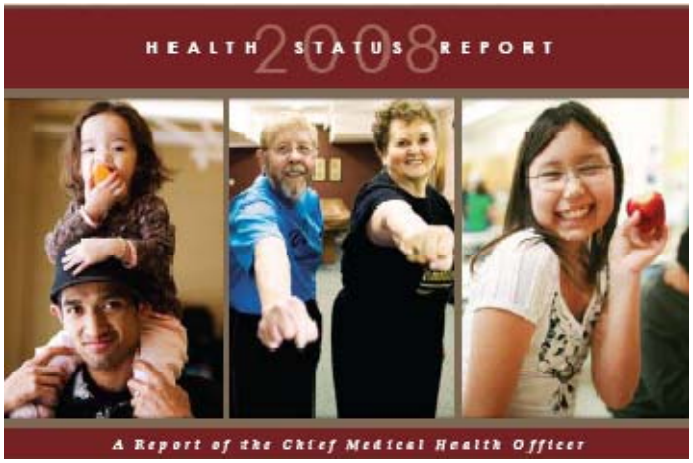
Health Inequity – implies a value judgement …things are unfairly distributed

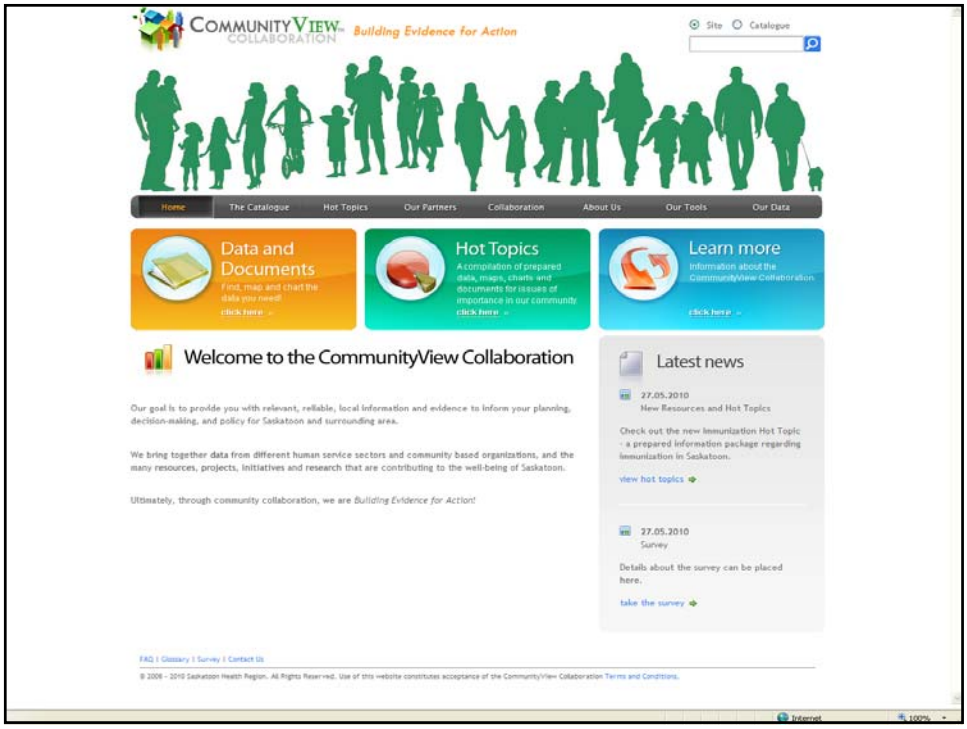
- E.g. equality does not always imply equity. Perhaps some groups need something more than others (equal service for equal need)

Health Inequity Reporting

Introduction- the SHR experience

- **1998-2004 Health status reporting includes neighborhood and RM analyses, cluster analysis of health indicators in low income areas in Saskatoon. Intersectoral data warehousing project started (now called Community View Collaborative)**
- **In 2006, the Saskatoon Health Region conducted a Health Disparity by Neighbourhood Income study and found substantial health disparities between 6 contiguous low income neighbourhoods and the rest of Saskatoon**
- **Many knowledge transfer / community consultations and presentations occurred following the release of this initial study**
- **A number of regional and provincial initiatives were announced to begin a response**


HEALTH 2008 STATUS REPORT
A Report of the Chief Medical Health Officer


COMMUNITY VIEW COLLABORATION
Building Evidence for Action
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Hot Topics
A compilation of prepared data, maps, charts and documents for issues of importance in our community
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Information about the CommunityView Collaboration
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Welcome to the CommunityView Collaboration
Our goal is to provide you with relevant, reliable, local information and evidence to inform your planning, decision-making, and policy for Saskatoon and surrounding area.
We bring together data from different human service sectors and community based organizations, and the many resources, projects, initiatives and research that are contributing to the well-being of Saskatoon.
Ultimately, through community collaboration, we are Building Evidence for Action!
Latest news
27.05.2010
New Resources and Hot Topics
Check out the new Immunization Hot Topic - a prepared information package regarding Immunization in Saskatoon.
view hot topics
27.05.2010
Survey
Details about the survey can be placed here.
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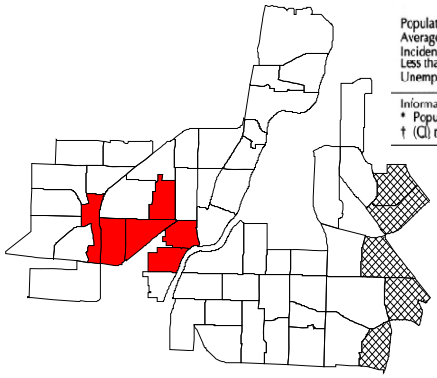
Saskatoon neighbourhood analysis boundaries, excluding industrial and development areas, 2005



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

Legend

- Affluent neighbourhoods
- Rest of Saskatoon
- Low income neighbourhoods

Income and Health, selected results

- **In comparison to high income residents, low income residents in Saskatoon are:**
- **1458% more likely to attempt suicide**
- **1389% more likely to have chlamydia**
- **1186% more likely to be hospitalized for diabetes**
- **3360% more likely to have Hepatitis C**
- **1549% more likely to have a teen birth**
- **448% more likely to have an infant die in the first year**
- **Full immunization 46% vs 95% high income**

Initial Reactions

- **Questions asked by decision makers:**
  1. **What are the local drivers of disparity?**
  2. **What can be done about it?**
  3. **Is it happening to the same degree elsewhere?**
- **This led to further local and national research in response:**
  1. **Drivers :**
     - **Research papers reviewing variables independently associated with health disparity in Saskatoon;**
     - **Surveyed 5000 Saskatoon residents about knowledge, attitudes, support for intervention;**
     - **Community/agency presentations with opportunities for feedback prior to release of next report**
  2. **Interventions:**
     - **Meta-analyses (SES and health, risk behaviour);**
     - **Review of abstracts and articles for evidence based policy options**
  3. **National context:**
     - **CPHI / UPHN report on urban health and poverty in major Canadian cities**

Adult Survey to gauge attitudes and support for policy change

- 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

- 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 interventions affecting children

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 report 2008
- From Analysis to Intervention policy options report 2008

Saskatoon School Health Survey

- Every student in grades 5-8 in Saskatoon was asked to complete a short questionnaire in February of 2007. The ages ranged from 10-15 years old.
- In total, 4093 youth completed the questionnaire
- Survey repeated 2009 and 2011 with focused questions in areas targeted for intervention (physical activity, mental health promotion, violence prevention)

Income and Health (school survey)

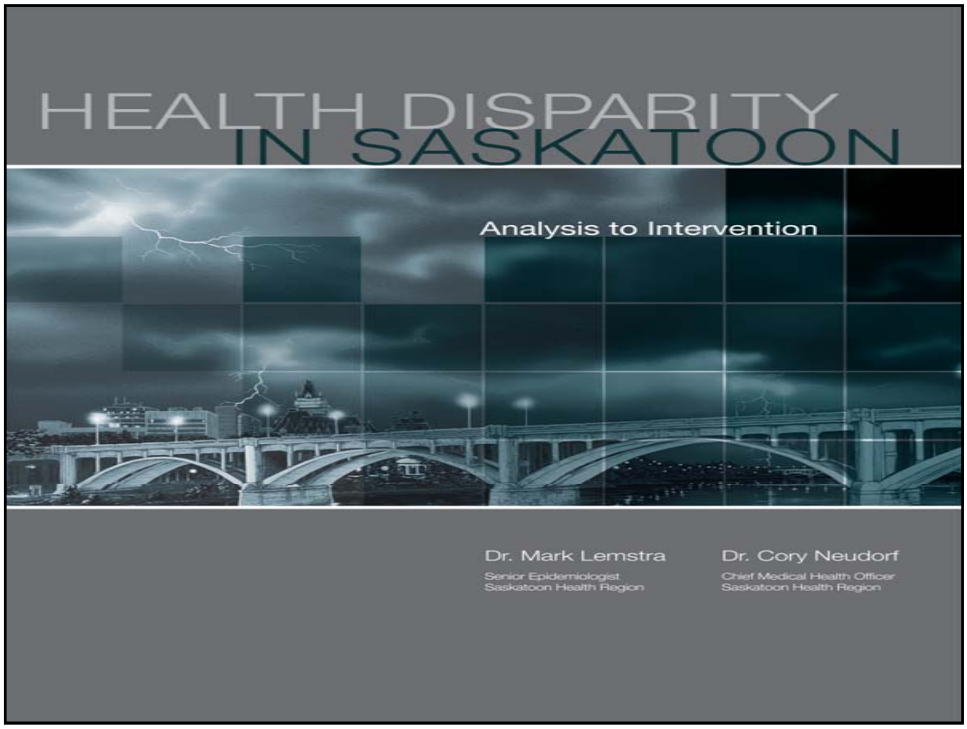
- **In comparison to higher income children, low income children in Saskatoon are:**

- **180% more likely to report low self report**
- **health**

- **200% more likely to be depressed**

- **190% more likely to have suicidal thoughts**

- **1900% more likely to have tried marijuana**
- **and so on…**



Objectives of the Saskatoon Report, November 2008

- Describe the extent of health disparity in Saskatoon
- Determine the main drivers of health disparity in Saskatoon
- Discuss evidence from other jurisdictions on policy options; matched to levels of public support

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

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

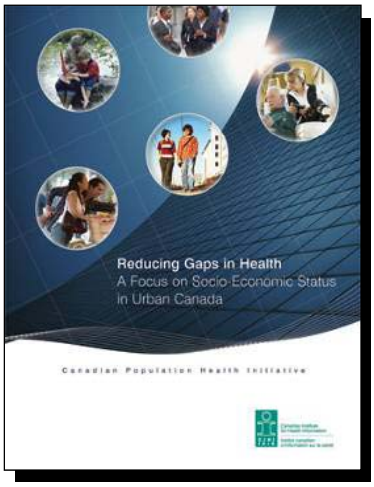
Funding

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

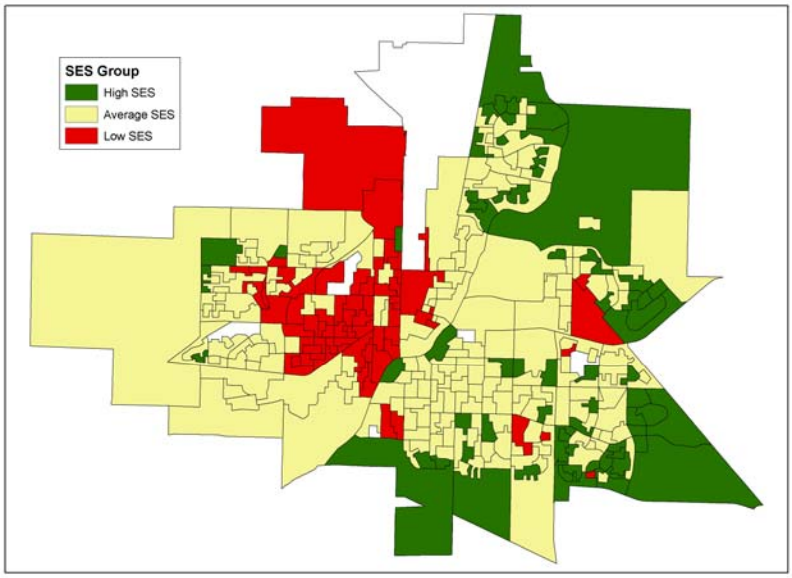
A collaboration between the

Canadian Population Health Initiative and the

Urban Public Health Network



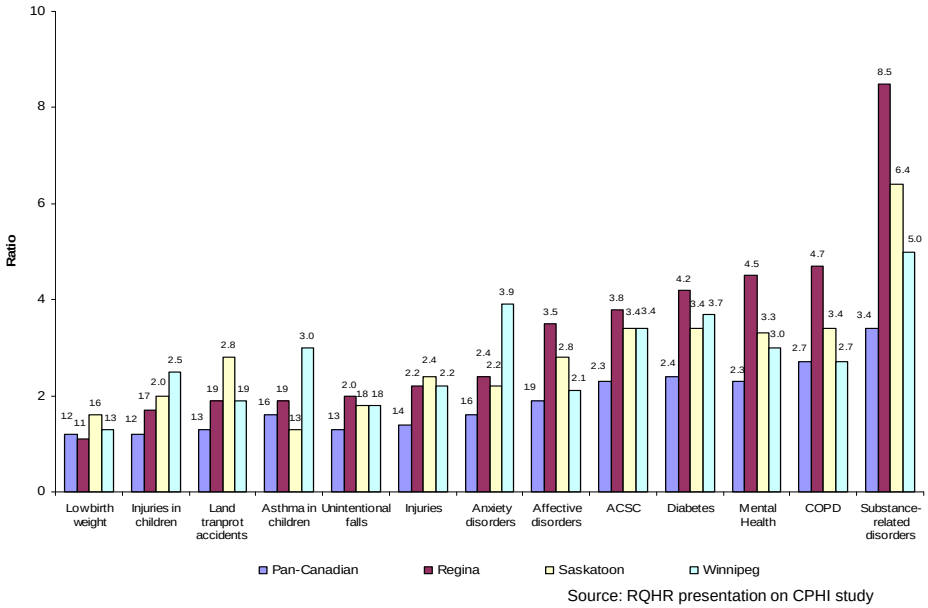
Saskatoon Analysis of Dissemination Areas by Deprivation Index Quintiles



Summary of CPHI / UPHN study 2008

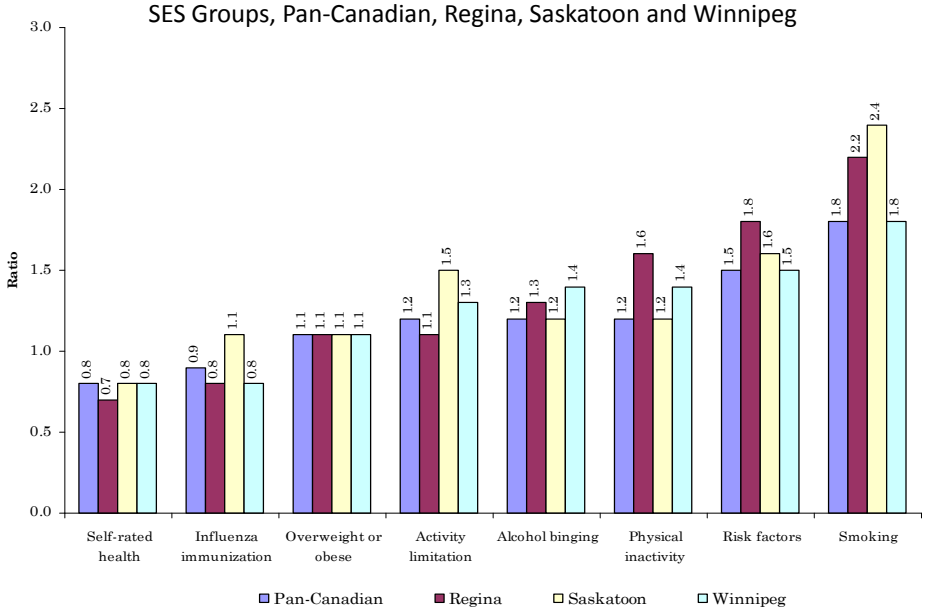
- Showed that Health Inequality present across urban Canada
- Variations in patterns of inequality across the country
- Greatest gap found in Prairie cities
  - E.g. Pan-Canadian, Regina, Saskatoon and Winnipeg Comparison

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



Source: RQHR presentation on CPHI study

Ratio of Age Standardized Self-Reported Health Percentages Between Low and High SES Groups, Pan-Canadian, Regina, Saskatoon and Winnipeg



Source: ROHR presentation on CPHI study

Moving Beyond Reports to Reducing the Gaps

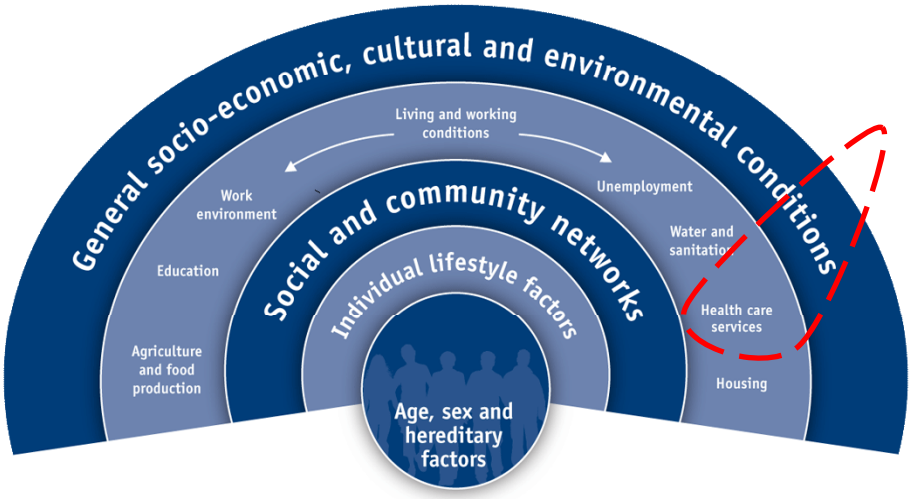
RHA's Inter-sectoral work at community level

- 2009: Report on interventions and drivers adopted by Regional Inter-sectoral Committee which committed to leading the community response through 3 initiatives:
  - Sponsor development of an "Action Plan to Reduce Poverty" (planned release June 2011)
    - Work with faith community, business sector, social justice groups, people living in poverty
      - Public Health contribution:
        - » CMHO leadership
        - » 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
  - Aboriginal employment strategy
  - Sustainable housing strategy

Changes to Public Health Programs & Services

- Examples:
  - Reallocate resources to "Building Health Equity" program in inner city
  - Reorient Health Promotion Department around addressing SDOH
  - Comprehensive School Health interventions:
    - Mental health promotion
    - Physical activity promotion
    - Violence prevention
  - Immunization coverage enhancements

Work with the rest of the Health System



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

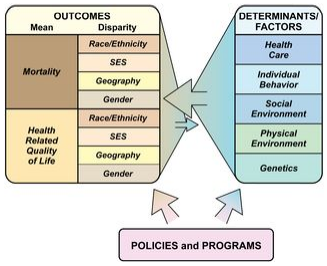
Reducing Health Disparities : Role of Health Sector - Challenges

- **Low income groups use less preventative services even when provided at no direct cost**
- **Low income groups have more complex needs yet have less access to continuous care or a familiar provider**
- **Low income groups less likely to receive optimal care**
- **Low income groups less likely to be referred to a specialist**
- **An episode-oriented medical and hospital system that focuses on discrete events and crises is often unable to address the more complex and continuous needs of at-risk populations**

Health Inequity: Why should the Health System respond?

- The fit with a public health system's strategic goals and values
  - Build the response to Health Inequity into RHA Goals and Performance Monitoring
- The costs of poverty:
  - Large increases in health care spending have not led to commensurate service enhancements or health improvements and have not reduced health disparities
  - 20% of total health care spending may be attributed to income disparity alone. As such, a province like Alberta could save over a billion dollars annually in health care costs if income equity was achieved
- For Quality Improvement
  - The availability of universal health insurance has not eliminated extensive health disparities
  - But is access equitable? Are outcomes equitable?
  - Use Health Care Equity Audits and Health Impact Assessments

RHA Health Equity Intervention Framework



* Dr. David A. Kindig, University of Wisconsin, 2011

RHA Goals and Performance Monitoring

- Saskatoon RHA
  - Response to initial data:
    - Become aware of drivers of disparity
    - Support advocacy role of MHO for evidence-based policy options
    - Support work with partners through Regional Intersectoral Committee
    - Sense of responsibility to effect change with our own programs and services
      - Set a corporate goal to reduce health disparities
      - Embedded Health equity measures in Quality monitoring and dashboard indicators
      - Adopted Health Care Equity Audit approach

Health Equity in Performance Monitoring: e.g. Immunization Coverage in Saskatoon

What is being measured?

Immunization disparity can be expressed as a ratio comparing the top socio-economic quintiles to the bottom quintiles. The ratio is calculated by dividing the two year-old MMR coverage rate in the top socio-economic quintile by the coverage rate in the bottom quintile. ***A ratio equal to one indicates equity while measures greater than one indicate inequity.***

Socio-economic quintiles are based on the Total Deprivation Index, which includes income, employment, education and social support indicators. It is calculated at the Dissemination Area level geography for Saskatoon city only, and cannot be utilized at present for rural SHR.

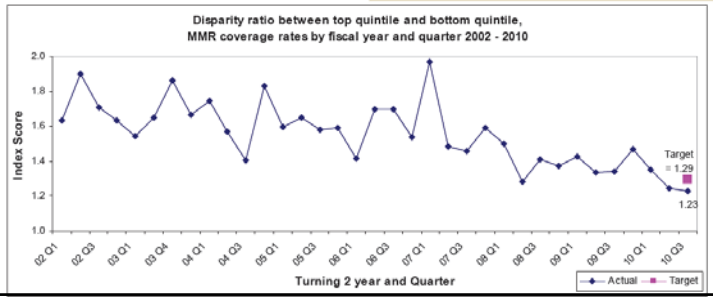
Immunization rates are calculated for populations in the top and bottom quintiles - 20% of the population.

Why is it important?

SHR has a clear mandate to reduce disparities based on the Federal Healthy Living Strategy. Health disparities make it difficult for individuals and groups to participate fully in society. Health disparities are also huge cost drivers which are estimated to account for 20% of all healthcare expenditures.

How are we doing?

The ideal disparity ratio is equal to 1.0, which indicates equality between the upper and lower quintiles or socio-economic groups of population (no gap). In SHR the disparity ratio has been decreasing since 2002, and most rapidly since 2007, which signals more equity in immunization rates. Our current target is 1.29, and for Q3, we reached 1.23, the lowest ratio in eight years. Reminder letters and phone calls are two initiatives started in late 2007



Health Equity in RHA Goals and Values

- Need for high level commitment to reducing health inequities by health system
- Need for follow up through inclusion in performance monitoring and quality improvement for all parts of health system, not just public health
- May require reallocation of resources to targeted areas or vulnerable groups
- Draws on values of fairness, tolerance and stewardship
- Insists on a policy of inclusion ("nothing about us without us") when designing interventions with target groups in mind

Health care equity audit objectives

Identify The Problem

- To identify systematic inequities in access to and uptake of needed health care services in Saskatoon Health Region.
- To understand the factors which contribute to these inequities in SHR

And the Solution

- To identify interventions that have been shown to work to address these factors to reduce the inequities
- To promote their implementation in SHR
- To evaluate impact of interventions implemented to reduce inequities identified

Mainstream the Approach

- To develop a health care equity audit tool to form integral part of the quality assurance programs of the health Region
  - Audit tools with evidence based guides to intervention options

Table 1.1 Measurement Framework* for a Comprehensive View of Health Care Quality in Saskatchewan

Health Care Needs	Dimensions of Health Care Performance Dimensions of Quality: Effectiveness	Safety	Responsiveness/ Patient-Centredness	Cost/Expenditure
Staying Healthy				
Getting Better				
Living with Illness or Disability				
Coping with end-of-life				

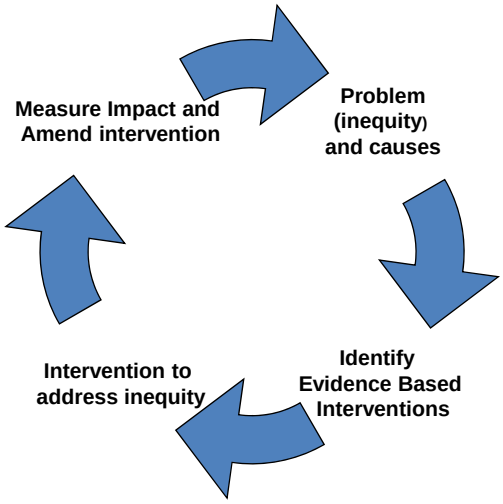
Health System Level	Example Indicators
Macrosystem Level	Hospitalization episodes because of asthma
Mesosystem Level	Percentage of people with poor asthma control
Microsystem Level	Percentage of people with poor asthma control dispensed at least moderate doses of inhaled corticosteroid drugs

Efficiency

Equity

*Adapted[2]

Health Care Equity Audit Cycle



HCEA cycle

- Analyse disparities in access and outcome by various dimensions (gender, geography, age, ethnicity)
- Compare with measurement of relative need or morbidity to determine if inequities exist
- Prioritize areas for quality improvement (areas of greatest concern or greatest potential gains to be made)
- Triangulate results from the literature, quantitative analyses and focus groups, surveys on ways to remove barriers for patients, providers and system issues that may be responsible for inequities
- Initiate QI projects and evaluate impact on reducing the gaps

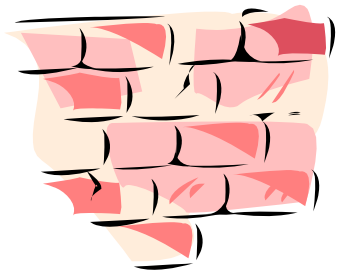
Barriers to Quality Healthcare

Patient

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

Service

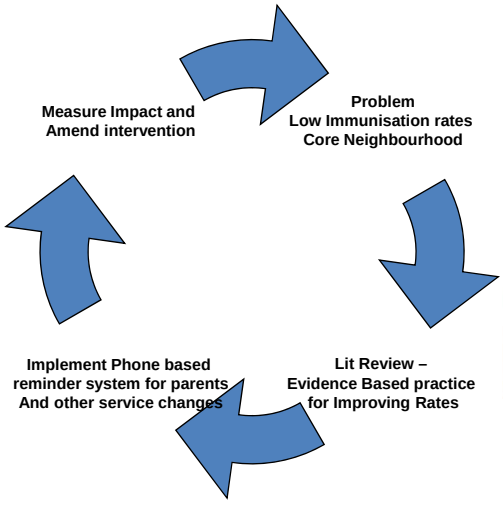
- Availability of service
- Culturally insensitive services
- Complexity of access
- Bad experience of service
- Discrimination
- Clinical practice

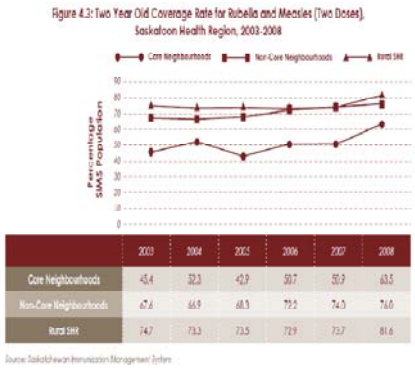


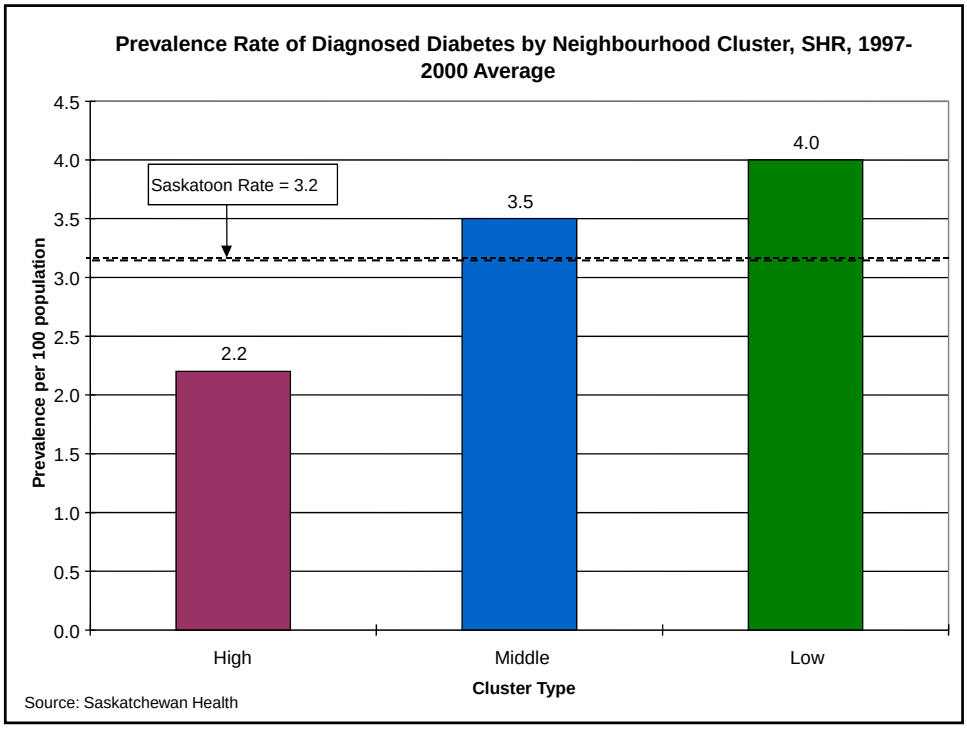
Health Care equity audits- Saskatoon

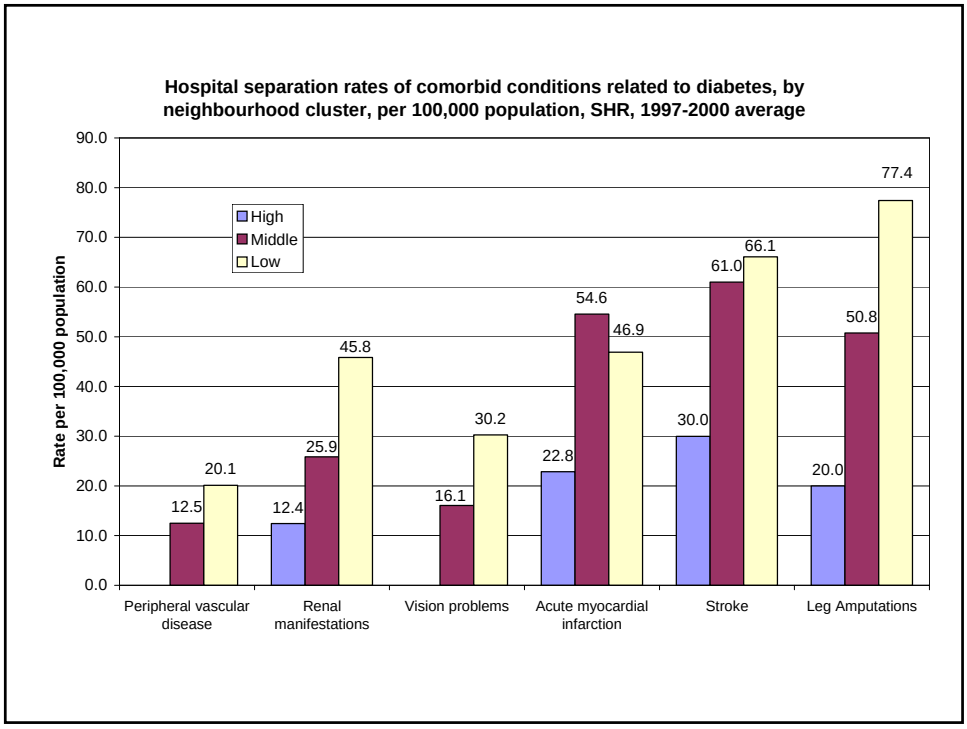
- In public health
  - progress to date from immunization initiatives
- In a medical area
  - Diabetes audit, and plans for interventions with specialists, primary care, CDM&P
  - Psychiatry
- In a surgical area
  - Data from surgical audit and plans for further analysis and intervention
- In Community Services
  - Home Care

Health Care Equity audit Immunisation






Prevalence Rate of Diagnosed Diabetes by Neighbourhood Cluster, SHR, 1997-2000 Average
Prevalence per 100 population
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Saskatoon Rate = 3.2
2.2
3.5
4.0
High
Middle
Low
Cluster Type
Source: Saskatchewan Health


Hospital separation rates of comorbid conditions related to diabetes, by neighbourhood cluster, per 100,000 population, SHR, 1997-2000 average
Rate per 100,000 population
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
High
Middle
Low
12.5
20.1
12.4
25.9
45.8
16.1
30.2
22.8
54.6
46.9
30.0
61.0
66.1
20.0
50.8
77.4
Peripheral vascular disease
Renal manifestations
Vision problems
Acute myocardial infarction
Stroke
Leg Amputations

Quality of Care for Diabetes - Saskatchewan 2005/2006

Income	≥ 2 A1C tests %	A1C ≤7%	L Limb Amputation Per 1000	Hypo/Hyper admission Per 1000	ESRD Per 1000
Lowest 20%	35.1	46.3	4.8	5.4	2.8
Highest 20%	42.1	51.5	2.3	3.6	1.6
RIS	31.3	43.6	8	8.2	4.8

Quality Insight

Health Care Equity Audit Surgical procedures (City Residents)

Procedures

- Cataract
- Hysterectomy
- Hip Replacement
- Knee Replacement
- Cardiac revascularization
- Back Surgery
- Caesarean section

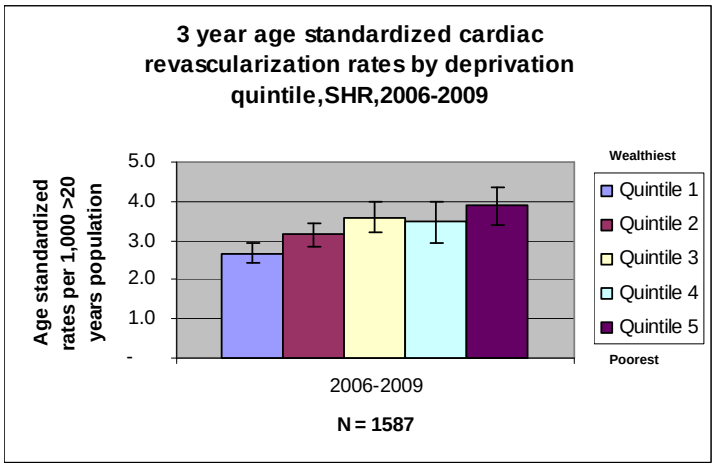
Analysis

- Age specific procedure rates
- Age specific readmission rates
- Waiting times
- Age specific Length of in patient stay
- % day case

Populations

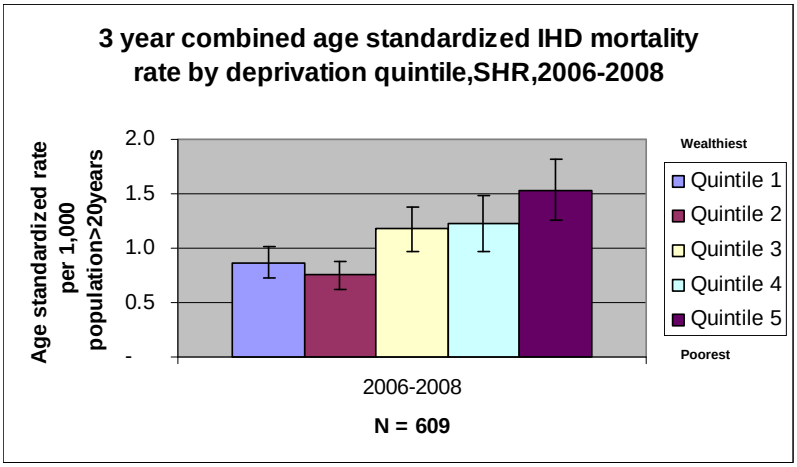
- Gender
- Area of residence
- Cultural background

Example of Access / Utilization Issue: Cardiovascular Revascularization

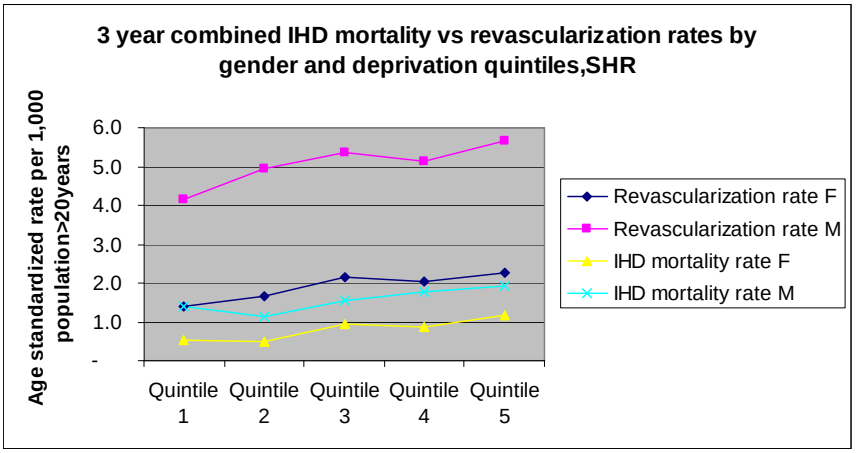


- Gradient appears to favour more service for poorest population

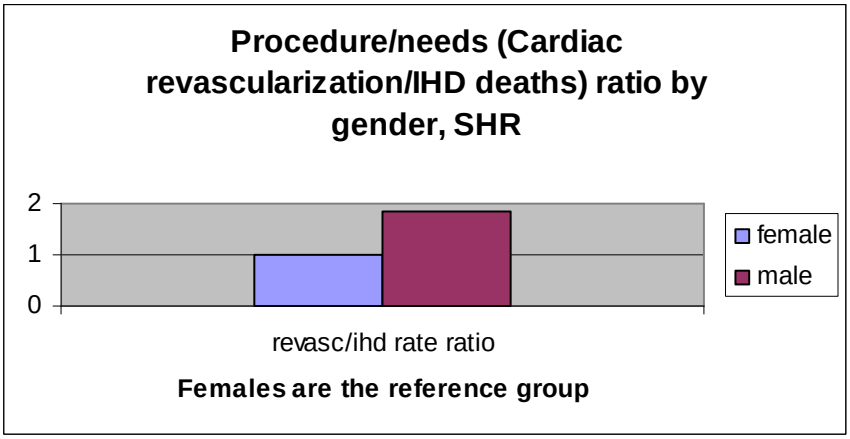
Example of Relative Need: Ischemic Heart Disease Mortality

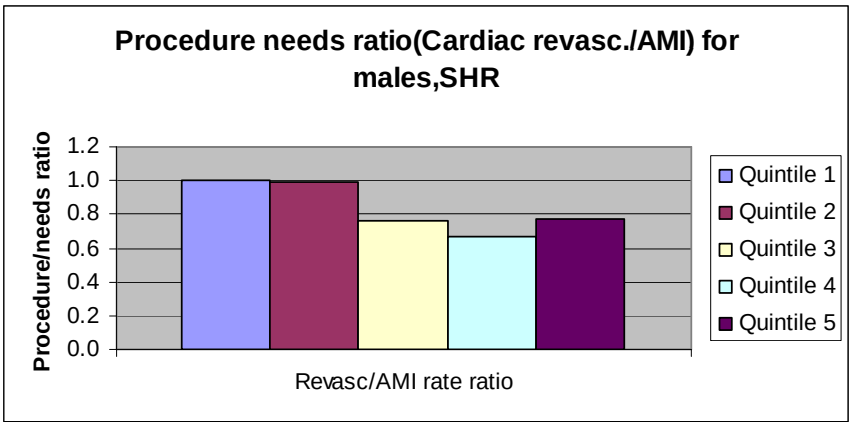


-need follows same gradient. Is it a steeper gradient?

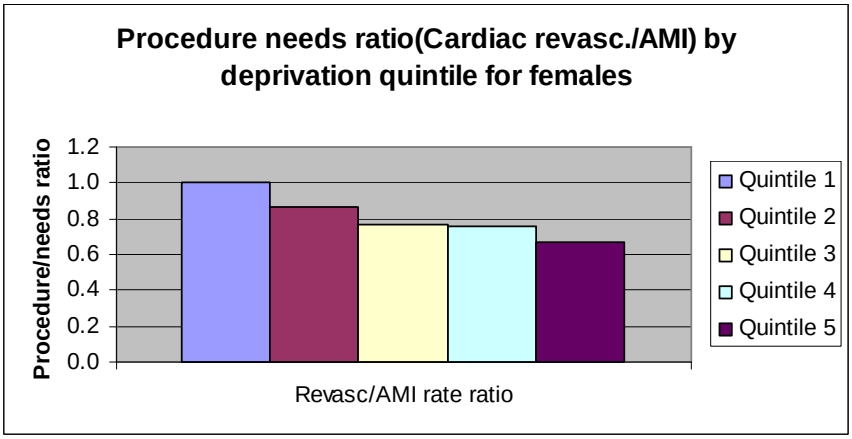


- Once gender included, it appears males get more service vs. need





-more equity in procedure vs. need for 2 highest income groups in males



-equity in procedure vs. need appears to follow gradient in females

Lessons Learned

- RHAs are well positioned lead health equity improvement initiatives due to:
  - Access to routinely collected data
  - Trained personnel for analysis, interpretation, literature reviews, quality improvement, community development
  - Large budgets, media attention and credibility, vested interest in quality improvement and improving the health of the community
- Ensure data is set up to look at health inequities by geography, gender, SES, age, ethnicity
- Integrate health equity audits into quality monitoring and improvement, including assessment of barriers from patient, provider and system perspectives
- Report on population level health status improvements as well as effectiveness of targeted interventions on removing barriers
- Report on progress in closing the gap (e.g. equity ratios, relative risk ratios, absolute differences and population attributable risk measures)
- Use a range of data elements from Health determinants, health status measures, health behaviours and health outcomes over a period of time
- Actively participate in inter-sectoral initiatives aimed at improving the SDOH through community development and engagement of diverse interest groups

National Collaborating Centre for Determinants of Health

Centre de collaboration nationale des déterminants de la santé

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