



Manitoba
Centre for
Health
Policy

Increasing Asthma Prevalence in Children:

True Increase or Diagnostic Exchange?

Randy Fransoo, PhD

Research Scientist, Manitoba Centre for Health Policy

Dept of Community Health Sciences, University of Manitoba



UNIVERSITY
OF MANITOBA



RHA Indicators Atlas 2009

- Main purpose: inform Community Health Assessment reports by each Regional Health Authority (RHA)
- Developed in conjunction with ***The Need To Know*** team
- Atlas-style report: 105 indicators of health status, health service use, quality of care
- Results for all 11 RHAs, and sub-areas
- 2 time periods: 2000/01 vs 2005/06
- Age & sex adjusted rates; crude rates and observed numbers in Appendix



Respiratory Disease

- Indicator “Total Respiratory Morbidity” developed by respirologists Manfreda & Anthonisen (UM)
 - “Having trouble breathing, and saw a doctor”
- Sum of: asthma, bronchitis (3), emphysema, chronic obstructive pulmonary disease (COPD)
- Designed to overcome coding artefacts across diagnoses & different physicians
- Definition based on physician visits or hospitalization, using 1 year of data
- *Asthma prevalence increasing, right?*

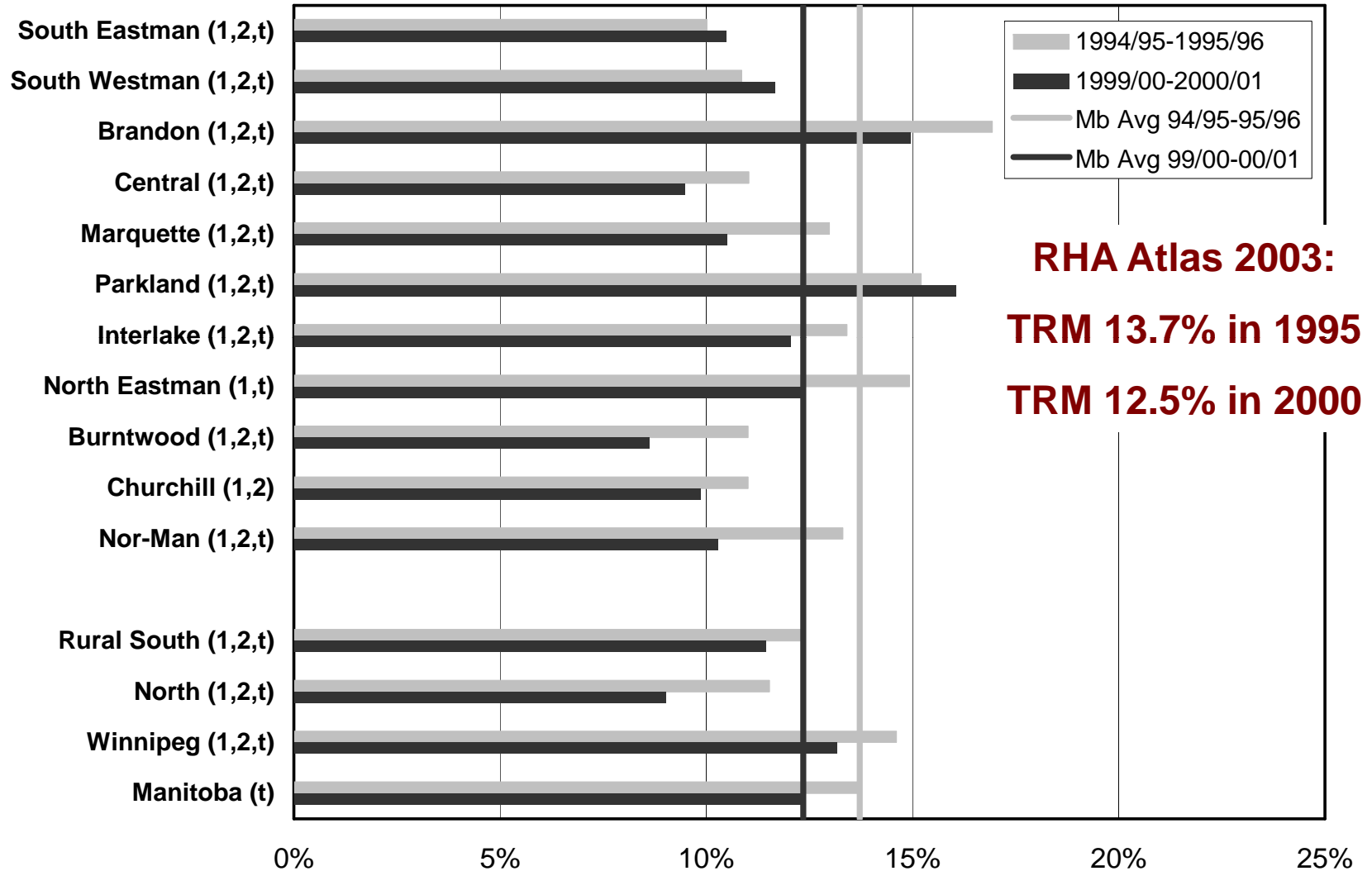




Manitoba
Centre for
Health
Policy

Figure 5.7.1: Total Respiratory Morbidity Rates by RHA

Age- & sex-adjusted percent of residents treated for respiratory diseases



0% 5% 10% 15% 20% 25%

'1' indicates area's rate was statistically different from Manitoba average in first time period shown

'2' indicates area's rate was statistically different from Manitoba average in second time period shown

't' indicates change over time was statistically significant



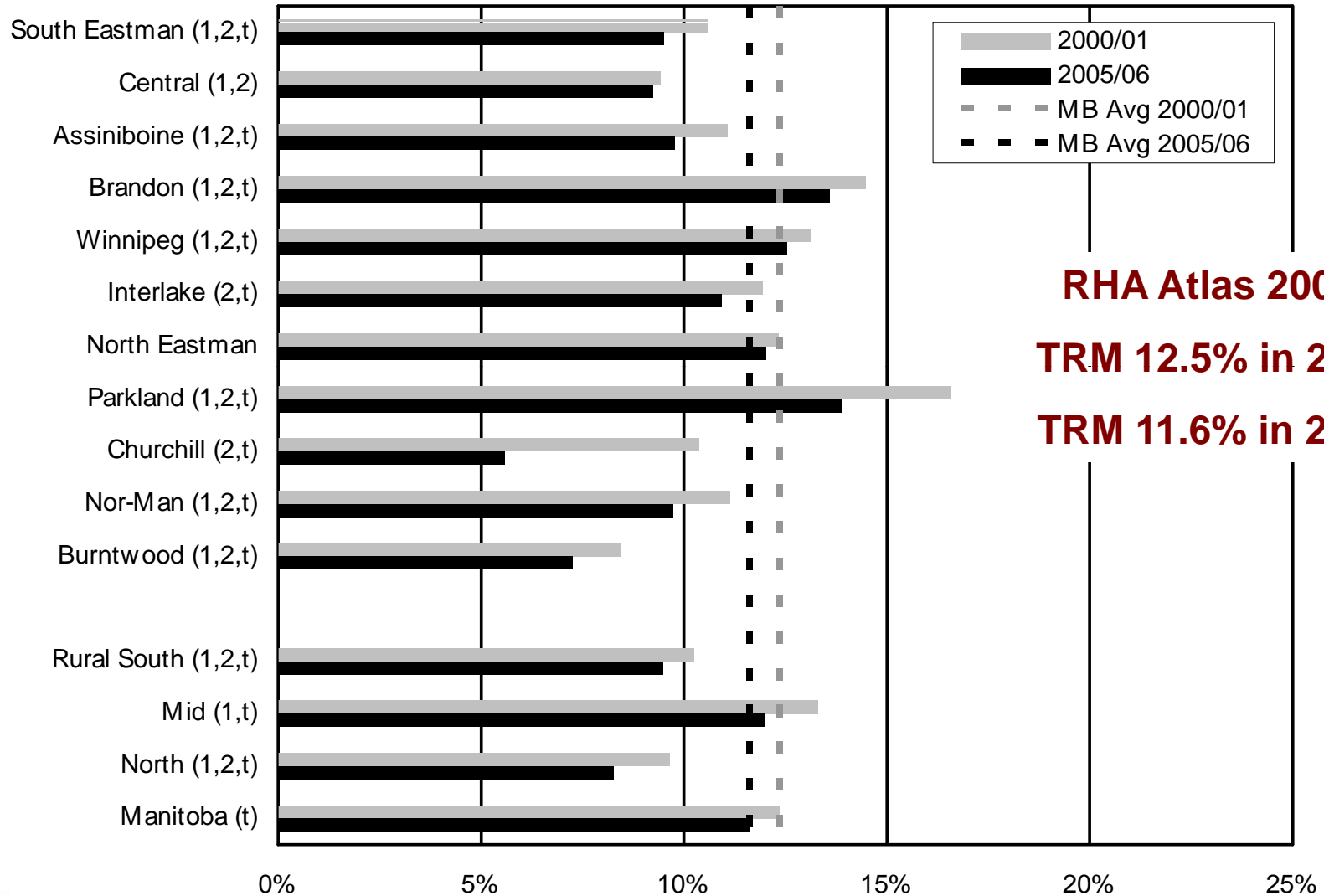
UNIVERSITY
OF MANITOBA



Manitoba
Centre for
Health
Policy

Figure 4.3.1: Total Respiratory Morbidity Rates by RHA

Age- & sex-adjusted percent of residents (all ages) treated for respiratory diseases



**RHA Atlas 2009:
TRM 12.5% in 2000
TRM 11.6% in 2005**

'1' indicates area's rate was statistically different from Manitoba average in first time period
 '2' indicates area's rate was statistically different from Manitoba average in second time period
 't' indicates change over time was statistically significant for that area
 's' indicates data suppressed due to small numbers

Source: Manitoba Centre for Health Policy, 2009



UNIVERSITY
OF MANITOBA

What's going on?

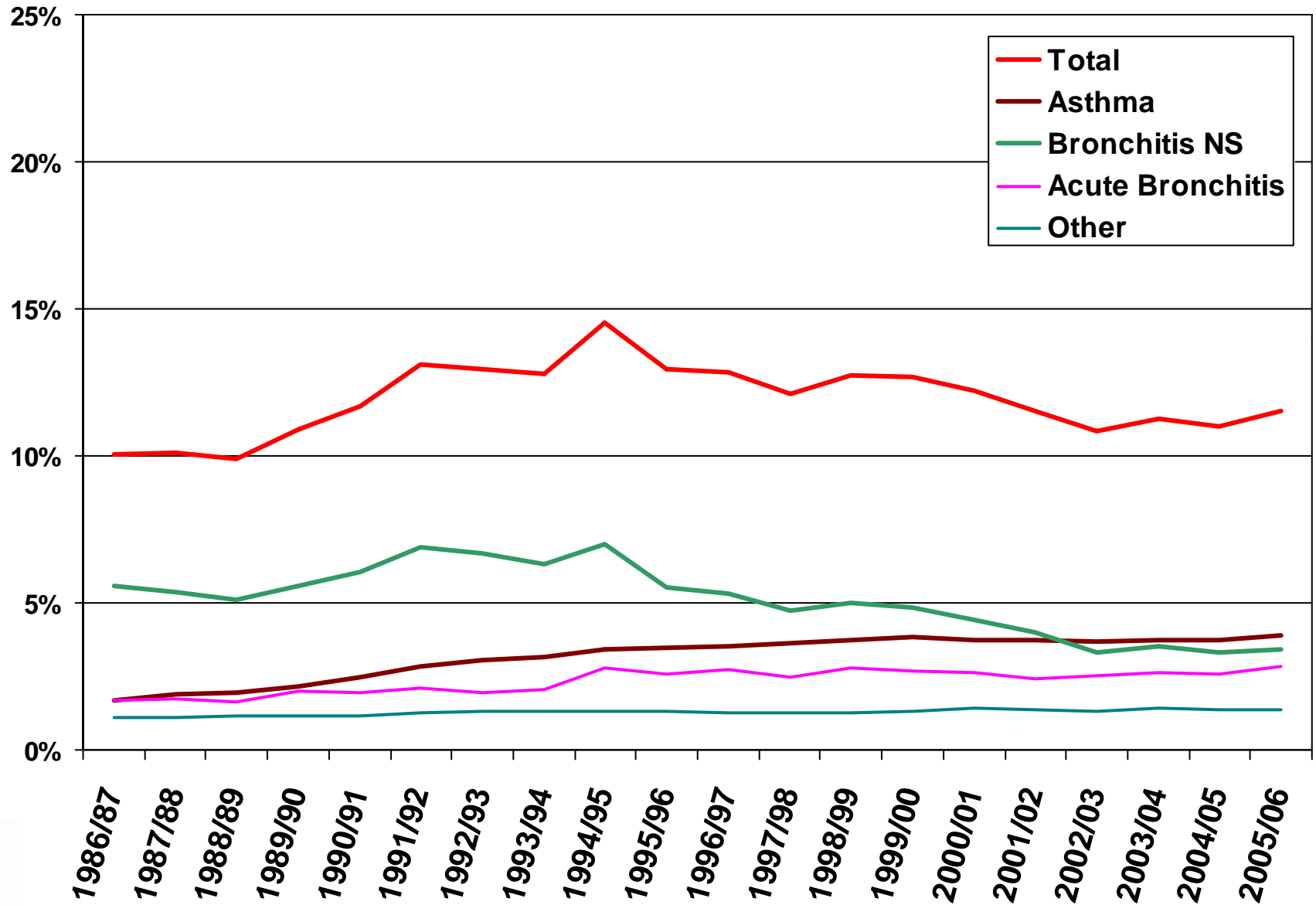
- Many studies reporting increasing prevalence of Asthma, including studies from MCHP data
- Prevalence of Total Respiratory Morbidity steadily decreasing
- Contrary? Not necessarily...
- Drill down: all 5 diagnoses, 5 age groups, 1986 - 2006





Manitoba
Centre for
Health
Policy

Crude annual prevalence of disease: all ages

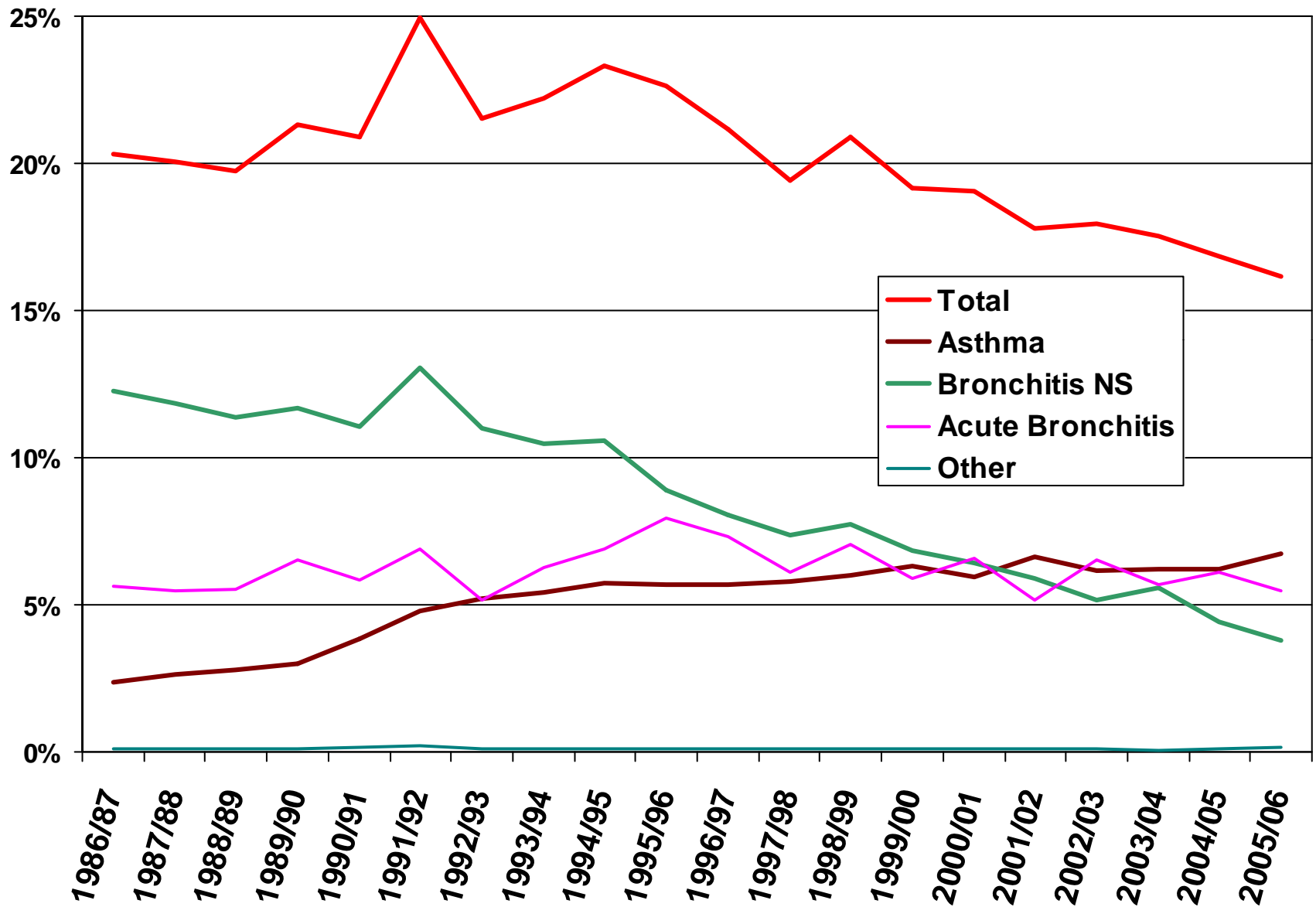


UNIVERSITY
OF MANITOBA



Manitoba
Centre for
Health
Policy

Crude annual prevalence of disease: 0-4 yr old

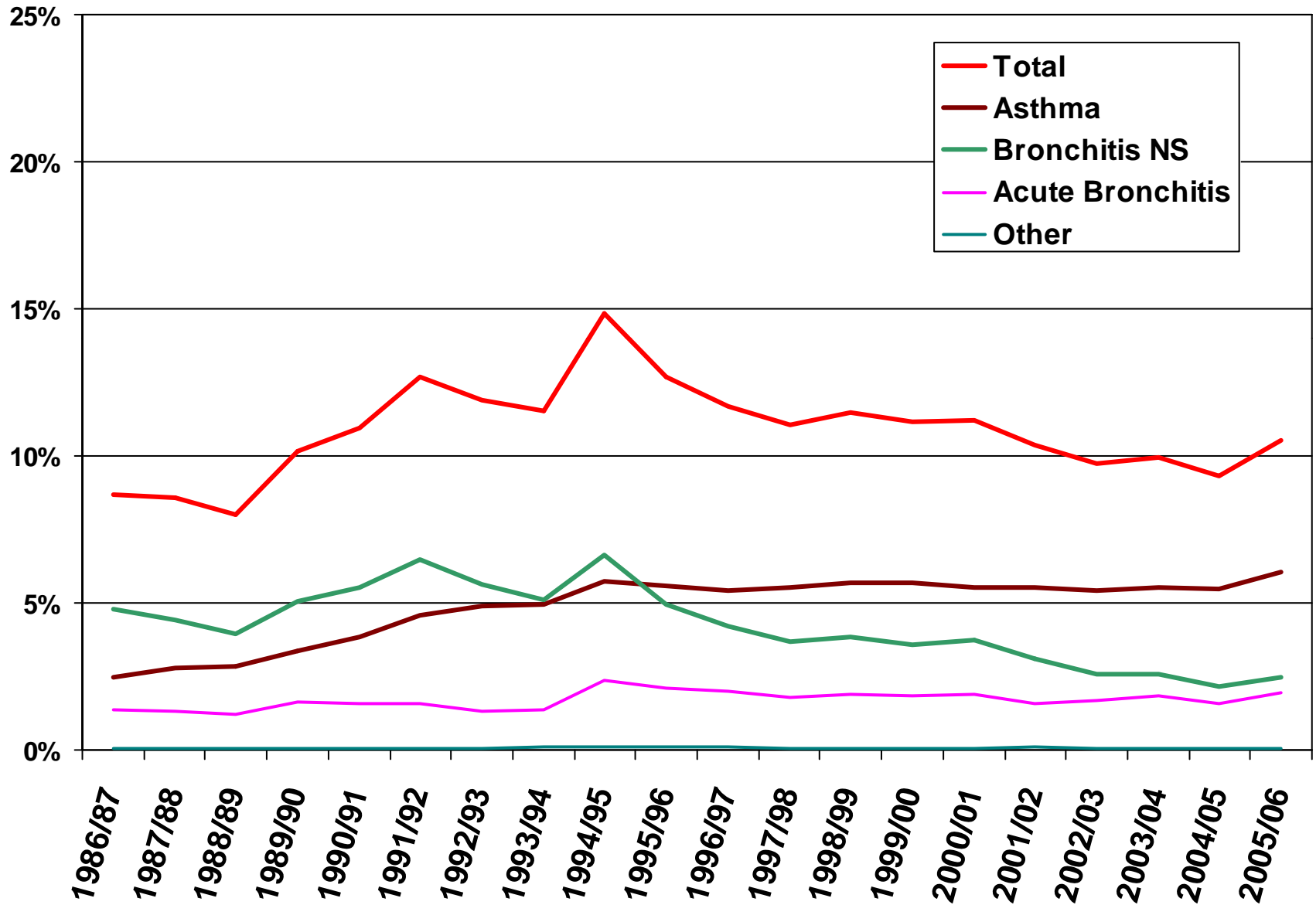


UNIVERSITY
OF MANITOBA



Manitoba
Centre for
Health
Policy

Crude annual prevalence of disease: 5-19 yr old



UNIVERSITY
OF MANITOBA

Implications for MD Visits

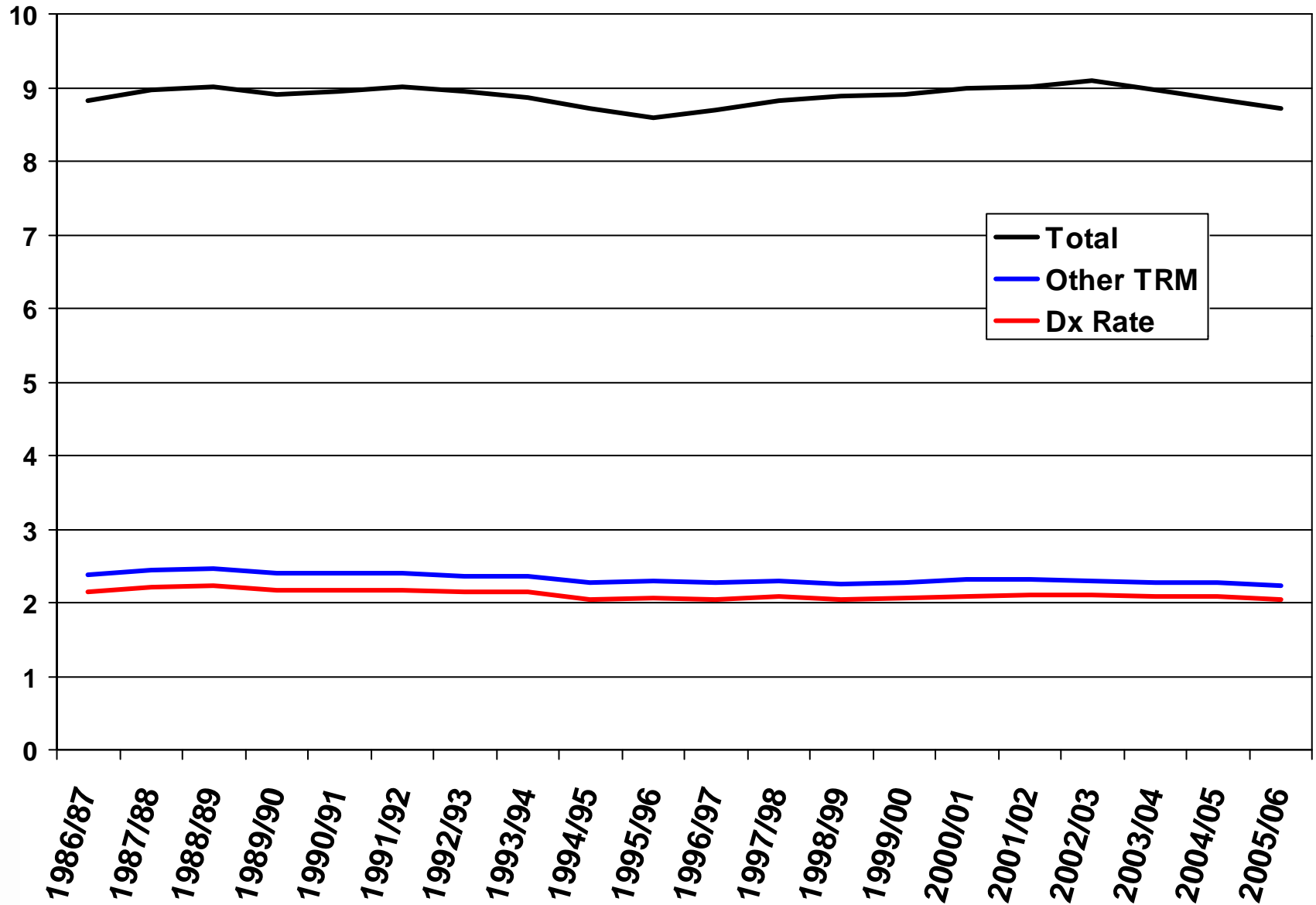
- IF differential diagnosis affects subsequent physician visit rates, OR, if the trends in visit rates over time were different, then have implications for resource use
 - E.g. if ‘Asthma’ patients have higher visit rates than ‘Bronchitis’ patients





Manitoba
Centre for
Health
Policy

Physician visit rates: TRM group, all ages

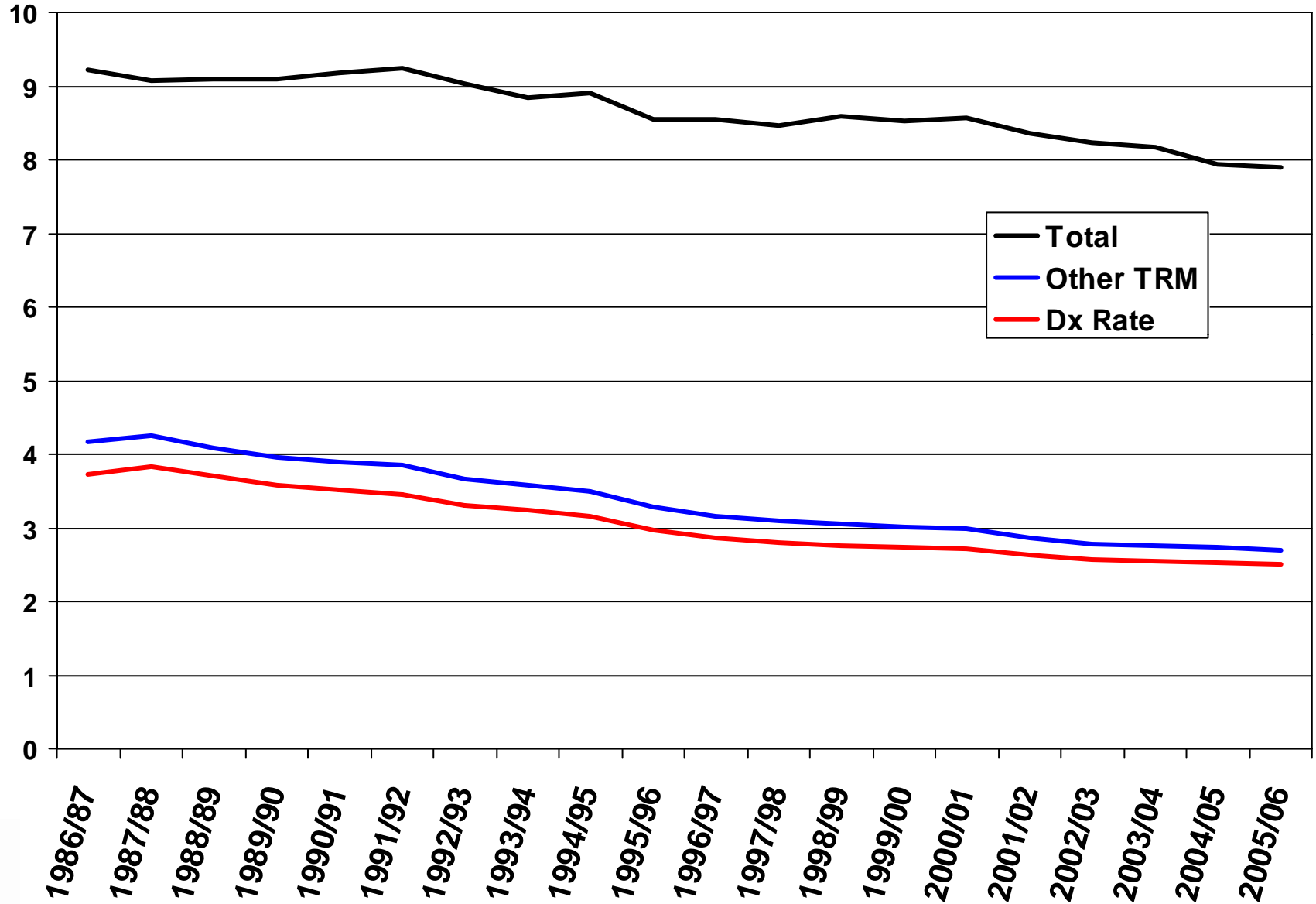


UNIVERSITY
OF MANITOBA



Manitoba
Centre for
Health
Policy

Physician visit rates: Asthma patients, all ages

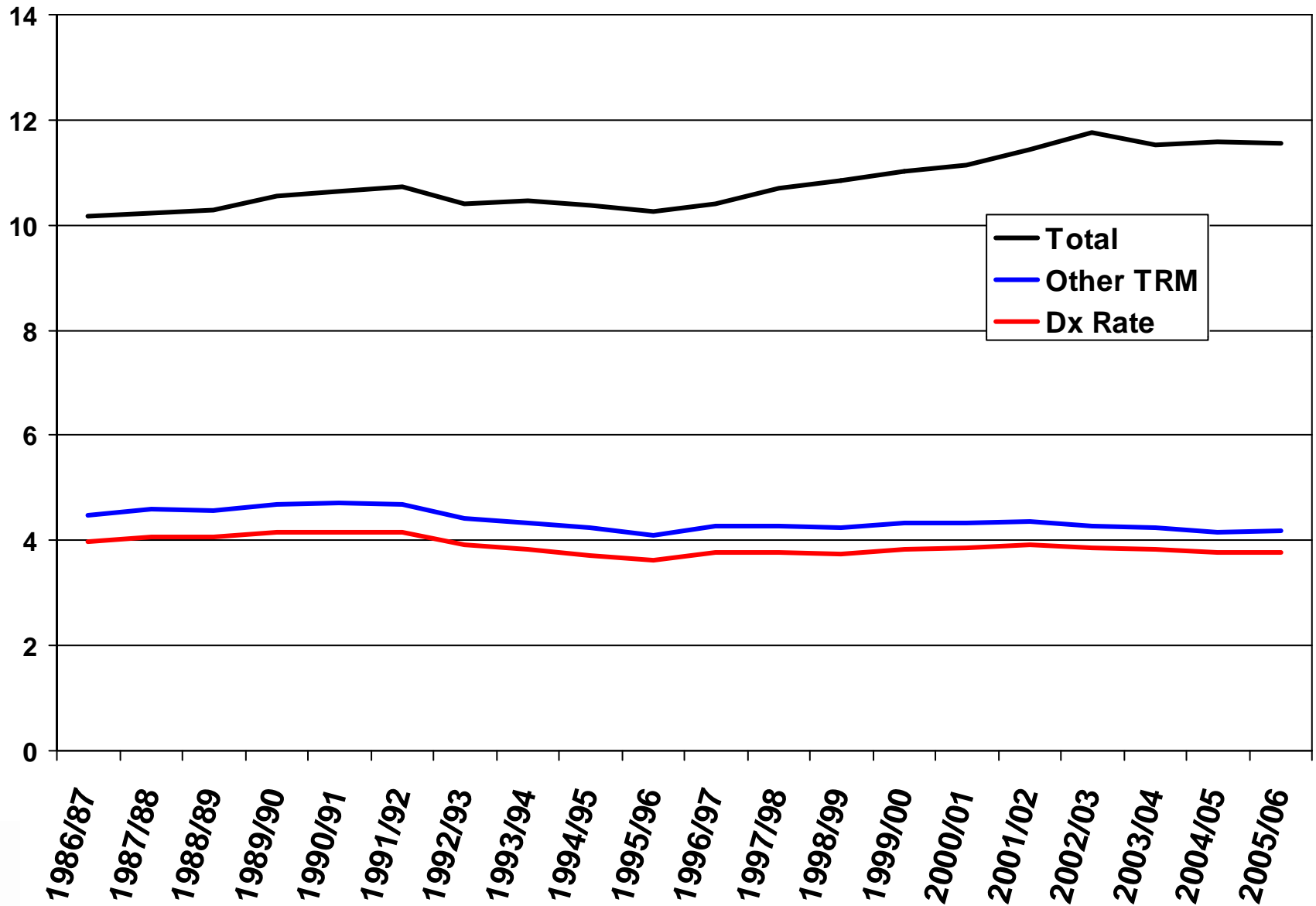


UNIVERSITY
OF MANITOBA



Manitoba
Centre for
Health
Policy

Physician visit rates: COPD patients, all ages



UNIVERSITY
OF MANITOBA

Discussion

- Diagnosed prevalence of asthma indeed increasing, though at much lower rates than suggested by other measures
- Uncertain: rate at which asthma is actually increasing, vs higher proportion of other respiratory diseases being called asthma



Discussion (cont)

- Population health: ‘Total’ prevalence increased from 1986-1995, decreased 95-02, stable thereafter
 - TRM potentially better indicator than single diagnoses, for exactly the reasons cited in development of ‘TRM’
 - Slightly more ‘people having trouble breathing’ now than in 1986, with spike in 1995
- Small overall impact on physician visit rates, though varied by diagnosis (age)



Limitations

- Based on physician visit data only
 - Asthma often defined by drug use
 - Aaron et al 2009: physician diagnosis of asthma over-estimates prevalence
 - Missing patients who do not present, or do not get these diagnoses attributed





Manitoba
Centre for
Health
Policy

Comments & Questions



UNIVERSITY
OF MANITOBA

Atlas 2009 content

- Ch 1: Introduction; PMR order
- Ch 2: Demographics
- Ch 3: Health Status & Mortality
- Ch 4: Physical Illness
- Ch 5: Mental Illness
- Ch 6: Use of Physician Services
- Ch 7: Use of Hospital Services



Content (cont)

- Ch 8: Hi Profile Surgery & Diagnostics
- Ch 9: Use of Home Care
- Ch 10: Use of PCHs (75+)
- Ch 11: Preventive & Other Services
- Ch 12: Prescription Drug Use
- Ch 13: Quality of Primary Care
- Ch 14: Health Practices & Characteristics using pooled CCHS data (2 waves)

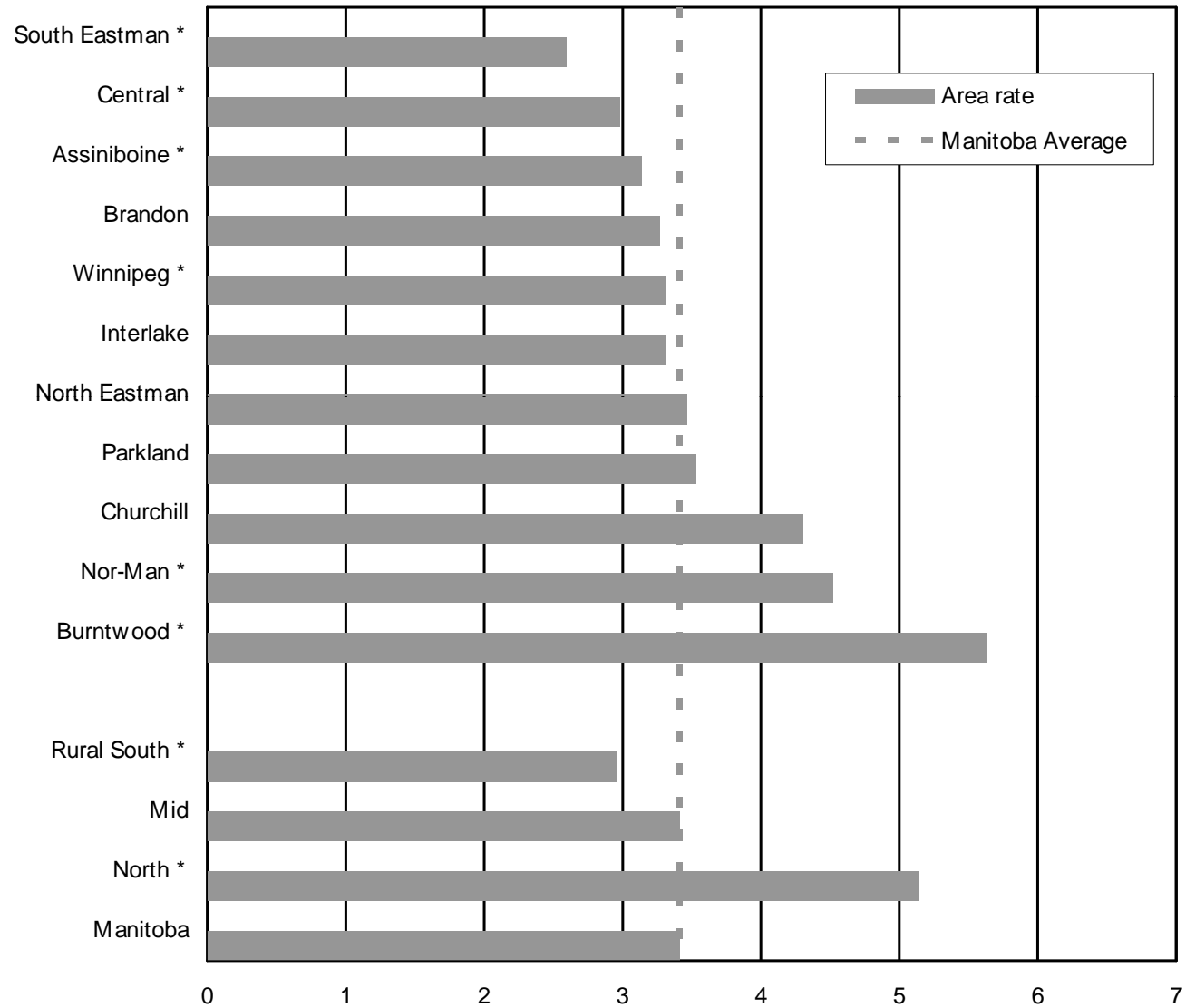




Manitoba
Centre for
Health
Policy

Figure 1.1.1: Premature Mortality Rates by RHA, 1996 - 2005

Age- and sex-adjusted annual rate of deaths before age 75, per 1,000 residents age 0-74



** indicates area's rate was statistically different from Manitoba average



UNIVERSITY
OF MANITOBA

Source: Manitoba Centre for Health Policy, 2009