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Who Will Care for the Children?

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Background

- Need to plan ahead for physician supply
- Approximately 10-14 years lag time
- Medical schools admission, residency positions, entering and leaving the province
- Population need for medical services
- Recognized as a national priority:
 - *Task Force Two*
 - *Other provincial initiatives*





"Nobody uses crystal balls anymore.!"



Demand

- *The volume of services that patients would prefer*
e.g. Waiting lists (unmet demand)





Utilization

- *Volume of services provided/delivered/used*
- 3 components:
 - *Appropriate services*
 - *Unmet needs / demand*
 - *Over-service*

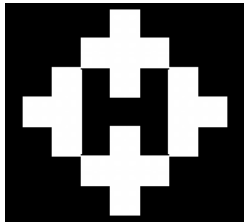




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Need

- Impossible to measure
- Proxies:
 - demand
 - utilization



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Approaches to HHR planning

- Sentinel services
- Population ratios
- Needs based
- Utilization based



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Physicians per Population

- Does not allow population characteristics to be included
- Differs for different categories of physician
- Manitoba: 2003/7 177/100,000
- Canada: 2003: 187/100,000
- Canada: 2007: 192/100,000





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Needs-Based Analysis

Birch et al 2007

- Conceptual model - only applied to nursing
- Components of model:
 - Demography
 - Level of service
 - Productivity
 - Epidemiology (needs)
 - Age-gender specific level of health remains constant
 - Regional change to be more like rest of Canada

} Utilization



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Changes Over Time

- Tariffs
- Changes in patterns of use by age
- Changes in workforce demographics and productivity
- Population demographics



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Changes Over Time: Tariffs

- Values of tariffs change
- New tariffs introduced
- Old tariffs replaced or deleted

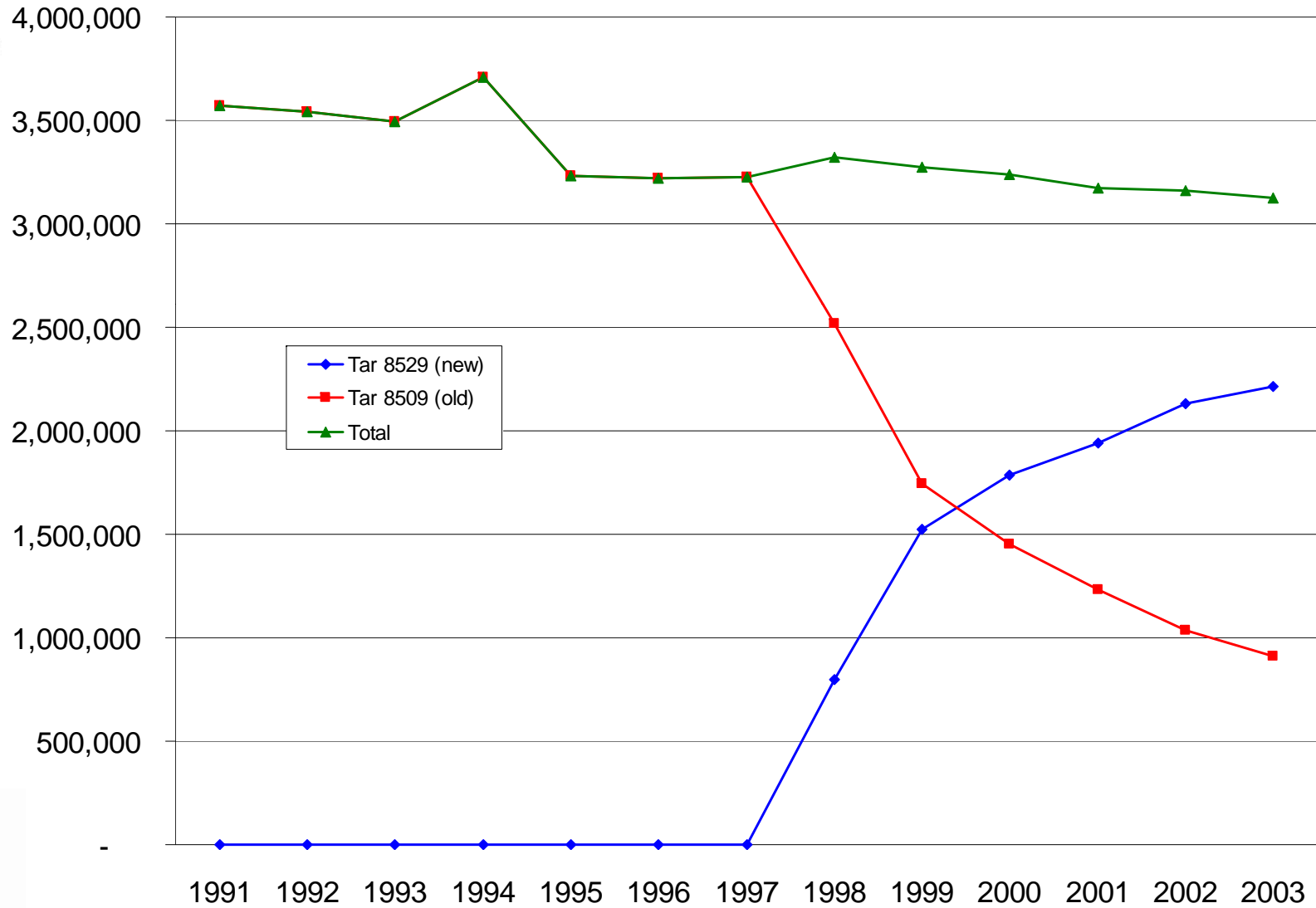


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Replacement of 8509 with 8529

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Implications

Need to standardize to do comparisons over time:

Equivalent Services Measure

- Based on dollar value of the tariff
- cf Relative Value Unit



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ESM

- Clinical activity that is comparable over time
- The “value” of the ESM reflects its time/complexity demand
- Accounts for:
 - inflation
 - changes in billing practice precipitated by changes in fee schedule
 - changes in service provision secondary to changes in patient and physician characteristics





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Changes Over Time

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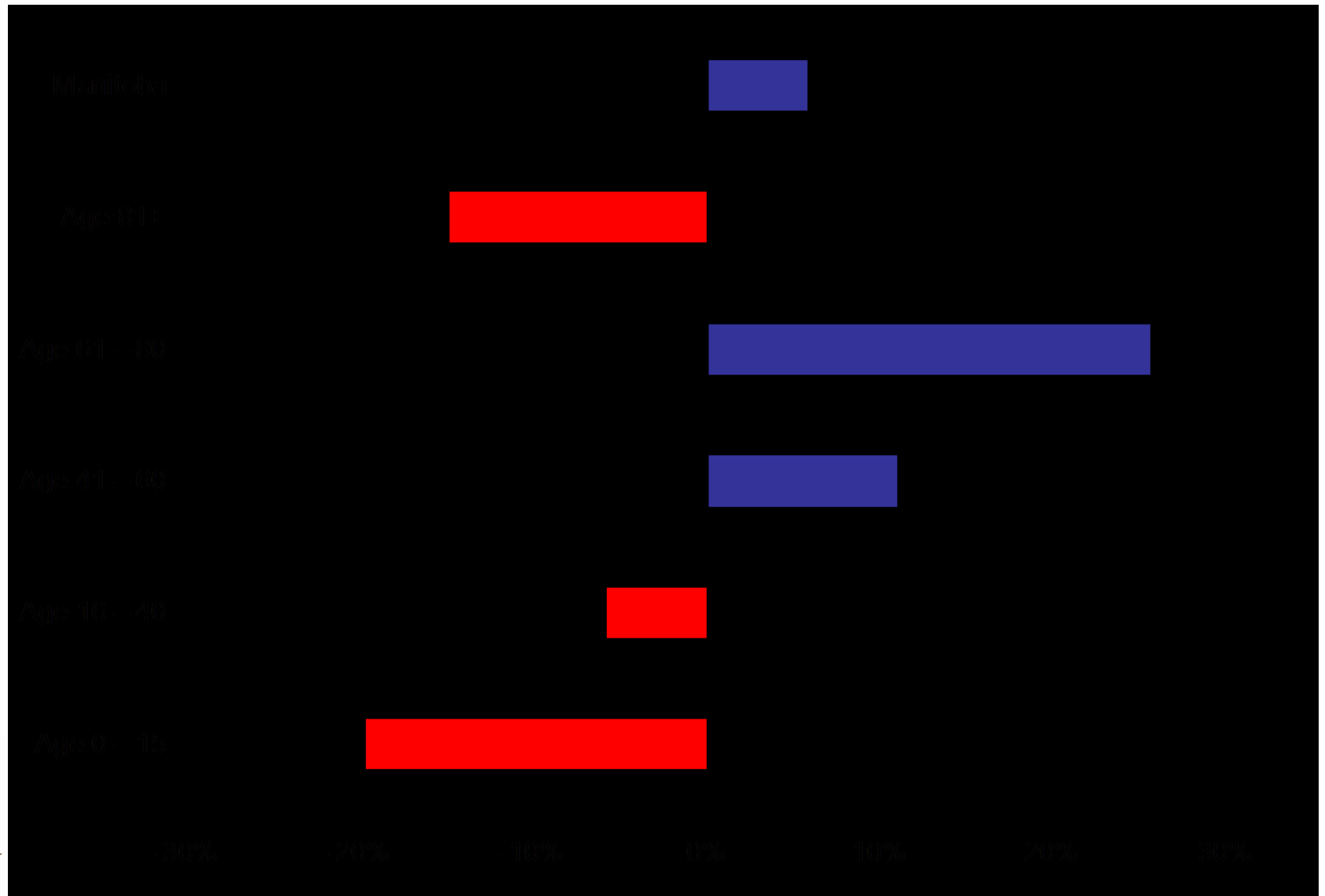


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Change in Equivalent Services Measure (ESM) per user 1984- 2005 by Age Group: Family Physicians



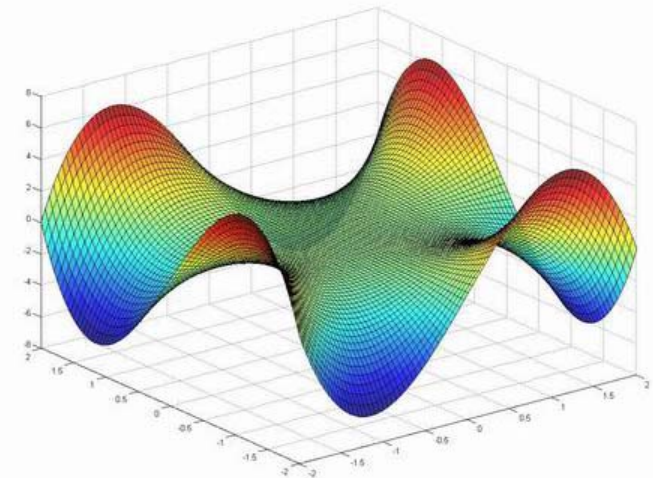
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What to model?

- GLM
- Dependent variable: ESM
- Independent variables:
 - Year
 - Patient age
 - Sex
 - Medium pop projection



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Changes Over Time

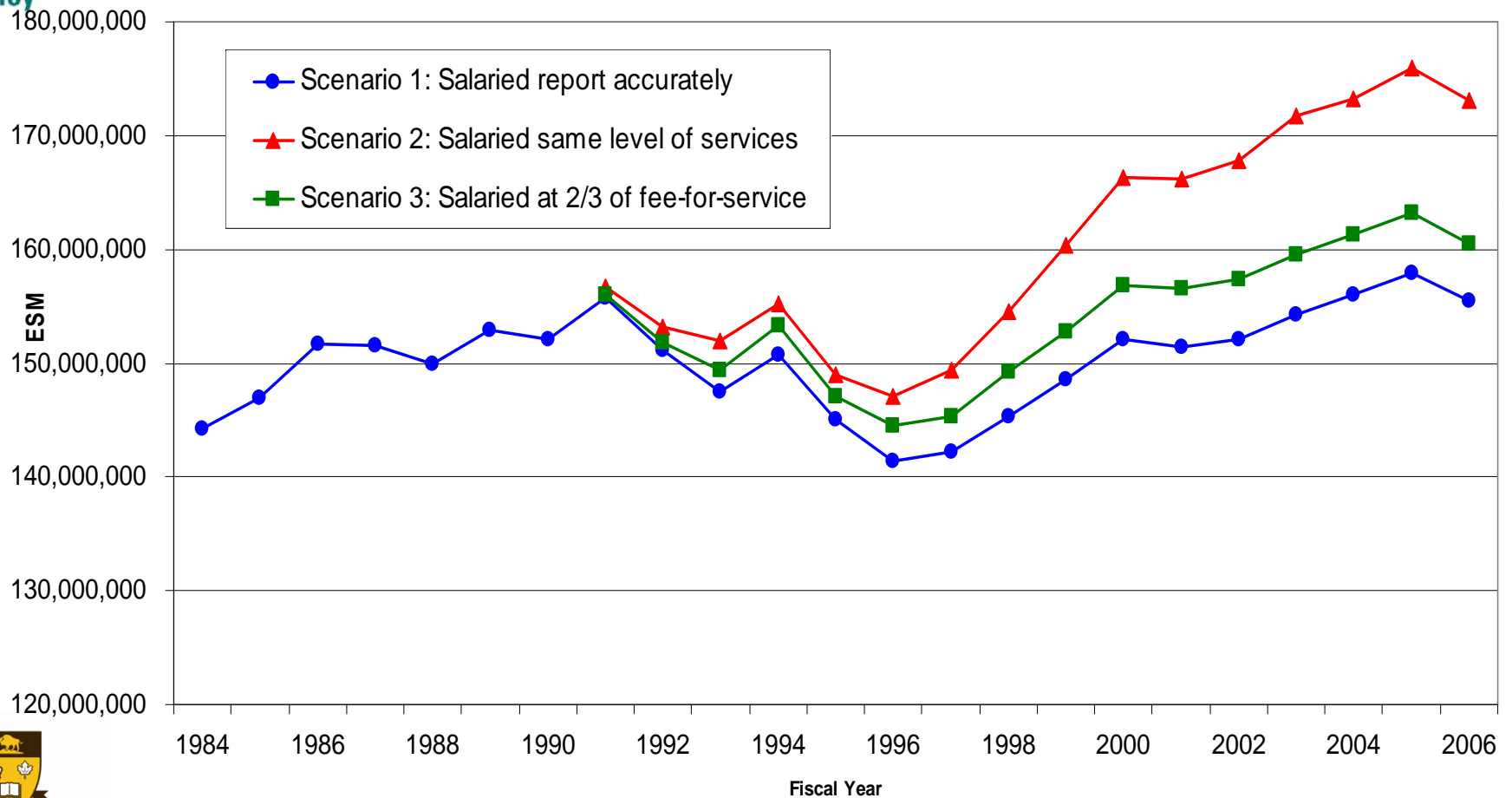
- Tariffs
- Changes in patterns of use by age
- Population demographics
- **Changes in workforce demographics and productivity (and funding mechanism)**





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Change in Alternate Payment Plans as Total Proportion of Equivalent Services Measure (ESM)





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National Physician Survey 2007

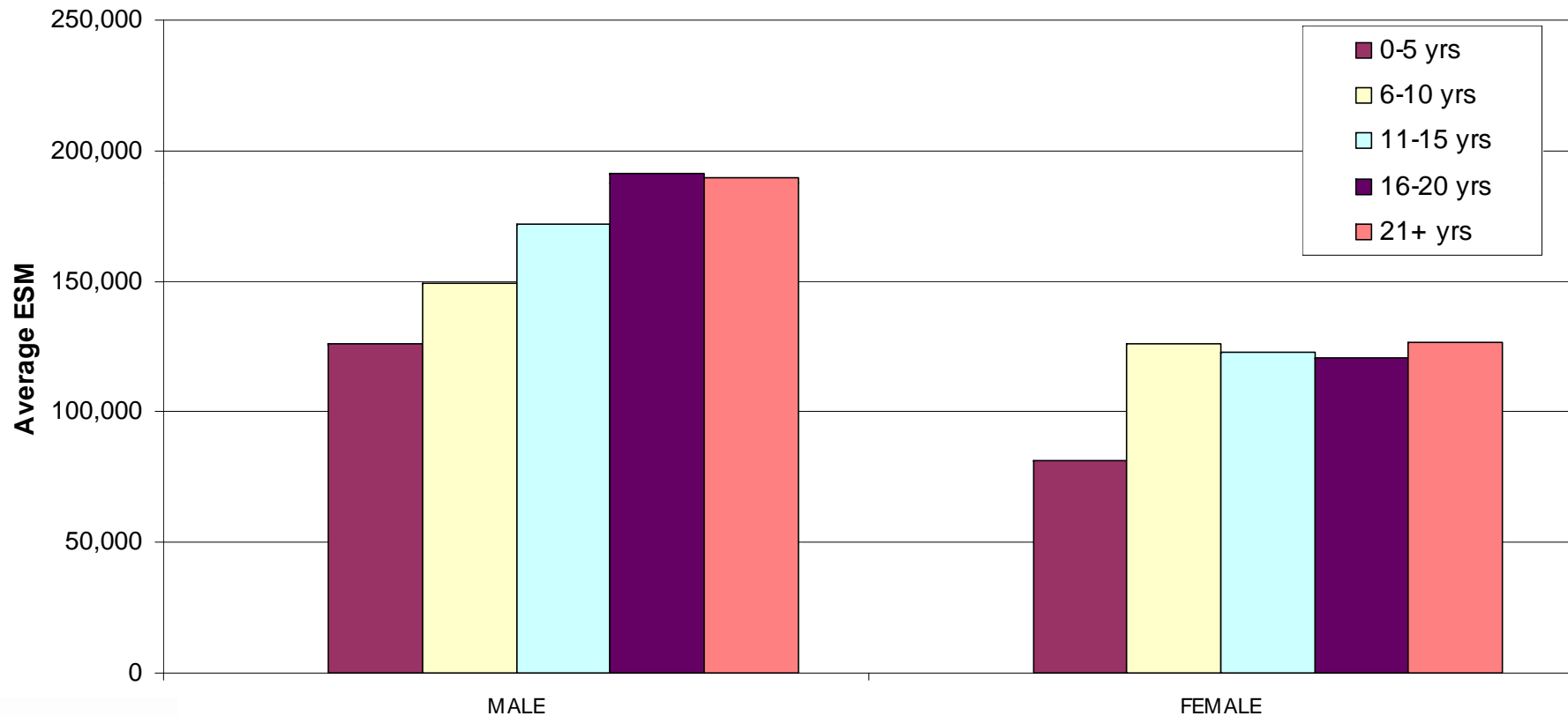
- Nearly one-third of pediatricians said they plan to reduce their workload (excluding on-call) in the next two years.
- When asked what accounts for the increasing demands on their time, pediatricians reported the top three factors as: increasing complexity of patient caseload, management of patients with chronic diseases or conditions, and increasing patient expectations.
- Pediatricians report an average work week of 52.5 hours (not including call), which includes patient care, teaching, administration and research.
- 28% reported that their practices are partially closed to new patients. Another 3.9% said their practices are completely closed.





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Average ESM by Gender and Years in Practice (GPs)



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Projected Equivalent Services Measure (ESM) for Family Physicians

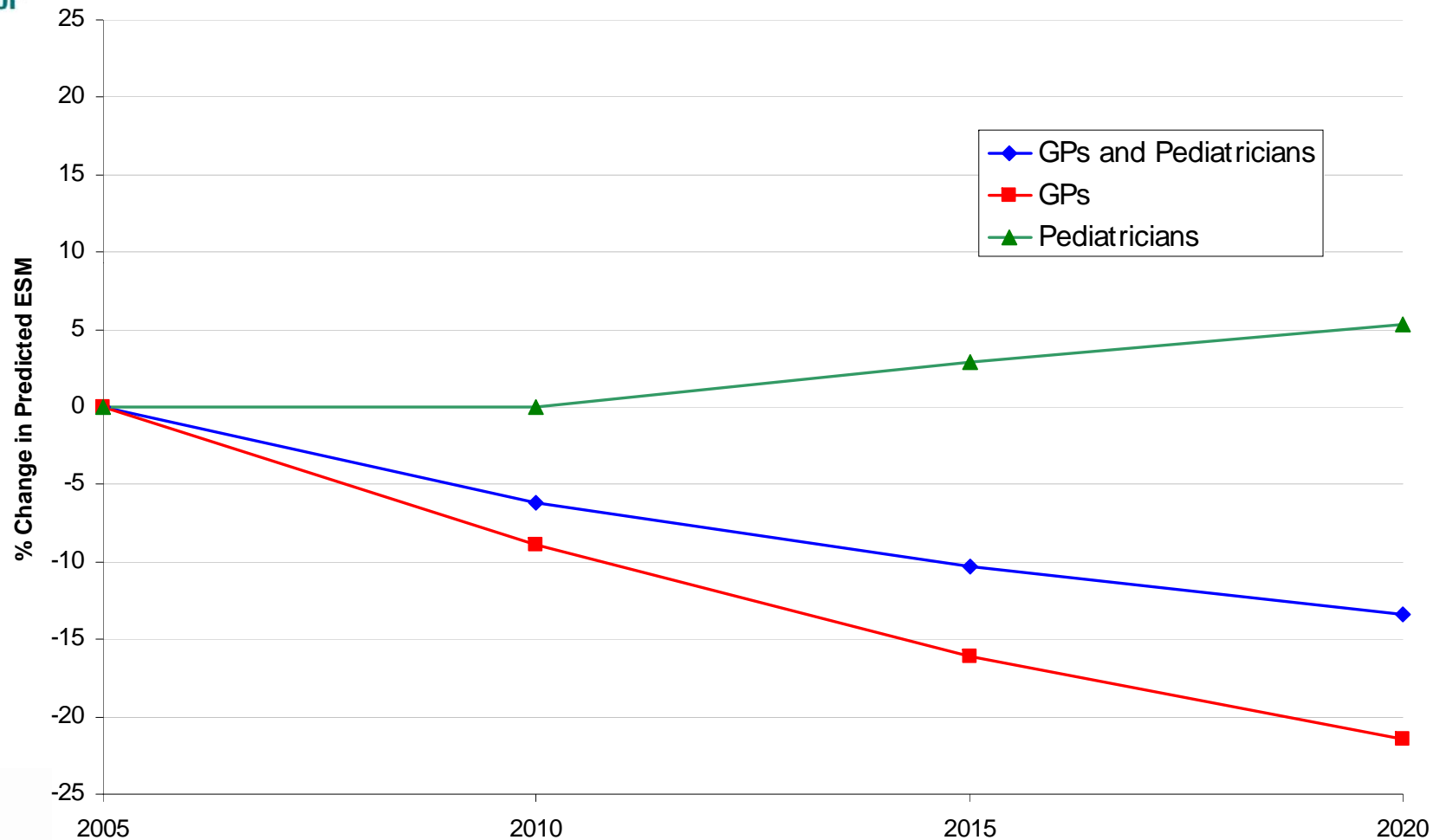
	Baseline and Change in Projected Population	Baseline and Change in Projected ESM
2005/06 (base)	1,175,360	149,504,023
2010	+4.93 %	+5.06 %
2015	+9.29 %	+10.72 %
2020	+13.37 %	+16.56 %





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Percentage Changes in Predicted ESM for Pediatric Work



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Percentage Changes in Projected Equivalent Services Measure (ESM) for Pediatric Work

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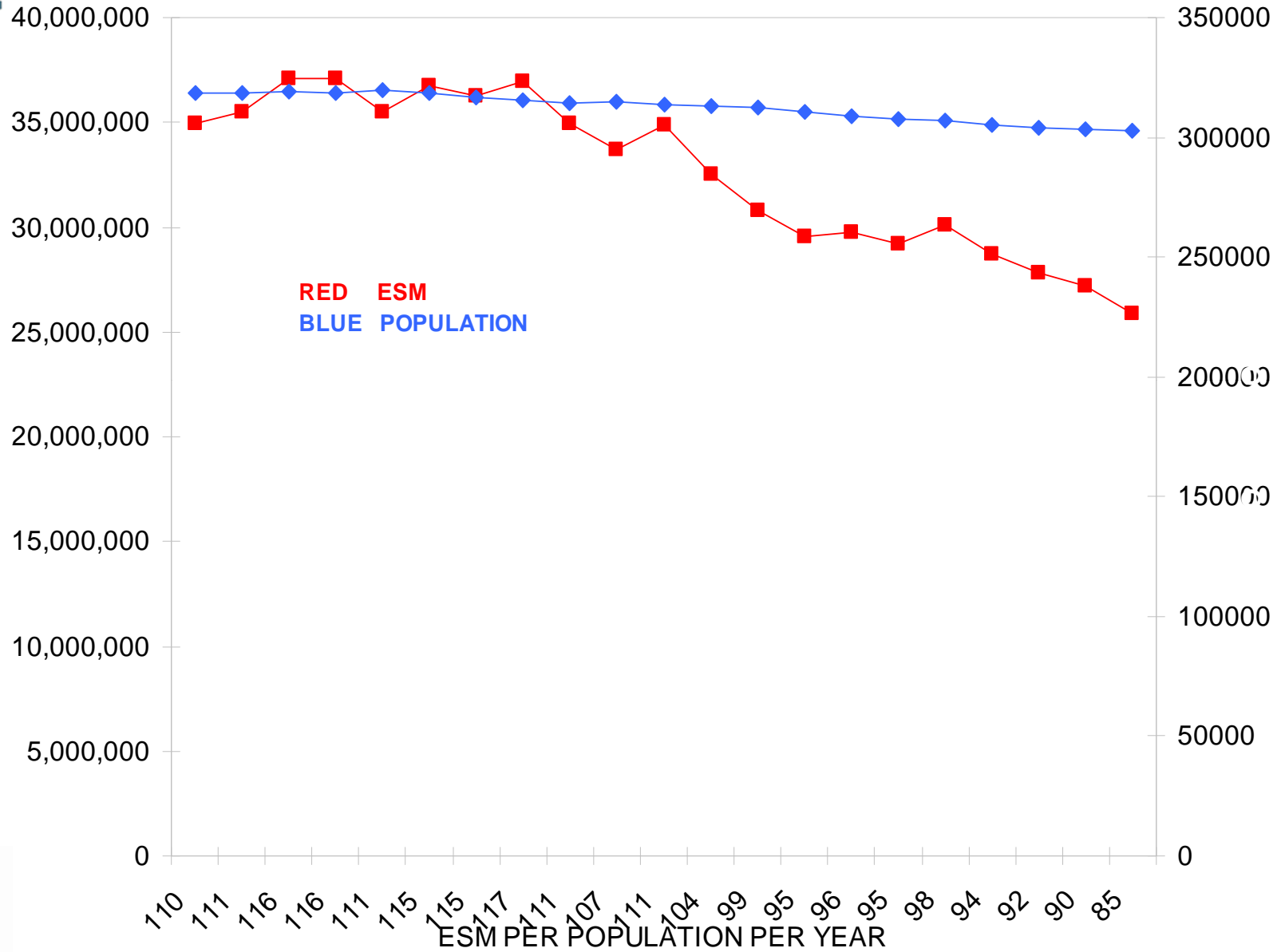
	Baseline and Change in Projected Population	Baseline and Change in Projected ESM		
		GPs and Pediatricians	GPs	Pediatricians
2005/06 (base)	300,411	26,288,219	16,560,723	9,894,706
2010	-0.13 %	-6.14 %	-8.93 %	0.04 %
2015	+0.24 %	-10.34 %	-16.11%	2.91 %
2020	+2.77 %	-13.38 %	-21.4 %	5.34 %





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PEDIATRIC POPULATION



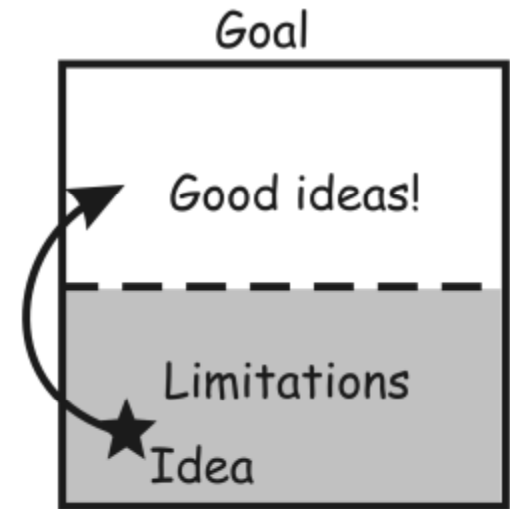
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Limitations

- Use of administrative data
- Projections based on past utilization patterns
- Cannot take into account health care reform
- Does not account for current shortages



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Discussion

- **Primary care** services are functioning at maximum capacity; projections needs to be interpreted with caution
- **Pediatric services** are decreasing
- **Ontario data:**
 - Decrease in visits to FP/GP
 - Care from pediatrician vs FP/GP ↑



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

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