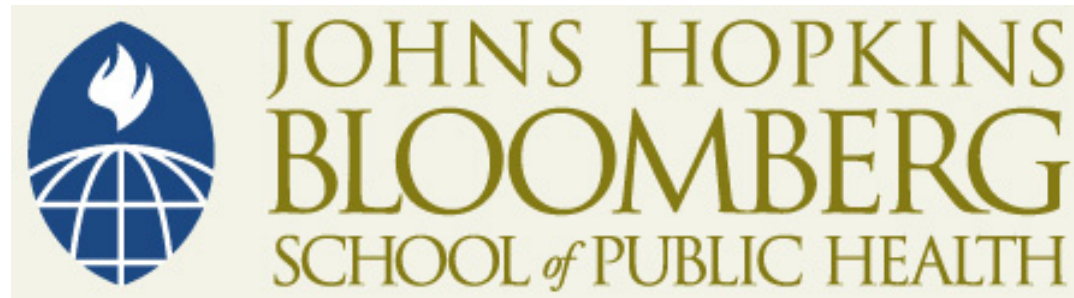


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# Benefits of Primary Care in Healthcare Reform

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Barbara Starfield, MD, MPH

Sommer Memorial Lecture (Portland, OR, 2010)  
and Herbert Vaughn Lecture (Boston, MA, 2010)

# Why Is Primary Care Important?

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Better health outcomes

Lower costs

Greater equity in health

Evidence for the benefits of primary care-oriented health systems is robust across a wide variety of types of studies:

- International comparisons
- Population studies within countries
  - across areas with different primary care physician/population ratios
  - studies of people going to different types of practitioners
- Clinical studies
  - of people going to facilities/practitioners differing in adherence to primary care practices

# Primary Care Scores, 1980s and 1990s

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	1980s	1990s
Belgium	0.8	0.4
France*	-	0.3
Germany	0.5	0.4
United States	0.2	0.4
Australia	1.1	1.1
Canada	1.2	1.2
Japan*	-	0.8
Sweden	1.2	0.9
Denmark	1.5	1.7
Finland	1.5	1.5
Netherlands	1.5	1.5
Spain*	-	1.4
United Kingdom	1.7	1.9

\*Scores available only for the 1990s

# System Features Important to Primary Health Care

	Resource Allocation (Score)	Progressive Financing*	Cost Sharing	Compre- hensiveness	
Belgium	0	0	0	0	
France	0	0	0	0	
Germany	0	1	2	0	
US	0	0**	0	0	
Australia	1	2	2	2	
Canada	1	2	2	2	
Japan	1	2	1	1	
Sweden	2	2	1	1	*0=all regressive
Denmark	2	2	2	2	1=mixed
Finland	2	2	1	2	2=all progressive
Netherlands	2	0	2	2	**except Medicaid
Spain	2	2	2	1	
UK	2	2	2	2	

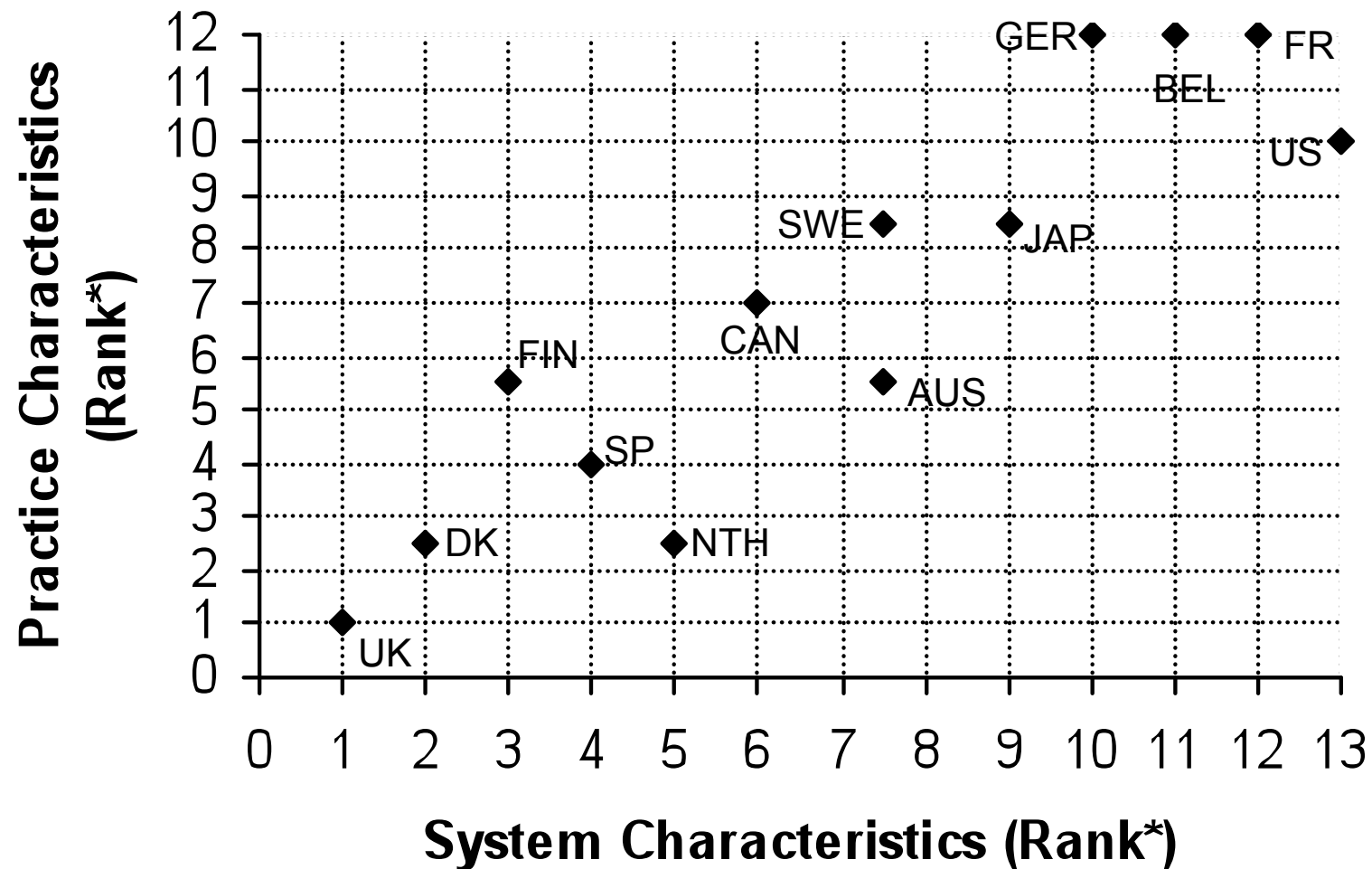
Sources: Starfield. Primary Care: Balancing Health Needs, Services, and Technology. Oxford U. Press, 1998. van Doorslaer et al. Equity in the Finance and Delivery of Health Care: An International Perspective. Oxford U. Press, 1993.

Starfield 11/06  
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# Primary health care oriented countries

- Have more equitable resource distributions
- Have health insurance or services that are provided by the government
- Have little or no private health insurance
- Have no or low co-payments for health services
- Are rated as better by their populations
- Have primary care that includes a wider range of services and is family oriented
- Have better health at lower costs

# System (PHC) and Practice (PC) Characteristics Facilitating Primary Care, Early-Mid 1990s

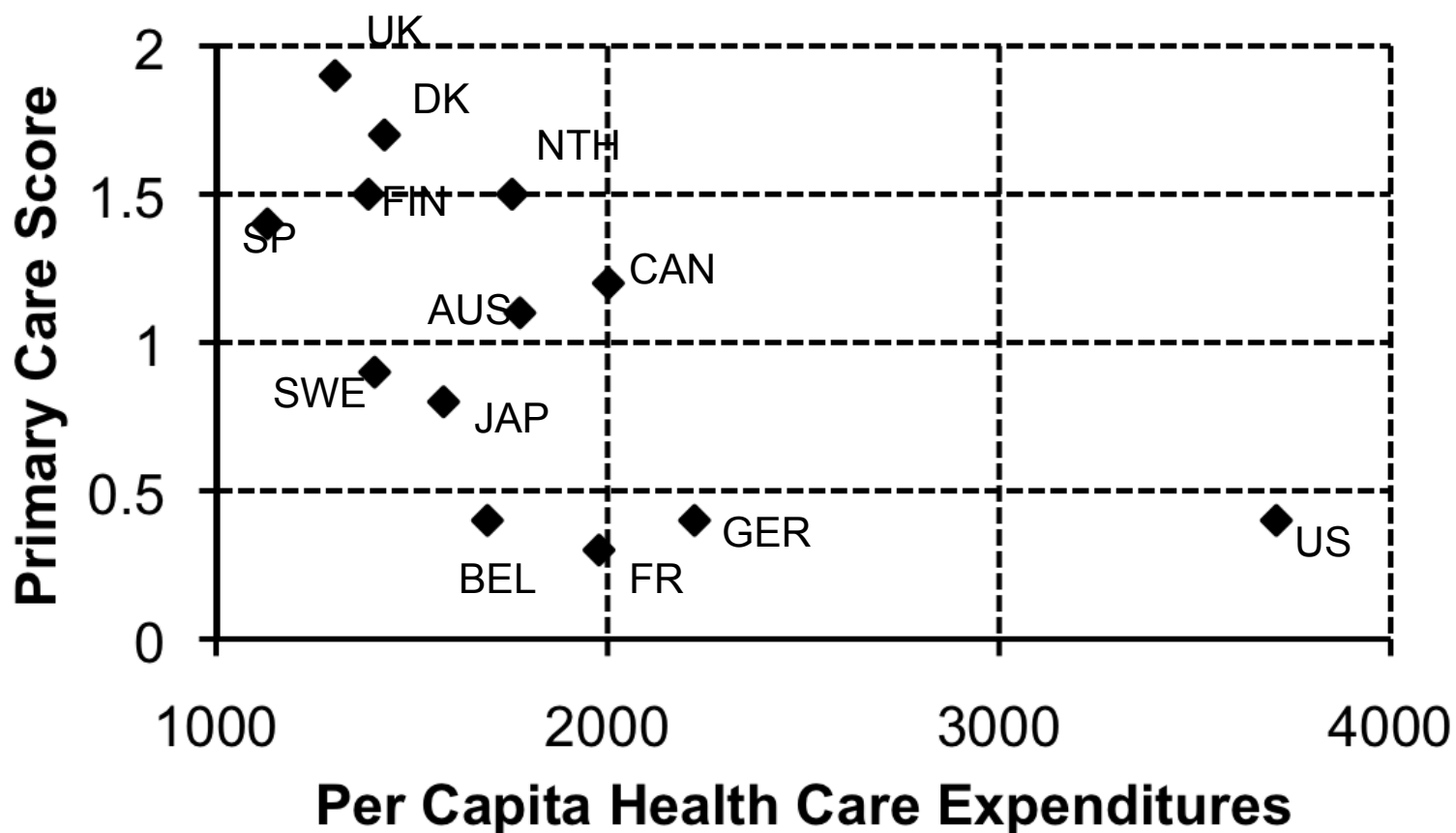


\*Best level of health indicator is ranked 1; worst is ranked 13;  
thus, lower average ranks indicate better performance.

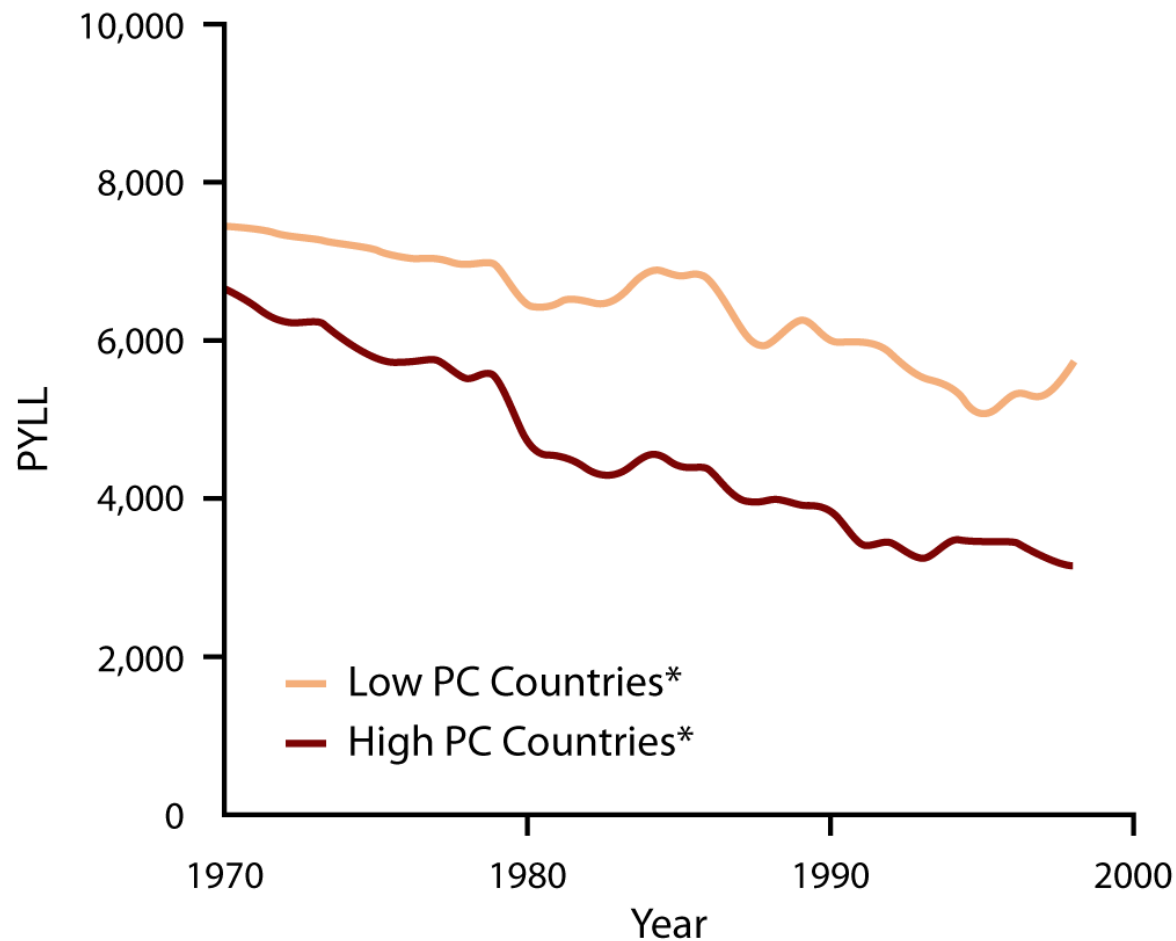
Based on data in Starfield & Shi, Health Policy 2002; 60:201-18.



# Primary Care Score vs. Health Care Expenditures, 1997



# Primary Care Strength and Premature Mortality in 18 OECD Countries



\*Predicted PYLL (both genders) estimated by fixed effects, using pooled cross-sectional time series design. Analysis controlled for GDP, percent elderly, doctors/capita, average income (ppp), alcohol and tobacco use.  $R^2(\text{within})=0.77$ .

Adapted by CTLT from Macinko et al, Health Serv Res 2003; 38:831-65.

# Primary Care Score and Health Outcomes: 18 OECD Countries

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Health Outcome	Association with Primary Care Score*	
	In Males	In Females
All-cause mortality	√	
Life expectancy	√	
Infant Mortality Rate	√	
PYLL (all causes)	√	√
PYLL (pneumonia & influenza)	√	√
PYLL (asthma & bronchitis)	√	√
PYLL (cerebrovascular disease)	√	√
PYLL (heart disease)	√	√

\*Primary care coefficient significant at  $p < 0.05$  level and estimated by fixed effects, using pooled cross-sectional time series design. Analysis controlled for GDP, percent elderly, doctors/capita, average income (ppp), alcohol and tobacco use.  $R^2(\text{within})$  averaged from to .36 to .84.

# Primary Care Oriented Countries Have

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- Fewer low birth weight infants
- Lower infant mortality, especially postneonatal
- Fewer years of life lost due to suicide
- Fewer years of life lost due to “all except external” causes
- Higher life expectancy at all ages except at age 80

# Technology Use: Relative Ranking (Rates per Million Population)

Country	CT scanner†	MRI scanner*	CABG procedures*	PTCA procedures*	Allogeneic bone marrow transplant**
Australia	6	3	4	3	6
Germany (West)	5	6	2	5	1
US	7	7	7	7	4
Canada	2	1	6	6	7
Denmark					3
Netherlands	3	4	5	5	2
Sweden	4	5	3	3	8
UK	1	2	1	1	5

Sources:

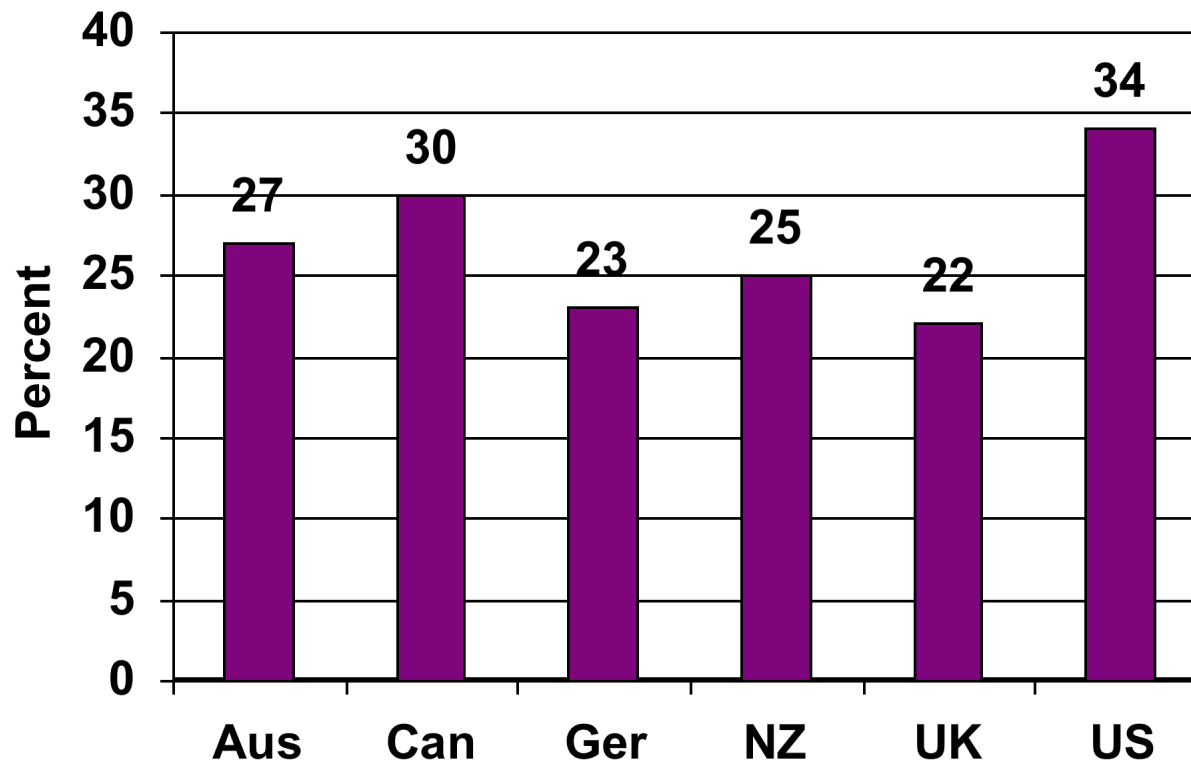
†OTA 1984, as cited in Battista et al, Health Policy 1994; 30:397-421, data for 1990.

\* Battista et al, Health Policy 1994; 30:397-421; data for 1992, 1990, 1991, respectively.

\*\*Silberman et al, N Engl J Med 1994; 331:1063-7, data for 1989-91.

# Any Error: Medical Mistake, Medication Error, or Lab/Diagnostic Test Error in Past 2 Years

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# Percent of Patients Reporting Any Error by Number of Doctors Seen in Past Two Years

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Country	One doctor	4 or more doctors
Australia	12	37
Canada	15	40
Germany	14	31
New Zealand	14	35
UK	12	28
US	22	49

# Comparisons of Policy (PHC) and Clinical (PC) Characteristics

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	Canada	UK	US
System characteristics related to primary care			
Type of system	1.0	2.0	0.0
Financing	2.0	2.0	0.0
Cost sharing for primary care	2.0	2.0	0.0
Primary care practice characteristics			
First contact	1.0	2.0	1.0
Longitudinality	1.0	2.0	0.0
Comprehensiveness	2.0	2.0	0.0
Coordination	0.5	1.0	0.0
Family-centeredness	1.0	2.0	0.5
Community orientation	0.5	2.0	0.0



# Health “Outcomes”: Canada vs. US\*

## (Rank among OECD Countries, 2004-5)

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LE birth	9 vs 25
LE age 65 (males)	4 vs 8
LE age 65 (females)	4 vs 14
PYLL (age 70)	13 vs 21
IHD mortality (males)	7 vs 5
IHD mortality (females)	7 vs 9
Stroke mortality (males)	2 vs 4
Stroke mortality (females)	3 vs 6
All cancer mortality (males)	12 vs 7
All cancer mortality (females)	22 vs 23
Infant mortality	24 vs 26
Asthma mortality ages 5-39	18 vs 21

\*age standardized  
where appropriate

A review of 38 studies addressing diverse clinical problems found that, overall, quality of care is better in Canada than in the United States. Of 10 studies that included extensive statistical adjustment and enrolled broad populations, five favored Canada, two favored the US, and three showed equivalent or mixed results.

In British Columbia, every additional 1% increase in continuity of care is associated with a saving of about \$81 per year per person with diabetes. A 5% increase would save about 85 million dollars in the care of people with high burdens of morbidity with their diabetes or congestive heart failure. The benefit of continuity of primary care is especially great for people with complex morbidity patterns.

A study of individuals seen in a year in large health care plans in the US found:

	elderly	non-elderly
percent who saw a specialist	95	69
average number of different specialists seen	4.0	1.7
average number of visits to specialists	8.8	3.3
<u>total</u> visits to both primary care and specialists	11.5	5.9

A study of individuals (ages 20-79) seen over two years in Ontario, Canada, found:

percent who saw a specialist	53.2
median number of visits to specialists	1.0
<u>total</u> visits to both primary care and specialists	7.0

# Generalists and Specialists per 100,000 People, US and Canada, 2006-7

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	US	Canada
Generalists (FP, GIM, general peds)	100	99
Specialists	207	94

In both England and the US, each additional primary care physician per 10,000 population (a 12-20% increase) is associated with a decrease in mortality of 3-10%, depending on the cause of death. This is true even after adjusting for sociodemographic and socioeconomic characteristics.

Many other studies done WITHIN countries, both industrialized and developing, show that areas with better primary care have better health outcomes, including total mortality rates, heart disease mortality rates, and infant mortality, and earlier detection of cancers such as colorectal cancer, breast cancer, uterine/cervical cancer, and melanoma. The opposite is the case for higher specialist supply, which is associated with worse outcomes.



Across the US states, there is a greater relationship between the presence of a good supply of physicians and life expectancy than there is either between high coverage with health insurance among the state population or affordability of health insurance coverage and life expectancy.

It is the availability of primary care resources that has the determining effect on access to the benefits of primary care. Insurance alone, without regulated benefits, copayments and deductibles under either direct provision of services (as in federally qualified community health centers), a single payer (generally the government), or government regulated private insurance is not sufficient to provide the benefits to health.

# Why Does Primary Care Enhance Effectiveness of Health Services?

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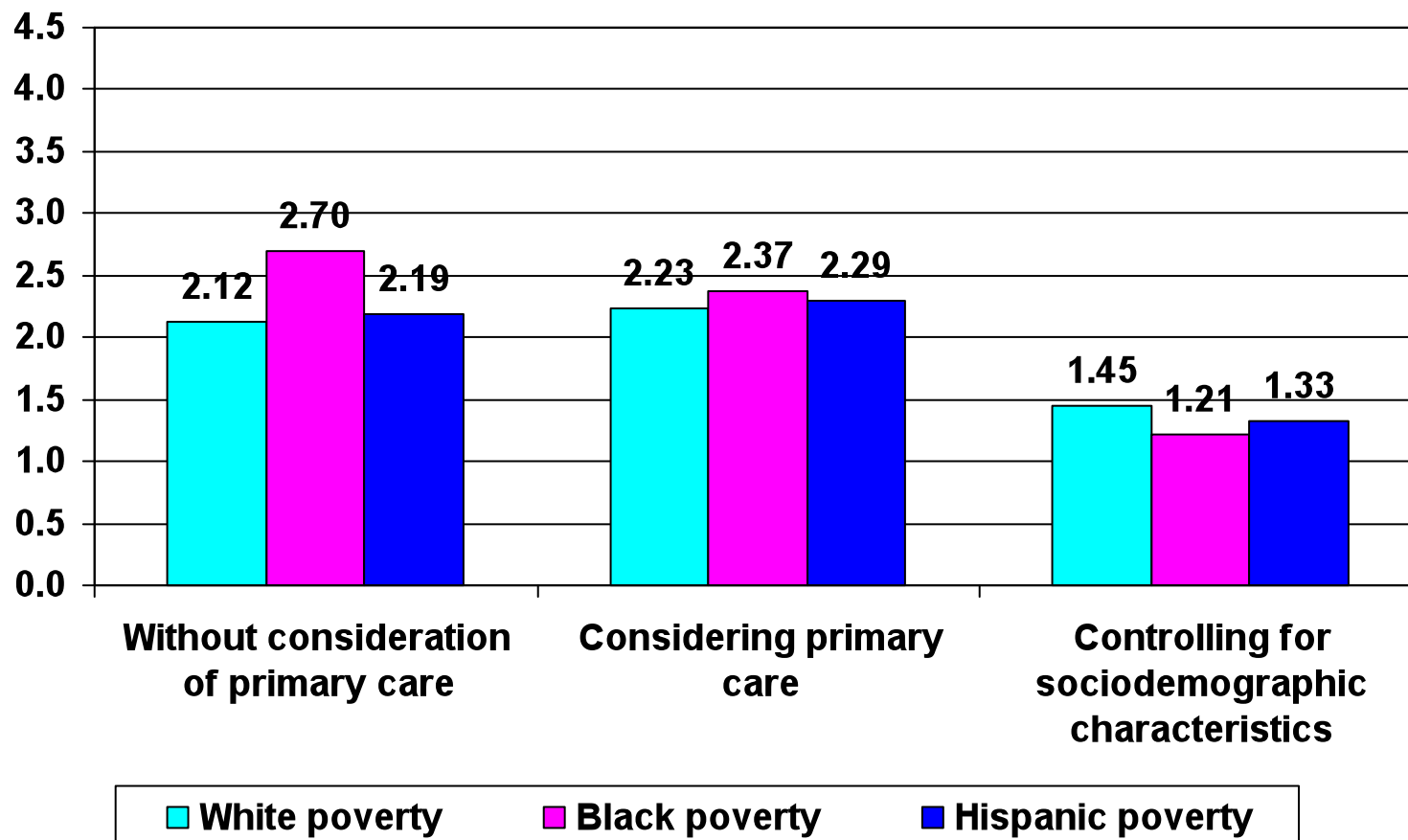
- Greater accessibility
- Better person-focused prevention
- Better person-focused quality of clinical care
- Earlier management of problems (avoiding hospitalizations)
- The accumulated benefits of the four features of primary care

Does primary care  
reduce inequity in  
health?

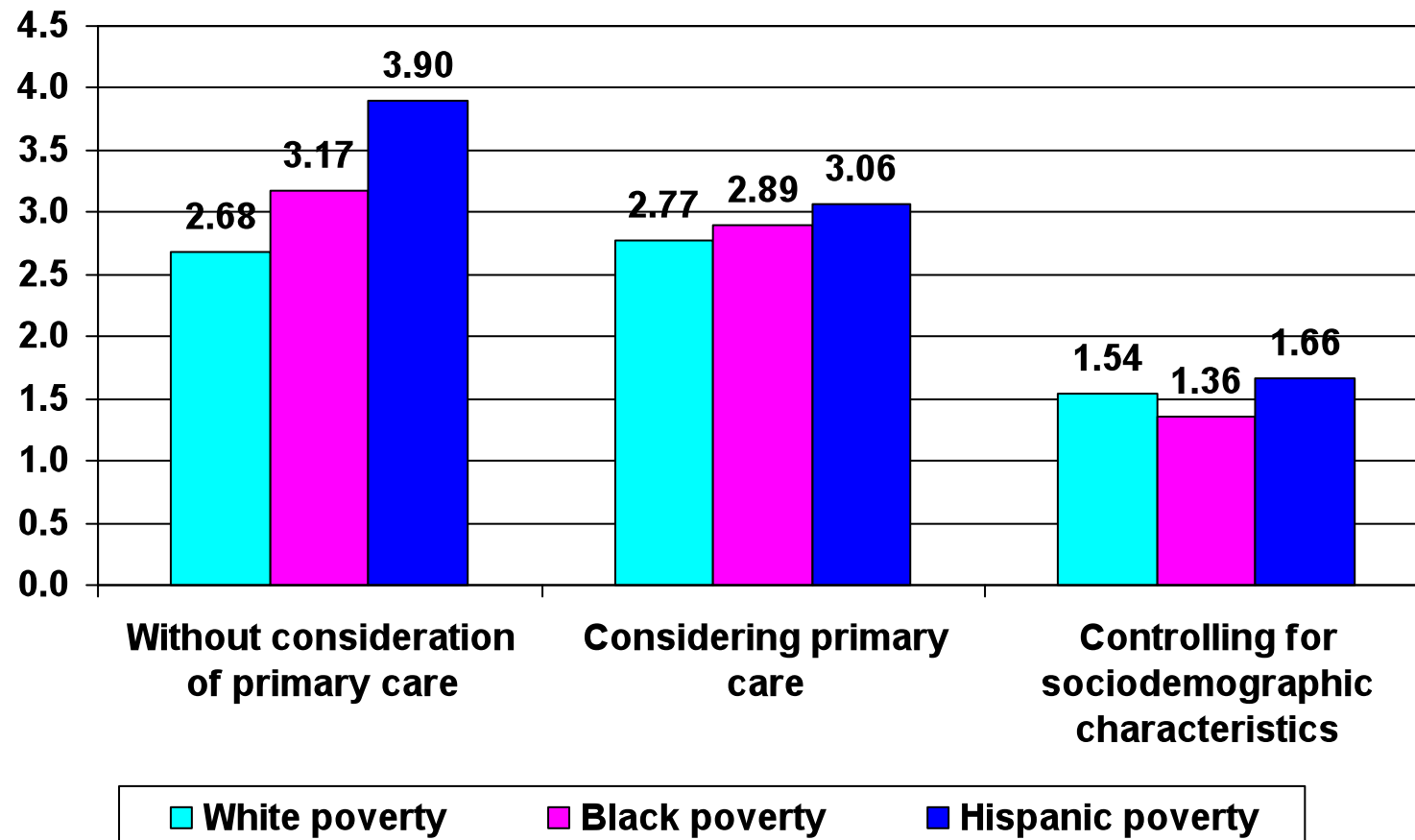
In the United States, an increase of 1 primary care doctor is associated with 1.44 fewer deaths per 10,000 population.

The association of primary care with decreased mortality is greater in the African-American population than in the white population.

# Odds Ratios for Poor Mental Health Status by Adequacy of Primary Care in Different Population Groups, US, 1998-1999



# Odds Ratios for Poor Physical Health Status by Adequacy of Primary Care, in Different Population Groups, US, 1998-1999



A comparison of age-adjusted survival from breast cancer showed that

- Low SES is strongly associated with decreased survival in US, but not Canada.
- The survival advantage in Canada is present in low income areas only.
- The survival advantage in Canada is much larger at ages under 65.
- The Canadian survival advantage is larger for later stage diagnosis. That is, there is almost certainly a medical care benefit to equity in the Canadian context.

In Ontario Canada, family income is unrelated to either likelihood of seeking care or frequency of visits to either primary or specialist care, even after controlling for morbidity burden. However, higher levels of education were associated with higher likelihood of visiting a specialist and with more specialist visits.



# Why Does Primary Care Enhance Equity in Health?

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- Greater comprehensiveness of services (especially important in the presence of multimorbidity)
- Person-focused care over time (better knowledge of patient and better recognition of problems)
- Greater accessibility of services
- Better coordination, thus facilitating care for people of limited flexibility
- Better person-focused prevention

# Primary Care and Health: Evidence-Based Summary

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- Countries with strong primary care
  - have lower overall costs
  - generally have healthier populations
- Within countries
  - areas with higher primary care physician availability (but NOT specialist availability) have healthier populations
  - more primary care physician availability reduces the adverse effects of social inequality

# Conclusion

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Although sociodemographic factors undoubtedly influence health, a primary care oriented health system is a highly relevant policy strategy because its effect is clear and relatively rapid, particularly concerning prevention of the progression of illness and effects of injury, especially at younger ages.

# Strategy for Change in Health Systems

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- Achieving primary care
- Avoiding an excess supply of specialists
- Achieving equity in health
- Addressing co- and multimorbidity
- Responding to patients' problems: using ICPC for documenting and follow-up
- Coordinating care
- Avoiding adverse effects
- Adapting payment mechanisms
- Developing information systems that serve care functions as well as clinical information
- Primary care-public health link: role of primary care in disease prevention

# Aspects of Care That Distinguish Conventional Health Care from People-Centred Primary Care

<b>Conventional ambulatory medical care in clinics or outpatient departments</b>	<b>Disease control programmes</b>	<b>People-centred primary care</b>
Focus on illness and cure	Focus on priority diseases	Focus on health needs
Relationship limited to the moment of consultation	Relationship limited to programme implementation	Enduring personal relationship
Episodic curative care	Programme-defined disease control interventions	Comprehensive, continuous and person-centred care
Responsibility limited to effective and safe advice to the patient at the moment of consultation	Responsibility for disease-control targets among the target population	Responsibility for the health of all in the community along the life cycle; responsibility for tackling determinants of ill-health
Users are consumers of the care they purchase	Population groups are targets of disease-control interventions	People are partners in managing their own health and that of their community

# Good Primary Care Requires

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- Health system POLICIES conducive to primary care practice: What can we learn from other countries about the relative merits of direct provision of services rather than just financing of services?
- Health services delivery that achieves the important FUNCTIONS of primary care: What can be done to enhance practitioners' recognition of and responsiveness to patients' problems (patient-focus) rather than on the professional priorities of diagnoses (diagnosis-focus)?

# Joint Principles of the Patient-centered Medical Home

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- Personal physician: ongoing relationship for first contact, continuous, comprehensive care
- Clarification of specialist role(s)
- Whole person oriented
- Coordinated and/or integrated care
- Quality and safety
- Enhanced access
- Added value payment
- Primary care/public health links

# Proposed PC/MH (Patient-centered Medical Home) Criteria

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- Electronic health record
- Teams
- Chronic care guidelines

Question: Do these  
“enhancements” improve primary  
care?

This requires evaluation.



# “Enhancements” to Primary Care

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- Health information systems: primary care/system-wide
- Subspecialization in primary care
- Patient-centered primary care (poorly conceptualized)
- “Chronic care model”: self-management support; delivery system design; decision support; clinical; information systems
- A focus on specific chronic diseases rather than a focus on the combination of health problems experienced by people
- The patient-centered medical home

ALL REQUIRE EVALUATION.

We have instruments to assess the utility of health systems, the strength of primary care, and the outcomes as measured by morbidity burden. We need the political will to use them.

# US Health Care Reform and Primary Care – March 2010

# Primary Care and US Health Care Reform – Likely Benefits

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- More primary care physicians (5-10 years); preference for primary care in unused residency slots paid by Medicare
- Better primary care training-teaching health centers and payment by Medicare for outpatient training
- More community health centers and NHSC physicians in socially deprived areas
- Higher Medicare reimbursement for 2 years; 10% increase in reimbursement for 5 years

# Primary Care and US Health Care Reform – Likely Problems

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- Increased pressure on ERs
- More problems with access to primary care (5-10 years)
- Increased pressure on primary care physicians
- Less availability for dealing with patients' problems
- More focus on routine management

# Primary Care and US Health Care Reform – Likely Problems

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- More use, especially at ages 45-64
- More procedures, especially at ages 45-64
- Continued high administrative costs and/or reclassification as medical costs\*
- Continued escalation of high technology interventions\*\*
- Continued escalation of polypharmacy\*\*

\*Law requires insurers to spend at least 80% of premium on medical care.

\*\*Law prohibits costs-effectiveness research from influencing payments for care.

# What to Do – Fast

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- Maintain state option for single payor
- Encourage routine care to be done by non-physician practitioners (would relieve up to half of the clinical time of primary care physicians)