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CONCORD-2: role of population-based survival in evaluating health care in high-income countries

Hannah K Weir, PhD
Centers for Disease Control and Prevention, Atlanta, USA
on behalf of the CONCORD Steering Committee



World Cancer Congress
Montreal, Canada - 30 August 2012

Outline

- ❑ Role of population-based survival in evaluating health care
- ❑ Status of cancer surveillance in North America
- ❑ What we learned from first CONCORD study
- ❑ What we expect to from CONCORD-2

The Role of Population-based Survival in Evaluating Health Care

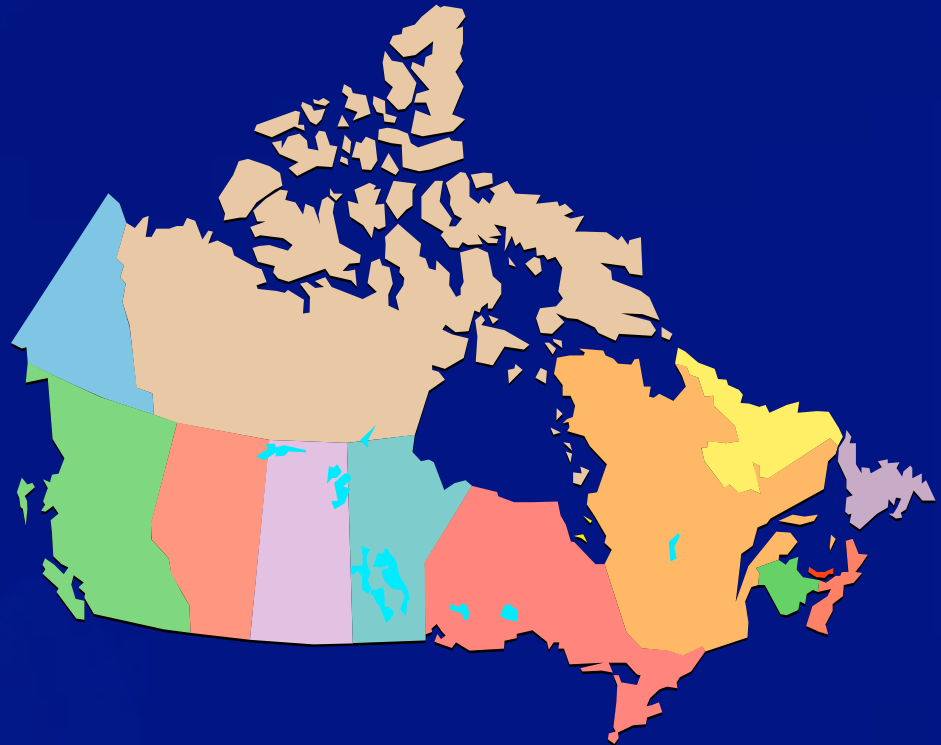
Clinical trials **highest** *achievable* survival

Population-based **average** survival *achieved*

Coleman, 1999

Cancer surveillance in North America - Canada

- ❑ Nationwide coverage
- ❑ 10 provincial registries and 3 territorial registries
- ❑ Canadian Cancer Registry (1992+)
- ❑ Maintained by Statistics Canada
- ❑ Canadian Cancer Statistics report published and includes survival data



Cancer surveillance in North America - USA

Surveillance, Epidemiology and End Results (SEER) Program

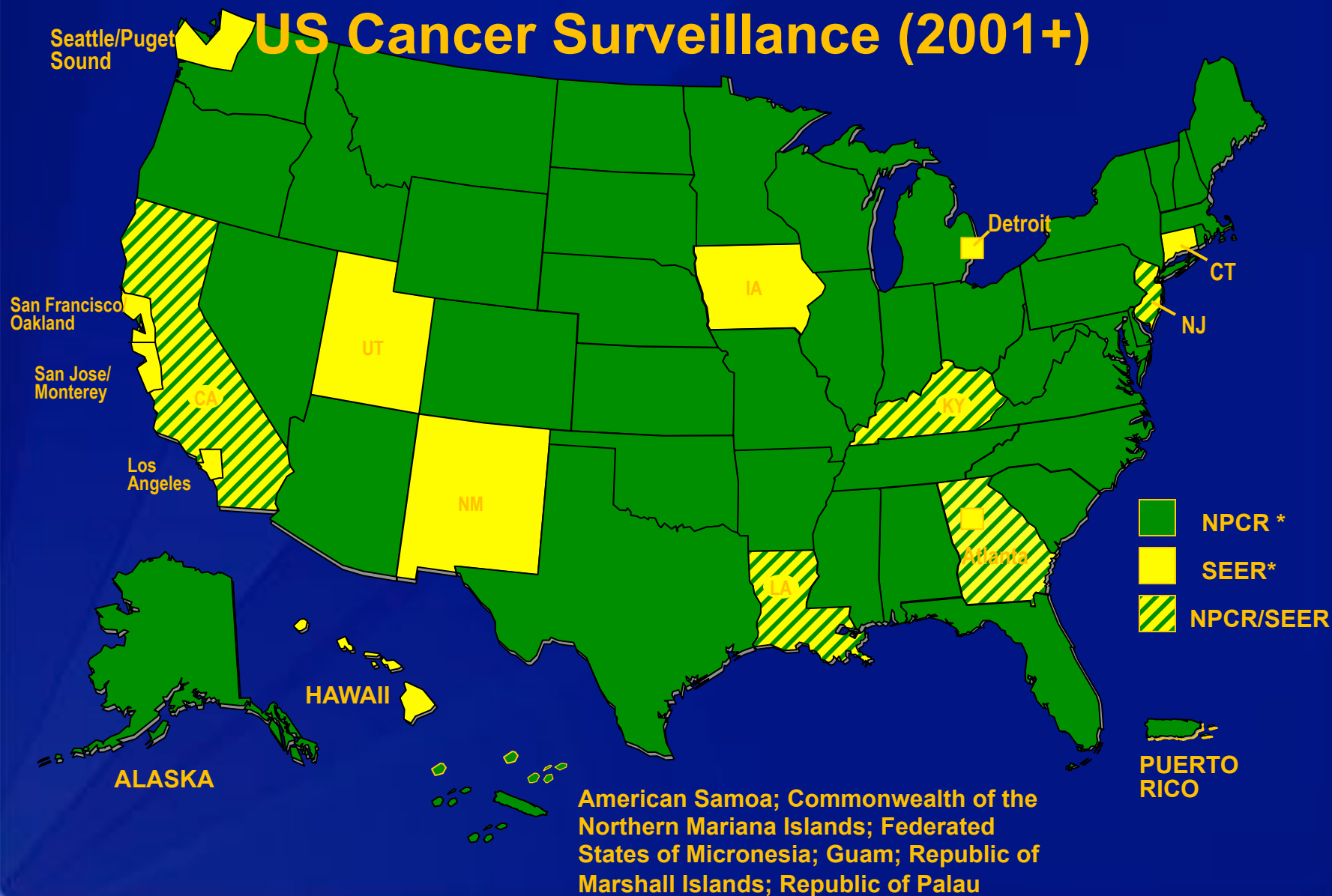
- ☐ 1973+
- ☐ 10-28% population
- ☐ 9 -18 state and metropolitan cancer registries
- ☐ National Cancer Institute
- ☐ Cancer Statistics Review – including survival

National Program of Cancer Registries (NPCR)

- ☐ 1995+
- ☐ ~96% population
- ☐ 45 states, DC and 2 territorial cancer registries
- ☐ Centers for Disease Control and Prevention
- ☐ WONDER

United States Cancer Statistics Report - joint publication covering 100% - does not currently contain survival

The status of cancer surveillance in North America



*National Program of Cancer Registries (CDC)

†Surveillance, Epidemiology, and End Results Program (NCI)

Population-based Cancer Survival in High Income Countries

EUROCARE*	Patients diagnosed	Countries	Cancer registries	Year
1	1978 – 1984	11	30	1995
2	1985 – 1989	17	48	1999
3	1990 – 1994	20	66	2003
CONCORD	1990 – 1994	31	101	2008
4	1995 – 2002	23	83	2007
5	2003 – 2007	-	-	2012
CONCORD-2	1995 – 2009	60	180	2013

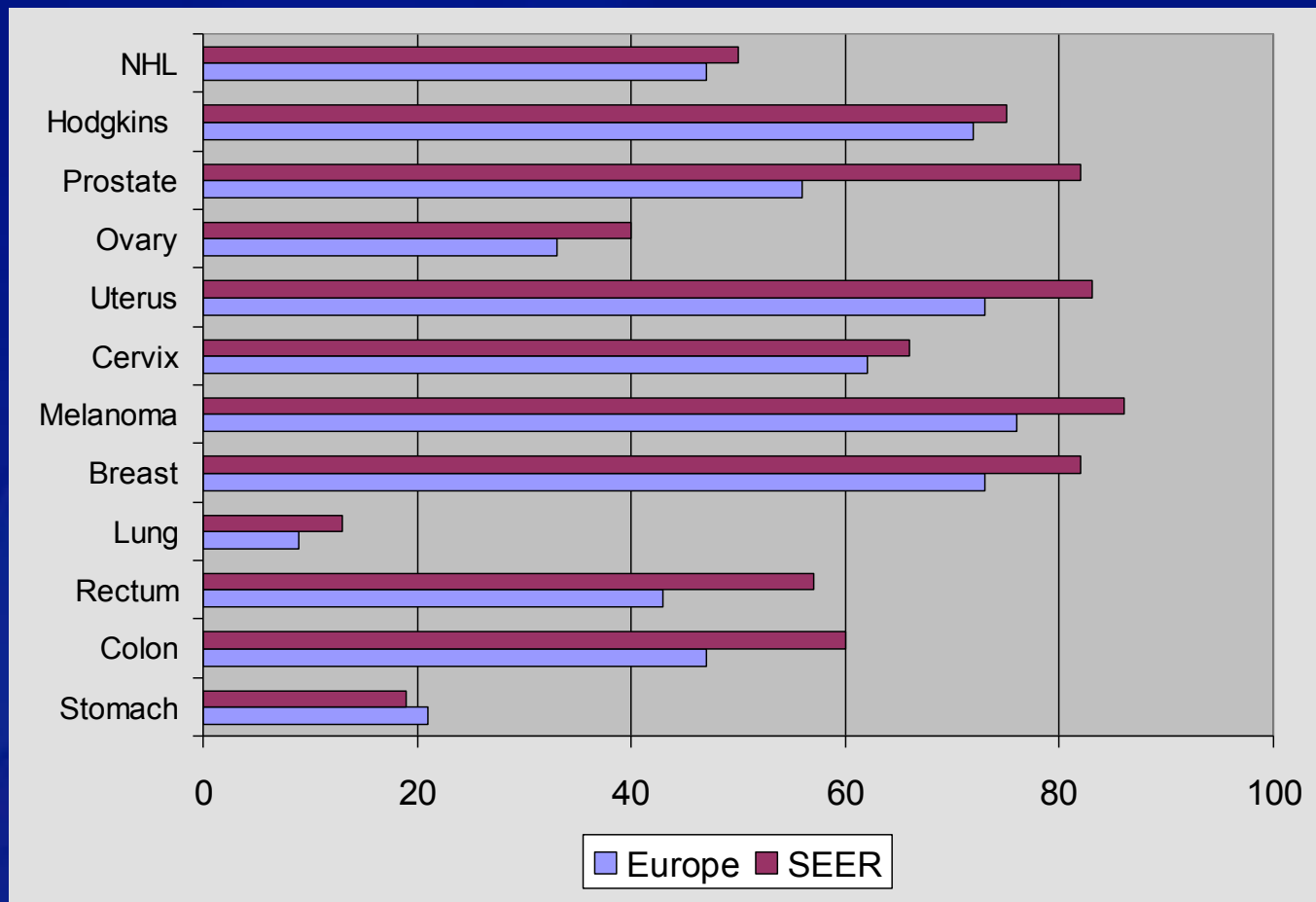
* www.eurocare.it/

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Cancer survival (5-years) in Europe and USA: patients diagnosed 1985-89



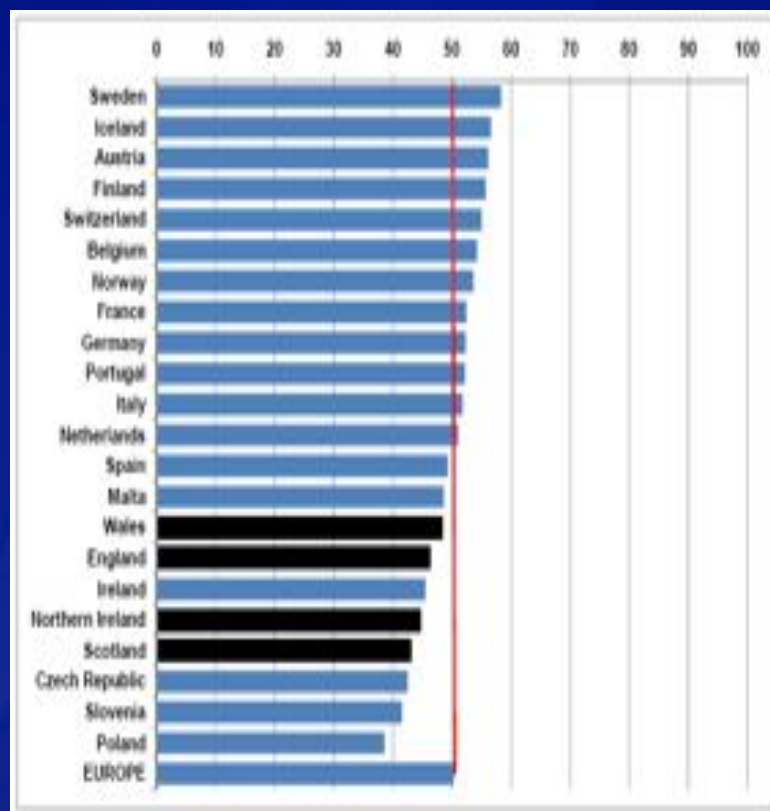
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National cancer strategies: response to poor UK cancer survival (EUROCARE 4)

Five-year relative survival (%),
Europe, 1995-99
All malignancies



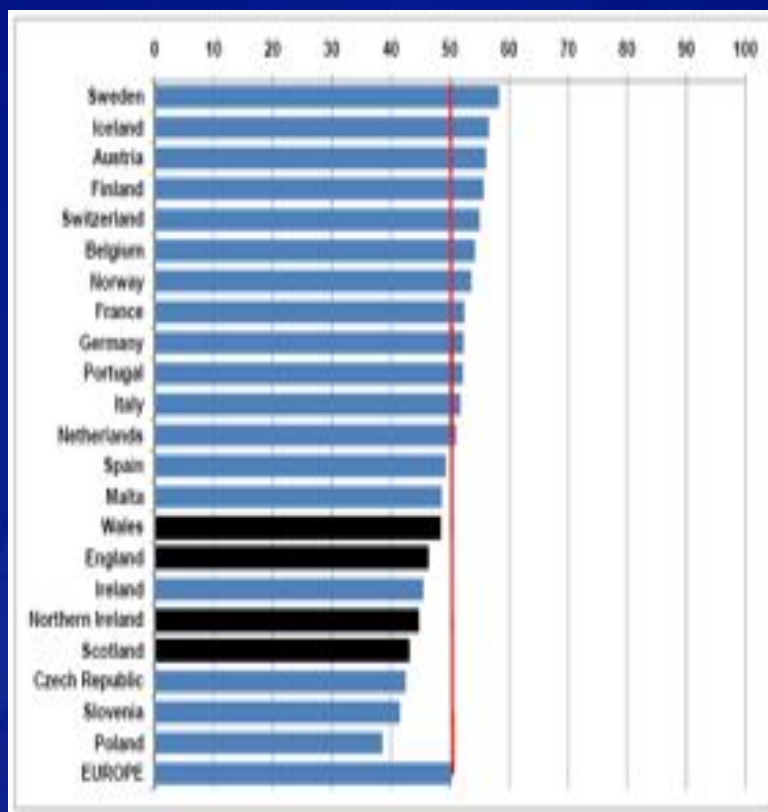
What could explain survival differences ?

- ❑ Longer delays, more advanced disease
- ❑ Differences in co-morbidity
- ❑ Availability and uptake of screening
- ❑ Access to treatment
- ❑ Quality of treatment
- ❑ Organisation of treatment services
- ❑ Human and financial resources

Richards, 2009

National cancer strategies: response to poor UK cancer survival (EUROCARE 4)

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CONCORD Study (1990-1994)



EUROCARE-3

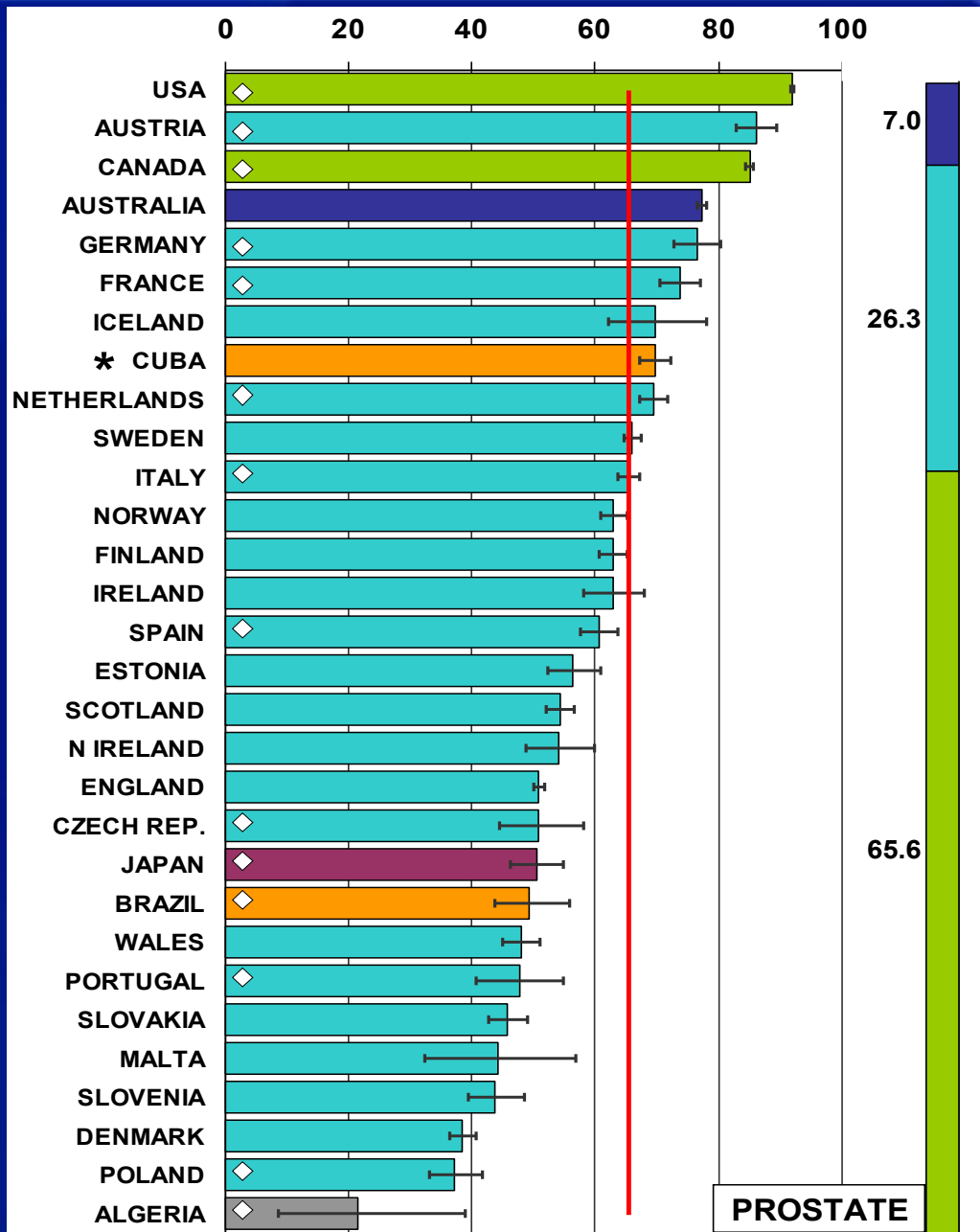
Geographic coverage

-  Nordic countries
-  South and West Europe
-  UK (England, Scotland, Wales)
-  Eastern Europe

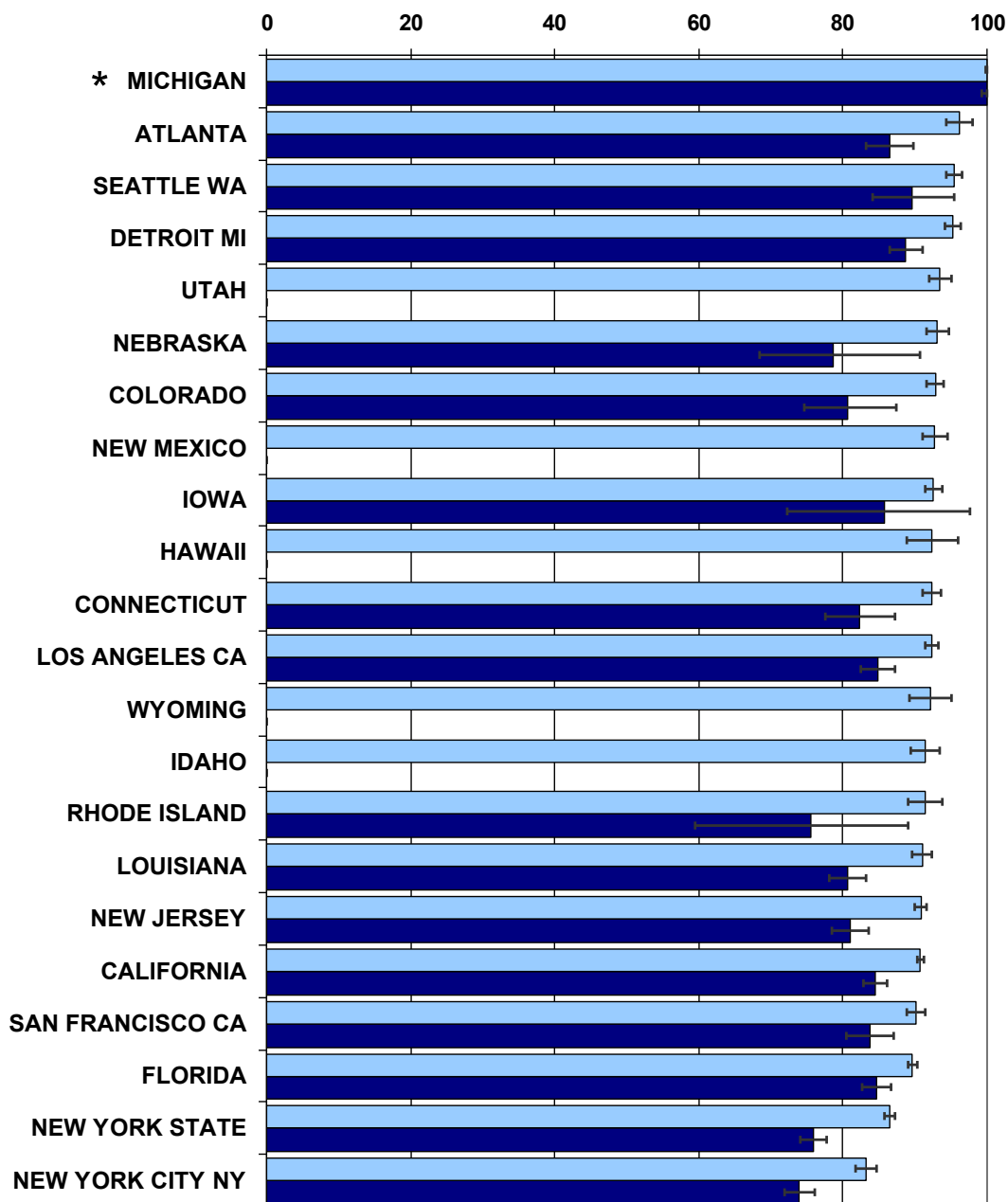


What we learned from the first CONCORD study.....

Five-year relative survival (%) -prostate cancer, (15-99 years)



Five-year relative survival (%) - prostate cancer, (15-99 years): USA, by race



What we learned from the first CONCORD study

- ❑ Canada and US survival - among highest worldwide
- ❑ In the US, 5-year survival in black men and women was systematically and substantially lower than in white men and women.
 - *Breast Cancer* - survival was 85% for white women and 71% for black women (difference of 15%)
 - *Colorectal Cancers* - survival was 60% for white men and women and 50% for black men and women (difference of 10%)
 - *Prostate Cancer* - survival was 92% for white men and 86% for black men (difference of 7%)
- ❑ Differences most likely are due to access to health care
- ❑ Differences represent a large number of avoidable deaths.

Paradox !

Cancer Survival by SES

- ❑ High-income persons had better survival in San Francisco than in Toronto.
- ❑ After adjustment for stage, survival was better for low-income residents of Toronto than for those of San Francisco.
- ❑ Middle- to low-income patients were more likely to receive indicated chemotherapy in Toronto than in San Francisco.

Gorey, et al (2011). Effects of socioeconomic status on colon cancer treatment accessibility and survival in Toronto, Ontario, and San Francisco, California, 1996 to 2006. *American Journal of Public Health*, 101, 112-119.

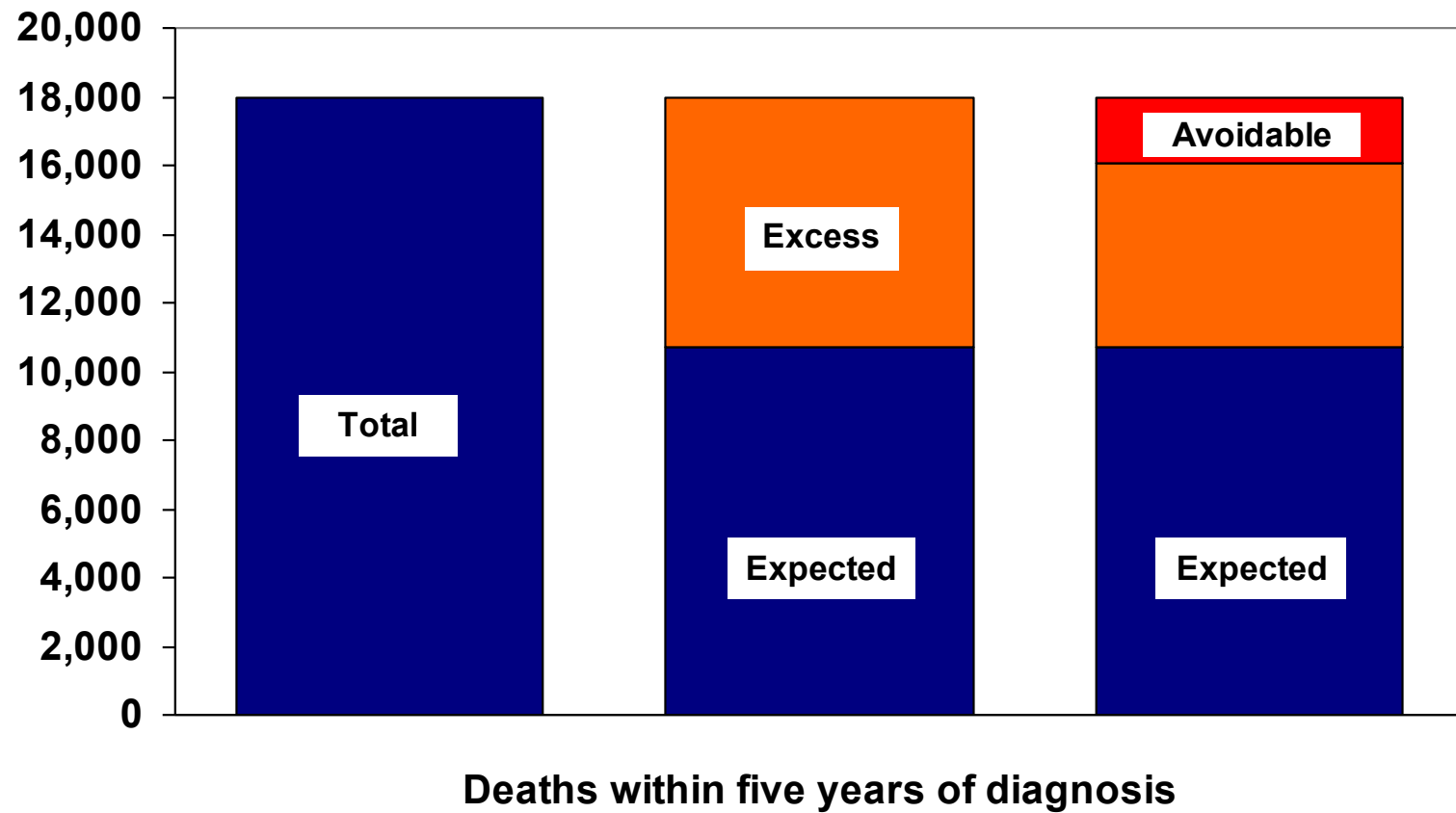
Background to the CONCORD-2 Study

- ❑ Cancer registration in the US has expanded to nationwide coverage
 - Not all US registries collect complete follow-up information
- ❑ Changes in clinical practice have continued to improve in the 15 + years since the patients included in the first CONCORD study were diagnosed.
- ❑ Changes in diagnosis, screening and treatment have undoubtedly improved the prognosis for cancer patients, at least in wealthier countries.
- ❑ And per capita health expenditures have increased in many countries

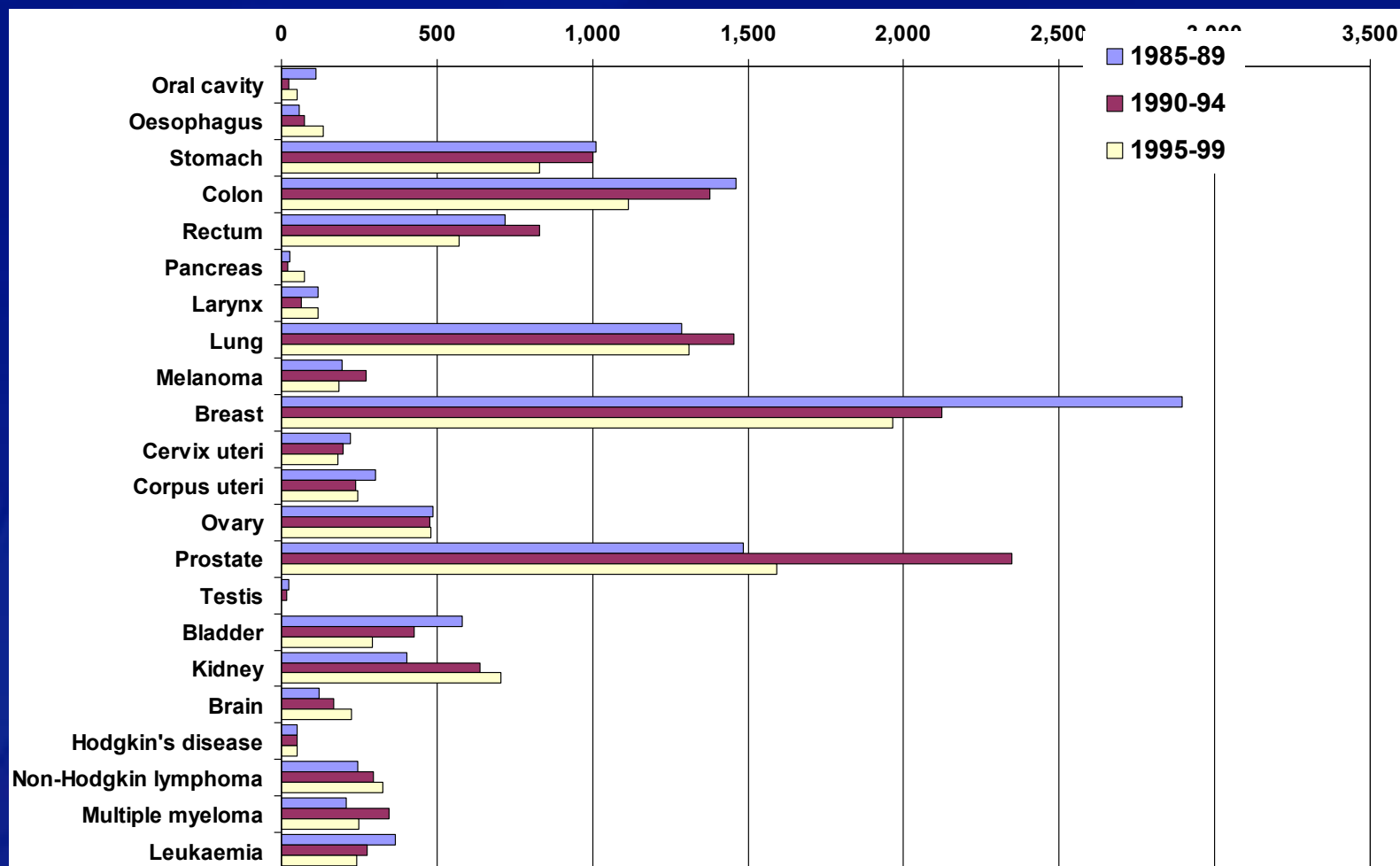
What we expect to learn from the CONCORD-2 study

- ❑ Trends over 15+ years
 - Do Canada and the US retain their comparative advantage?
 - Do racial disparities within the US persist?
- ❑ Prevalence:
- ❑ Proposed analysis between Canada and the US by SES:
 - Is there a Canadian advantage in survival among lower SES group?
 - Is there a US advantage in survival among higher SES group?
- ❑ Avoidable deaths:
 - How many cancer-related deaths within five years of diagnosis would be expected *not* to occur, if racial and socio-economic inequalities were eliminated?

Avoidable Premature Deaths



Avoidable premature deaths per year in Britain vs. highest European survival

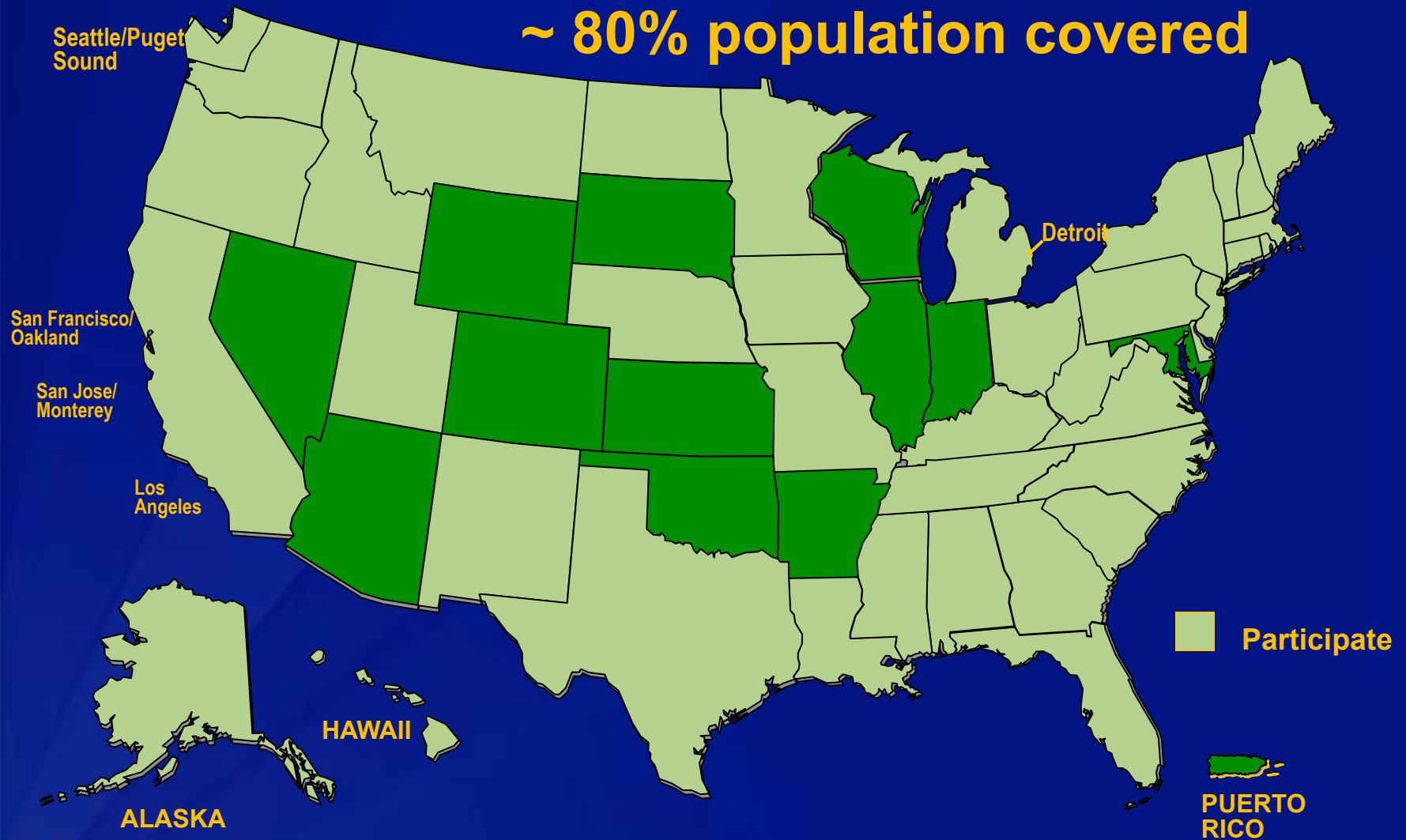


Abdel-Rahman et al. 2009

What we expect to learn through participation in the CONCORD-2 study

- ❑ Trends over 15+ years
 - Do Canada and the US retain their comparative advantage?
 - Do racial disparities within the US persist?
- ❑ Prevalence:
- ❑ Proposed analysis between Canada and the US by SES:
 - Is there a Canadian advantage in survival among lower SES group
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- ❑ Avoidable deaths:
 - How many cancer-related deaths within five years of diagnosis would be expected *not* to occur, if racial and socio-economic inequalities were eliminated?
 - **Estimate costs due to lost productivity from premature deaths and the cost to treat excess deaths (e.g., late stage cancers)**

~ 80% population covered



Thank You

Hannah K. Weir, PhD
Division of Cancer Prevention and Control
Centers for Disease Control and Prevention
hbw4@cdc.gov
770 488-3006

*The findings and conclusions in this presentation
are those of the presenter and do not necessarily represent
the official position of the
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