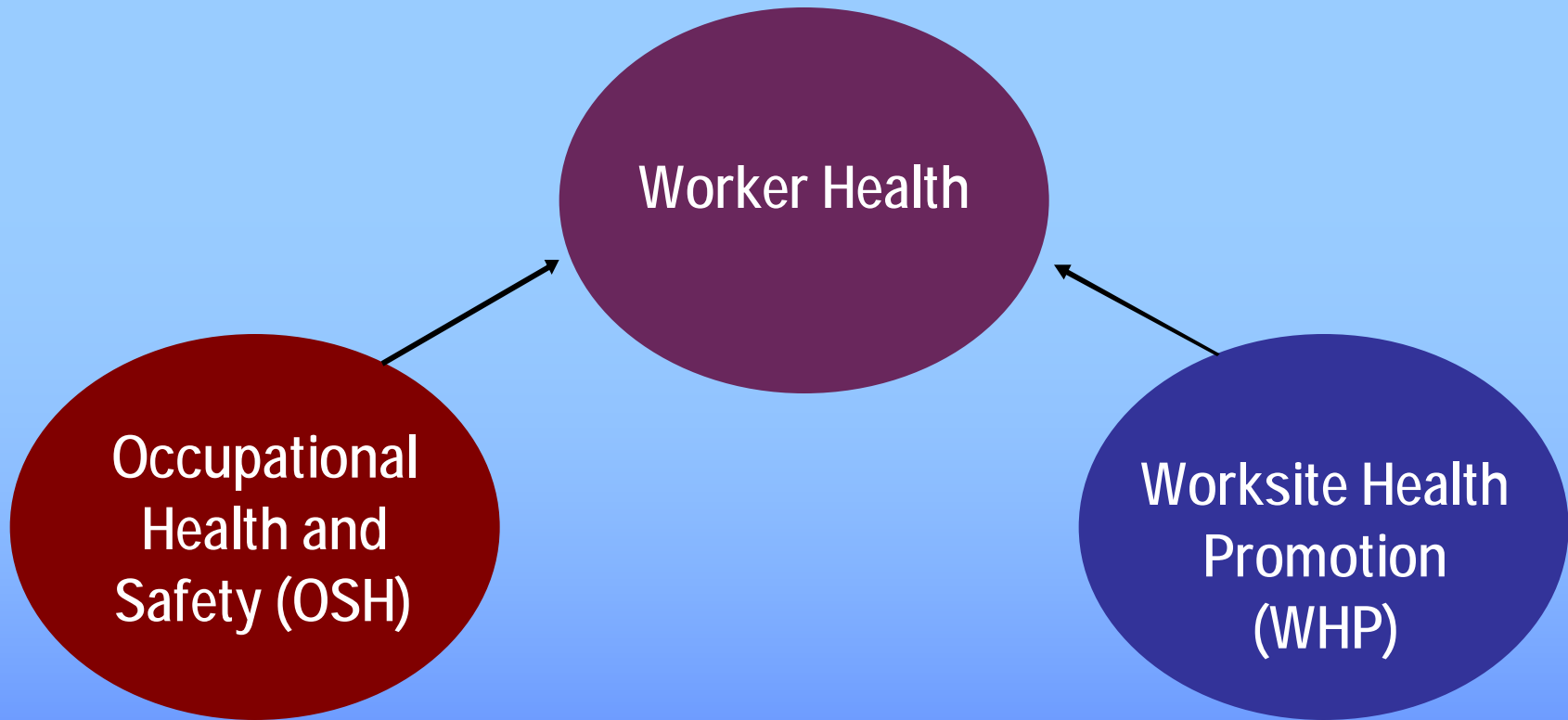


Overview of empirical evidence for health protection/health promotion model

Glorian Sorensen, PhD, MPH
Harvard School of Public Health
Dana-Farber Cancer Institute
November 6, 2007



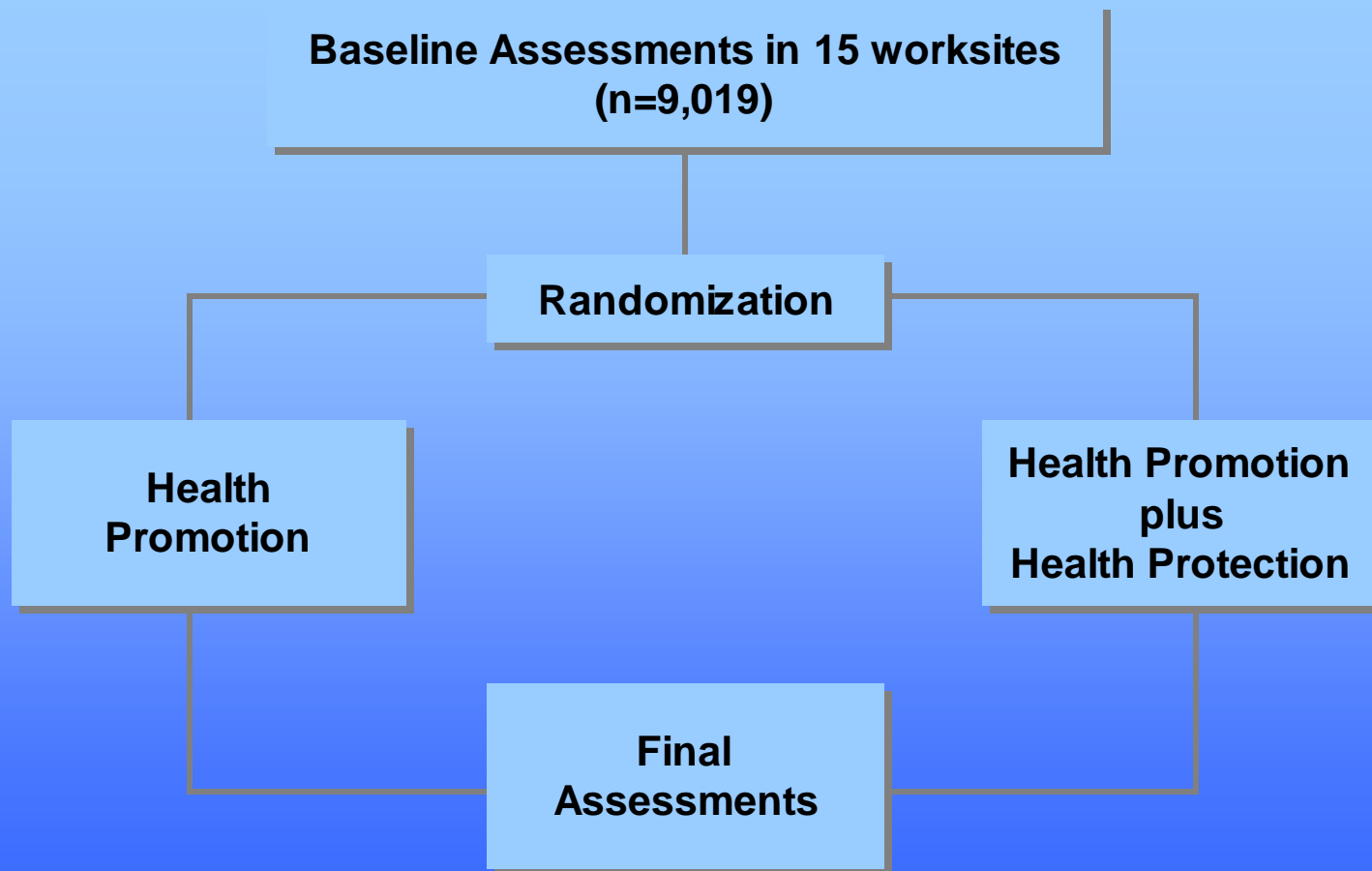
**Integrating health promotion and
occupational health and safety in
large manufacturing settings:
*WellWorks-2 Study***

CASE STUDY 1

WellWorks-2: Study hypothesis

The integration of health protection with health promotion will enhance the intervention impact on behavior change over and above health promotion alone.

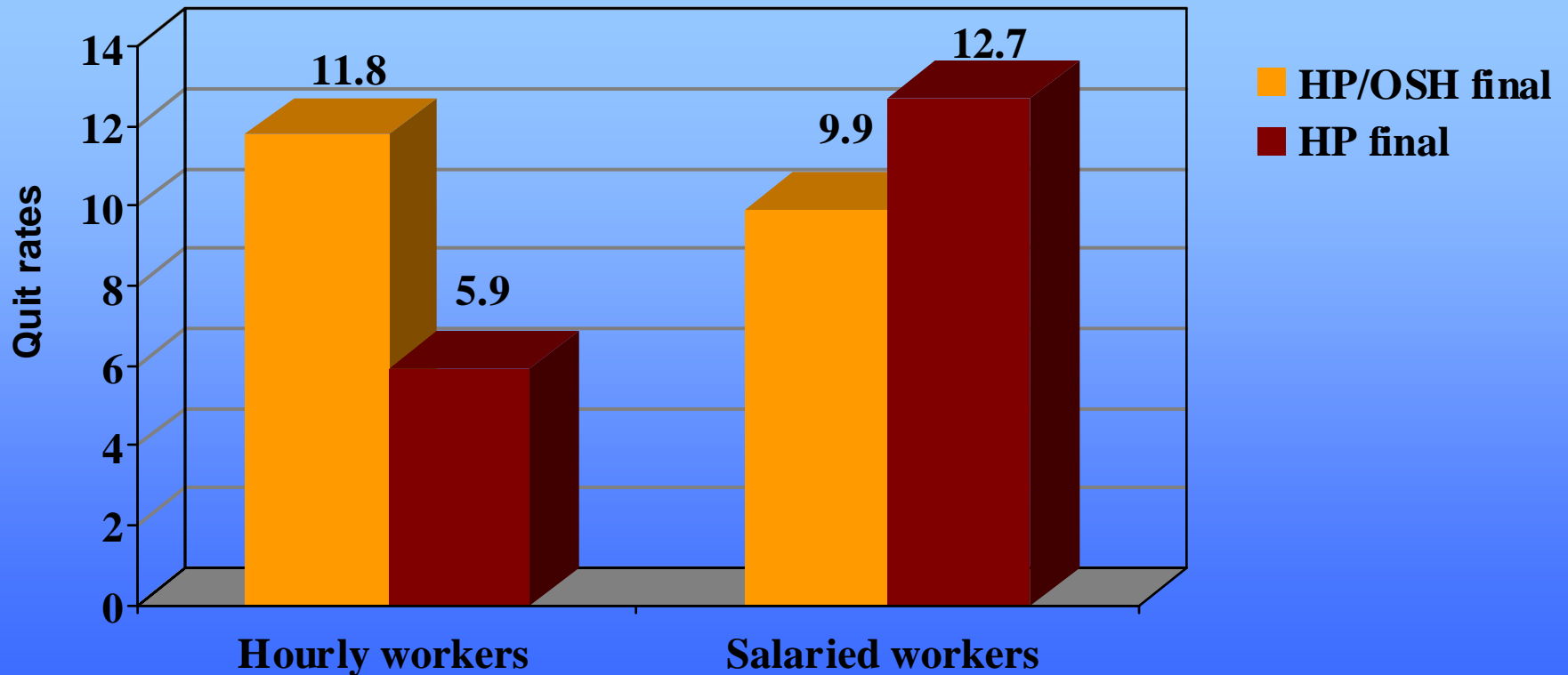
WellWorks-2: Study hypothesis



Comparison of worksite intervention models

	Traditional health promotion programs	WellWorks integrated model
Intervention target	Individual behaviors	Individual behaviors and the work environment
Assumptions about responsibility for worker health	Individual worker	Shared between worker and management
Audience	Workers	Workers, union, management
Program planning	Outside expert	Collaboration with worksite committees

Adjusted six-month quit rates at final by intervention and job type (cohort of smokers at baseline: n=880)



Sorensen *et al*, Cancer Causes and Control, 2002

WellWorks-2 OSH Results Summary

- Improvements in exposure protection (NS)
 - HP/OSH: Source focused
HP Only: Worker focused
 - Increase duration/intensity of intervention
- Significant improvements in management commitment and employee participation

LaMontagne, et al, *Am J Industr Med* 2005

LaMontagne, et al, *Occup Environ Med* 2004

Implications for impact

Expected implications for reducing the burden of cancer:

- 700,000 blue-collar workers in Massachusetts with 80% participation → 200,000 smokers
- 2,880 lung cancer cases avoided

**Small manufacturing businesses
employing diverse workforces:
*Healthy Directions/Small Business***

Case Study 2

Intervention Targets

Primary outcomes

- ↑ increase intake of fruits and vegetables
- ↓ decrease intake of red meat
- ↑ increase physical activity
- ↑ increase intake of multi-vitamins

Secondary outcome

- ↓ potential exposures to chemical hazards

Research design

Baseline assessments in 26 sites (N=1740 workers)



Randomly assign with pairs



Comprehensive
intervention

Minimal intervention
control



Final survey



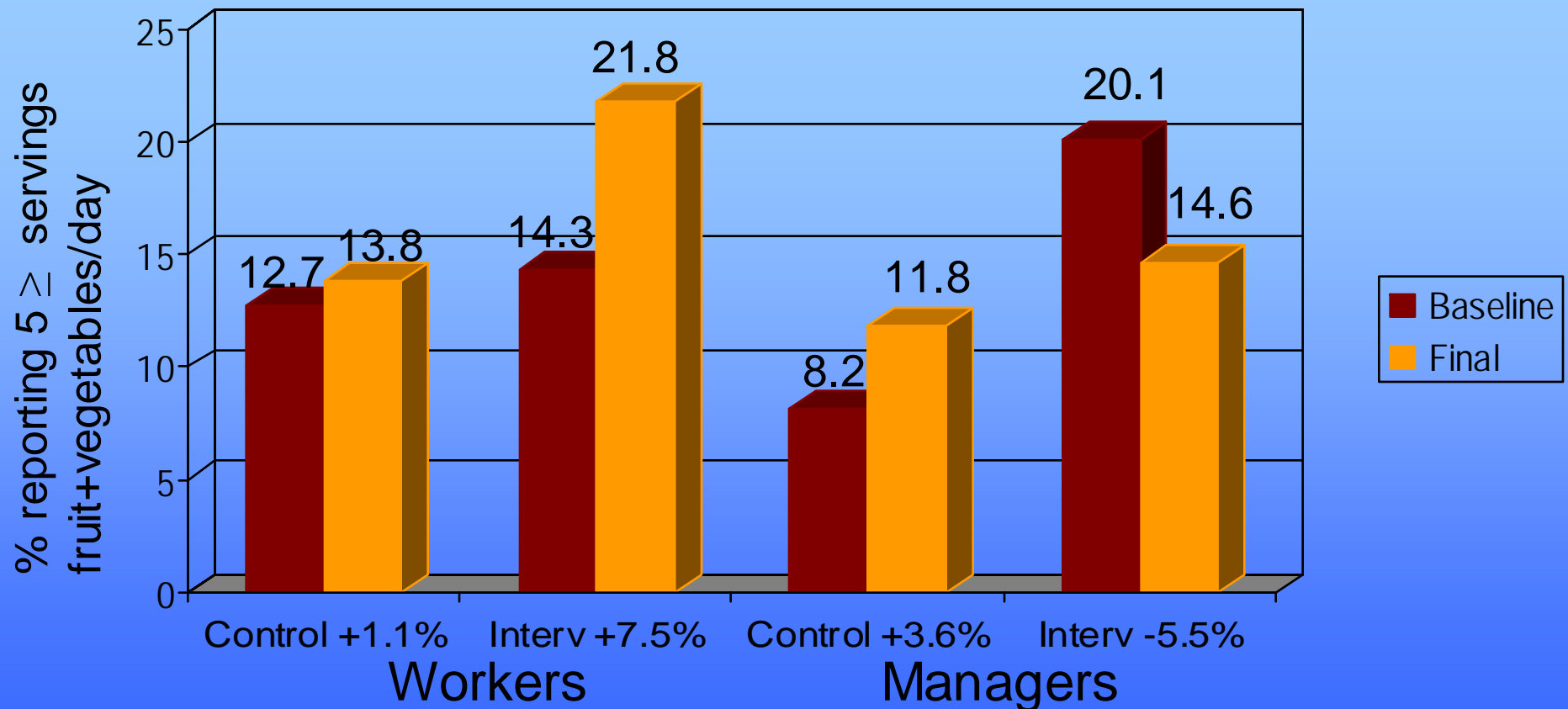
Small manufacturing businesses:

- 50-150 workers
- Multi-ethnic workforce
- Low turnover

Key Findings

- Overall, workers in intervention sites made improvements in health behaviors; significant for multivitamins and physical activity
- Equivalent or stronger effects for workers vs. managers, and by race/ethnicity
 - Significantly greater improvements in fruit and vegetable intake for workers vs. manager, and among Blacks, Asians, Hispanics

Change in fruit and vegetable use by occupational status



Sorensen, et al, 2005

Intervention Implementation: Small Businesses

Events targeting individual behavior change	
Indicator	% participation per site mean (N=12)
<i>Intervention implementation and reach</i>	
Kickoff and closing activities	68.4
Health Check	54.0
Group discussions	12.6
Worksite-wide events	46.6
Demonstrations	53.6

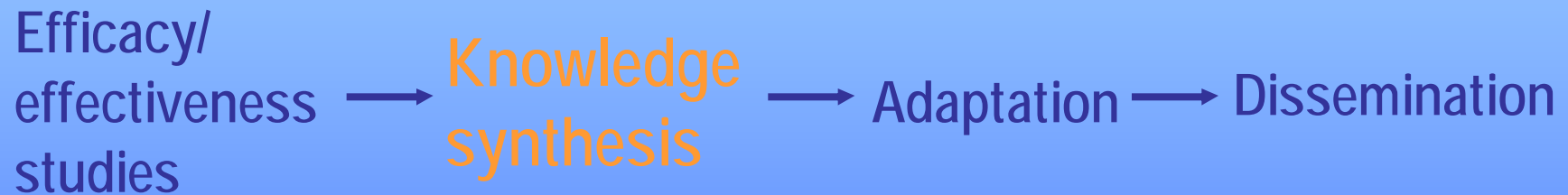
Hunt, et al, in press

Summary across studies

Integrated WHP/OSH programs led to:

- Improvements in health behavior changes for blue-collar workers
- Improvements in OSH programs
- Enhanced participation rates
- Potential for improved impact on health outcomes

Identifying effective interventions



Recommendations for best practice programs

- Institute of Medicine
 - *Integrating employee health: A model program for NASA, 2005*
- Centers for Disease Control
 - Healthy People 2010 criteria
- Corporate Health Promotion Consortium Benchmarking Study
- NIOSH WorkLife Initiative
 - Evidence for best practices and reviews by Goetzel 2004; Sorensen and Barbeau 2004
 - <http://www.cdc.gov/niosh/worklife/>

Characteristics of best practice programs

(Institute of Medicine Report)

- Link to business objectives
- Top management support
- Effective communications
- Use of incentives
- Supportive environment
- Appropriately resourced
- Evaluation
- Based on best practice management and behavioral theory

IOM, *Integrating employee health: A model program for NASA*, 2005.

Thanks to a team of collaborators

Elizabeth Barbeau

David Christiani

Karen Emmons

Mary Kay Hunt

Kimberly Kaphingst

Anthony LaMontagne

Deborah McLellan

Anne Stoddard

Lorraine Wallace

Richard Youngstrom