People, places and breast cancer in Pathways: Social isolation, social support and breast cancer survivorship

Candyce Kroenke, ScD, MPH, Senior Research Scientist

Kaiser Permanente Northern California, Division of Research
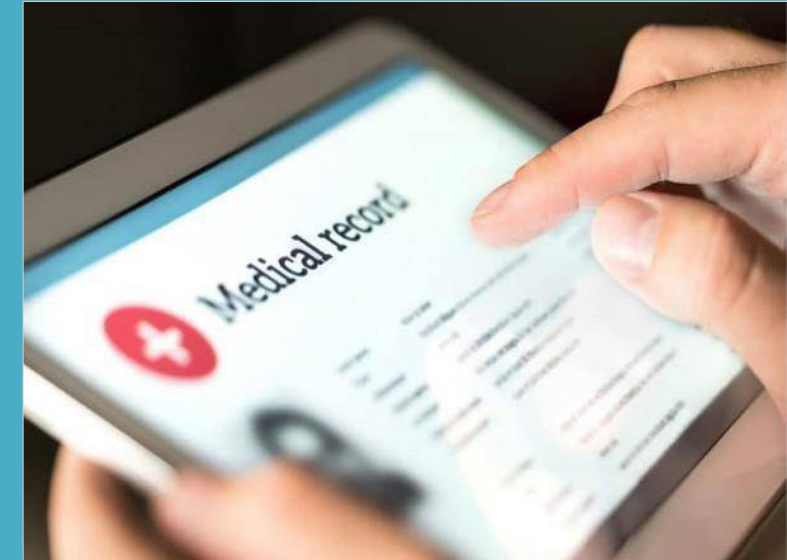
Pathways Forum, September 21, 2023

Overview

Concepts

Population studies including Pathways

Implications

Concepts

Terms: Social Determinants of Health

The conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. (WHO)

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	
Medical bills	Playgrounds	Higher education			Quality of care
Support	Walkability				

Health Outcomes

Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations

Kaiser Family Foundation. Beyond Health Care: The role of social determinants in promoting health and health equity, Artiga and Hinton 2018

Social networks *(structural social support)* is the web of social relationships that surround an individual

Social ties (and frequency of contact)

- <u>Family</u>
- Friends
- Religious
- Community
- Work, Online, etc.

Social networks *(structural social support)* is the web of social relationships that surround an individual

Social ties (and frequency of contact)

- Family
- Friends
- Religious
- Community
- Work, Online, etc.

Social networks *(structural social support)* is the web of social relationships that surround an individual

Social ties (and frequency of contact)

- Family
- Friends
- Religious
- Community
- Work, Online, etc.

Social networks *(structural social support)* is the web of social relationships that surround an individual

Social ties (and frequency of contact)

- Family
- Friends
- Religious
- Community
- Work, Online, etc.

Social networks *(structural social support)* is the web of social relationships that surround an individual

Social ties (and frequency of contact)

- Family
- Friends
- Religious
- Community
- Work, Online, etc.

Objective measure of social isolation, integration

Social support *(functional social support)* is the perception and reality of the exchange of assistance through social relationships

Tangible/instrumental

Sherbourne and Stewart, 1991

Social support *(functional social support)* is the perception and reality of the exchange of assistance through social relationships

Tangible/instrumental

Emotional/ informational

Sherbourne and Stewart, 1991

Social support *(functional social support)* is the perception and reality of the exchange of assistance through social relationships

Tangible/instrumental

Emotional/ informational

Affectionate

Sherbourne and Stewart, 1991

Social support *(functional social support)* is the perception and reality of the exchange of assistance through social relationships

Tangible/instrumental

Emotional/ informational

Affectionate

Positive interaction (the availability of someone with whom to have fun, **relax, and get one's mind off** things for a while)

Sherbourne and Stewart, 1991

Population studies

Social isolation higher breast cancer mortality, Nurses' Health Study, N=2,835

|	Category of Social Networks				
	Integrated	2	3	Isolated	p*
N	1315	496	826	198	
All-cause	106	28	66	24	
Hazard Ratio (HR)	1.00	0.73	0.93	1.66 **	0.40
Breast cancer	46	15	33	13	
HR	1.00	0.91	1.24	2.14 **	0.06
Other causes	60	13	33	11	
HR	1.00	0.58	0.70	1.25	0.42

*p-trend, **p<0.05

Kroenke, et al., J Clin Oncol, 2006

Socially isolated (small networks) had worse outcomes, After Breast Cancer Pooling Project cohort, N=9,267

Kroenke et al., Cancer, 2016
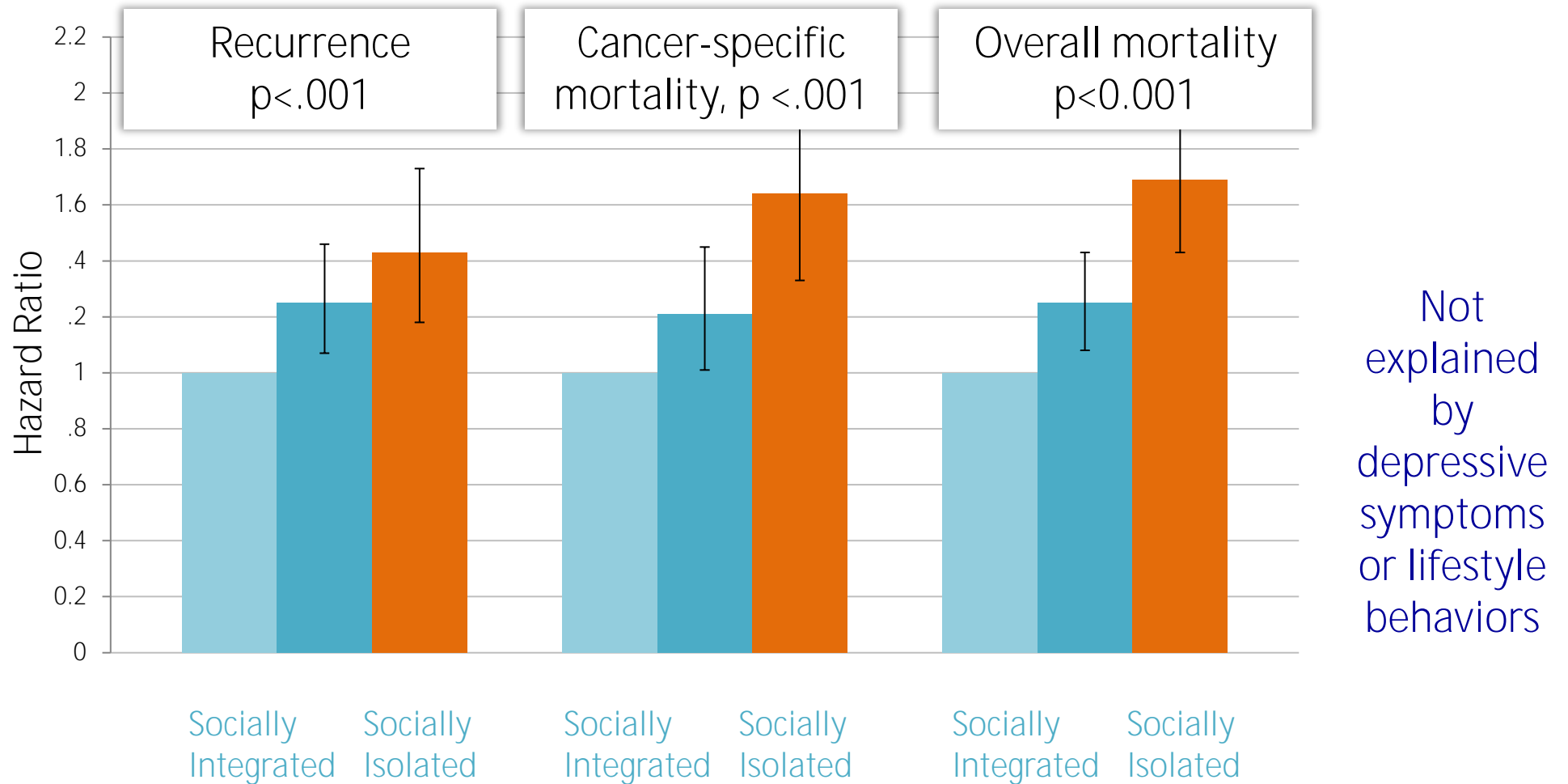
Small, unsupportive networks related to poorer survival, LACE, N=2,264

Kroenke et al., Breast Cancer Res Treat, 2013
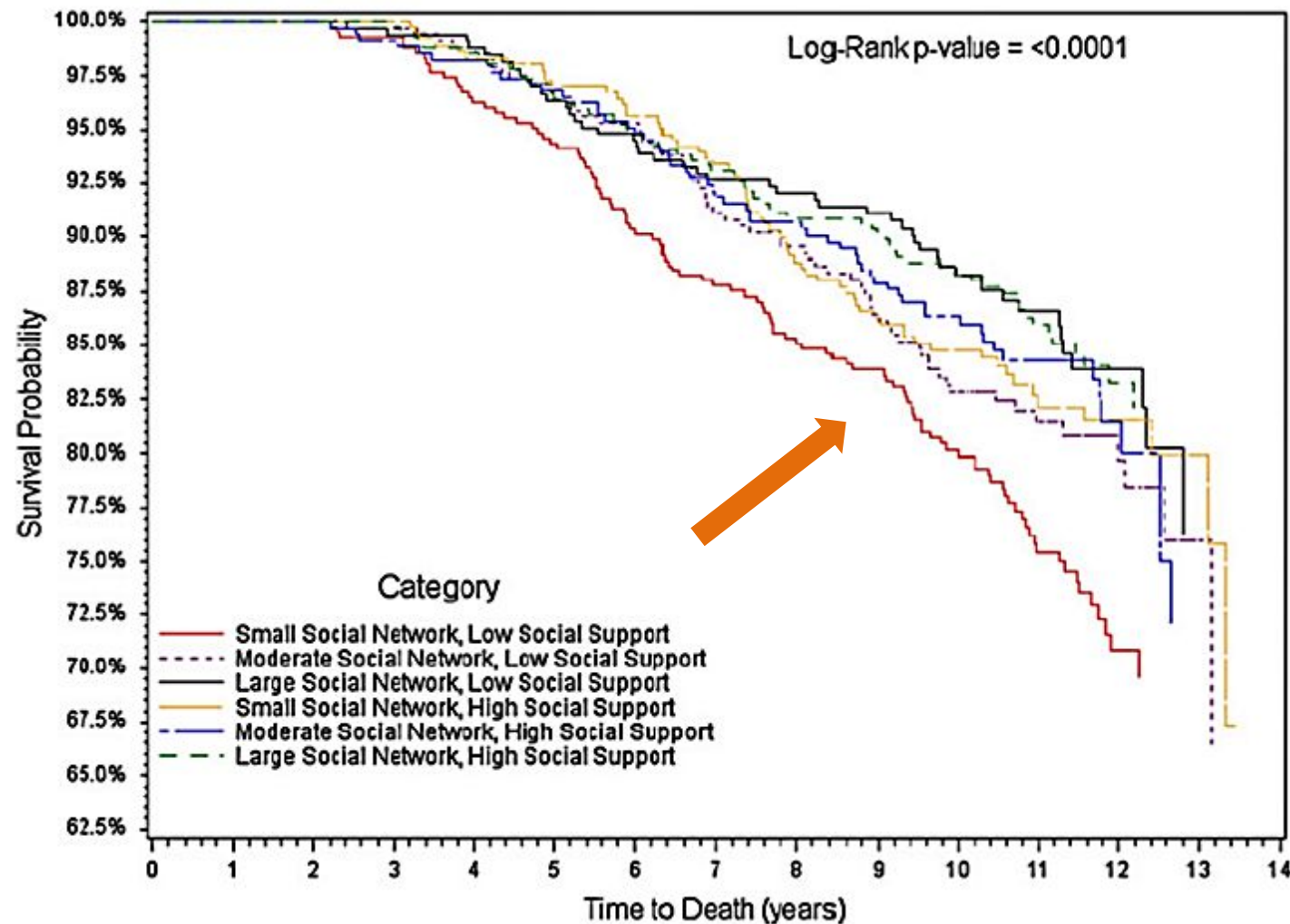
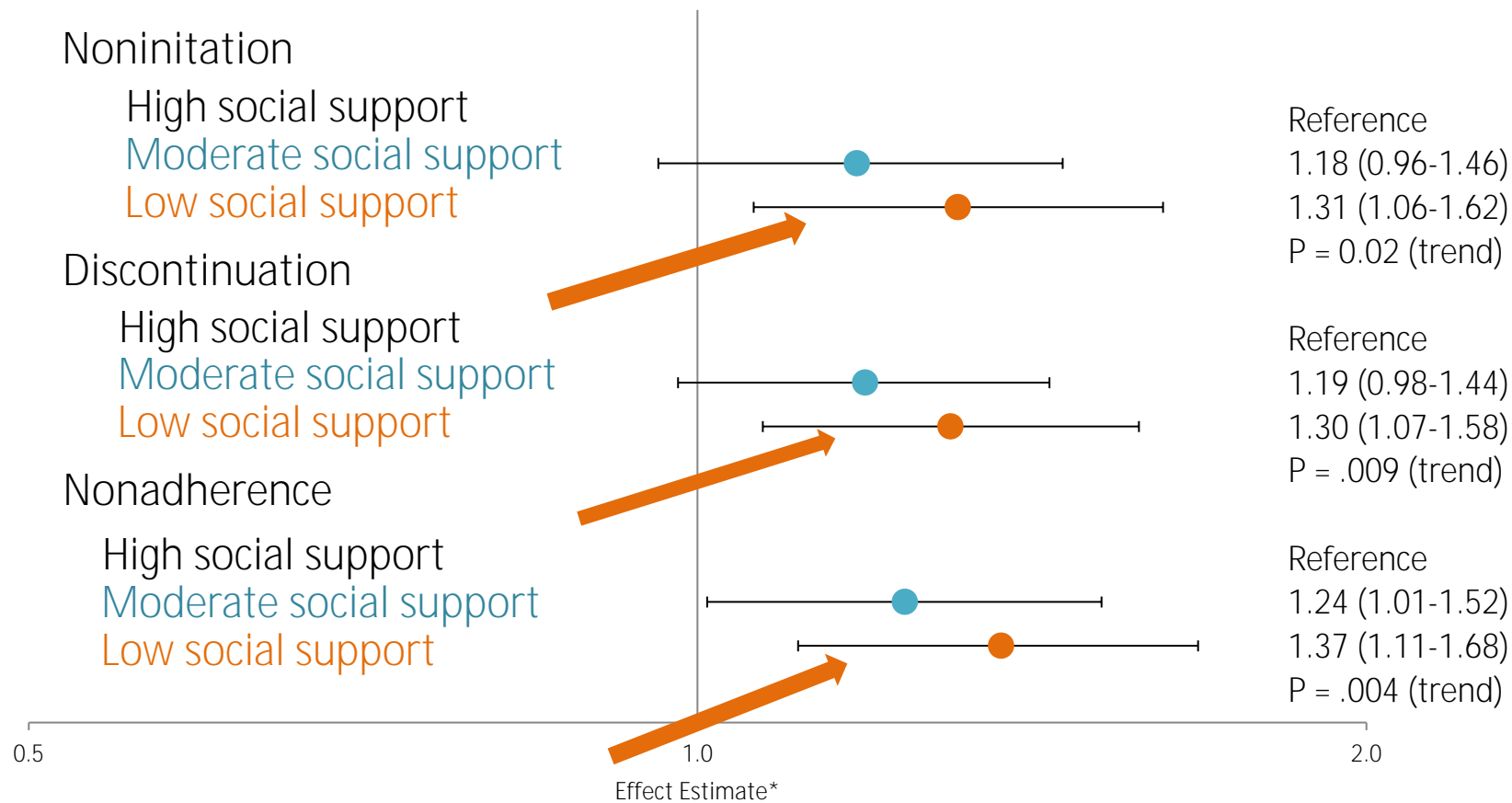# Socially isolated women have poorer quality of life, Pathways
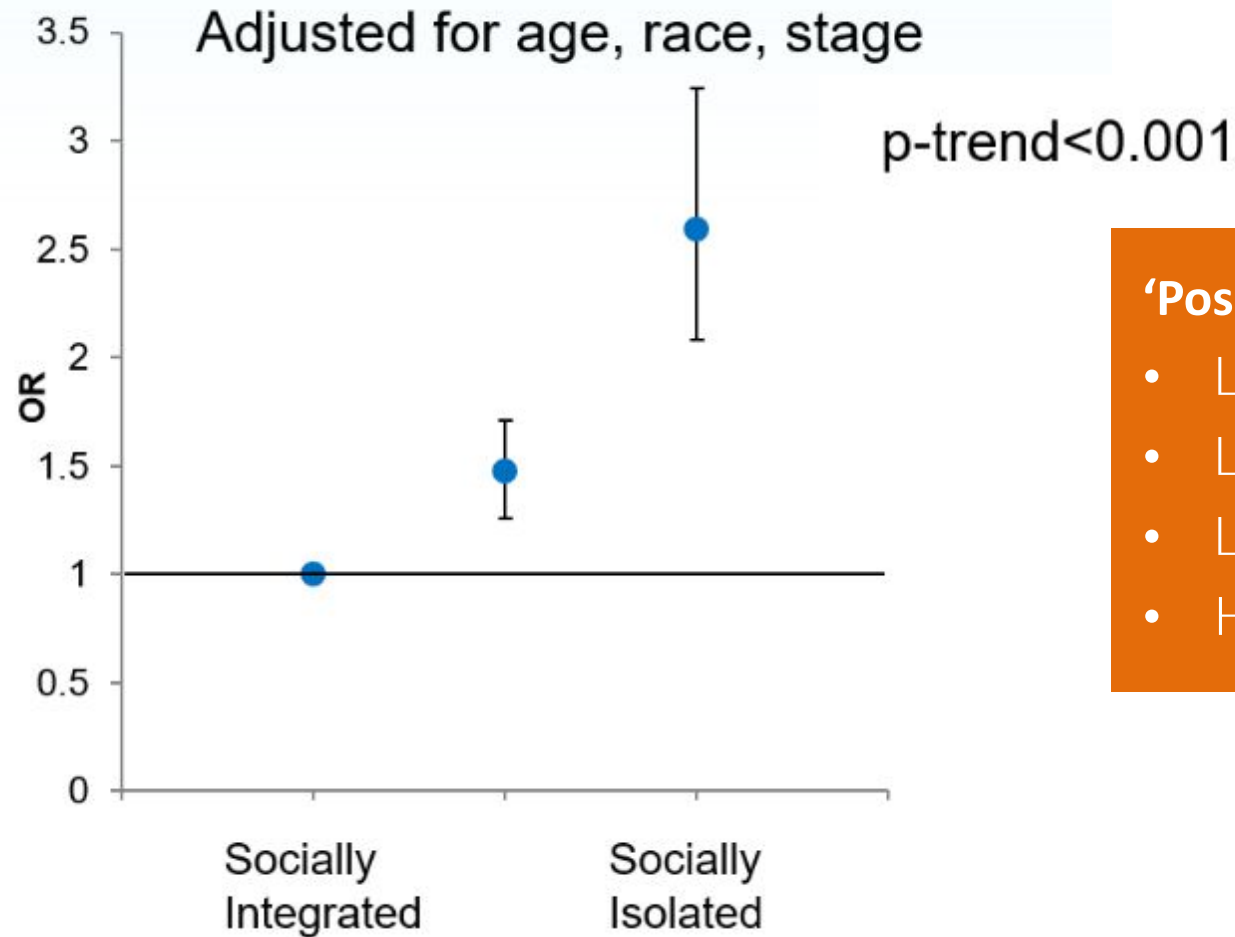
'Positive interaction' predicted:
- Less nausea (p<0.01)
- Lower levels of pain (p<0.01)
- Less need for bed rest (p<0.01)
- Higher levels of energy (p<0.01)

Kroenke et al., Breast Cancer Res Treat, 2013

Lifestyle and treatment factors don't explain the association

Kroenke et al., Breast Cancer Res Treat, 2013
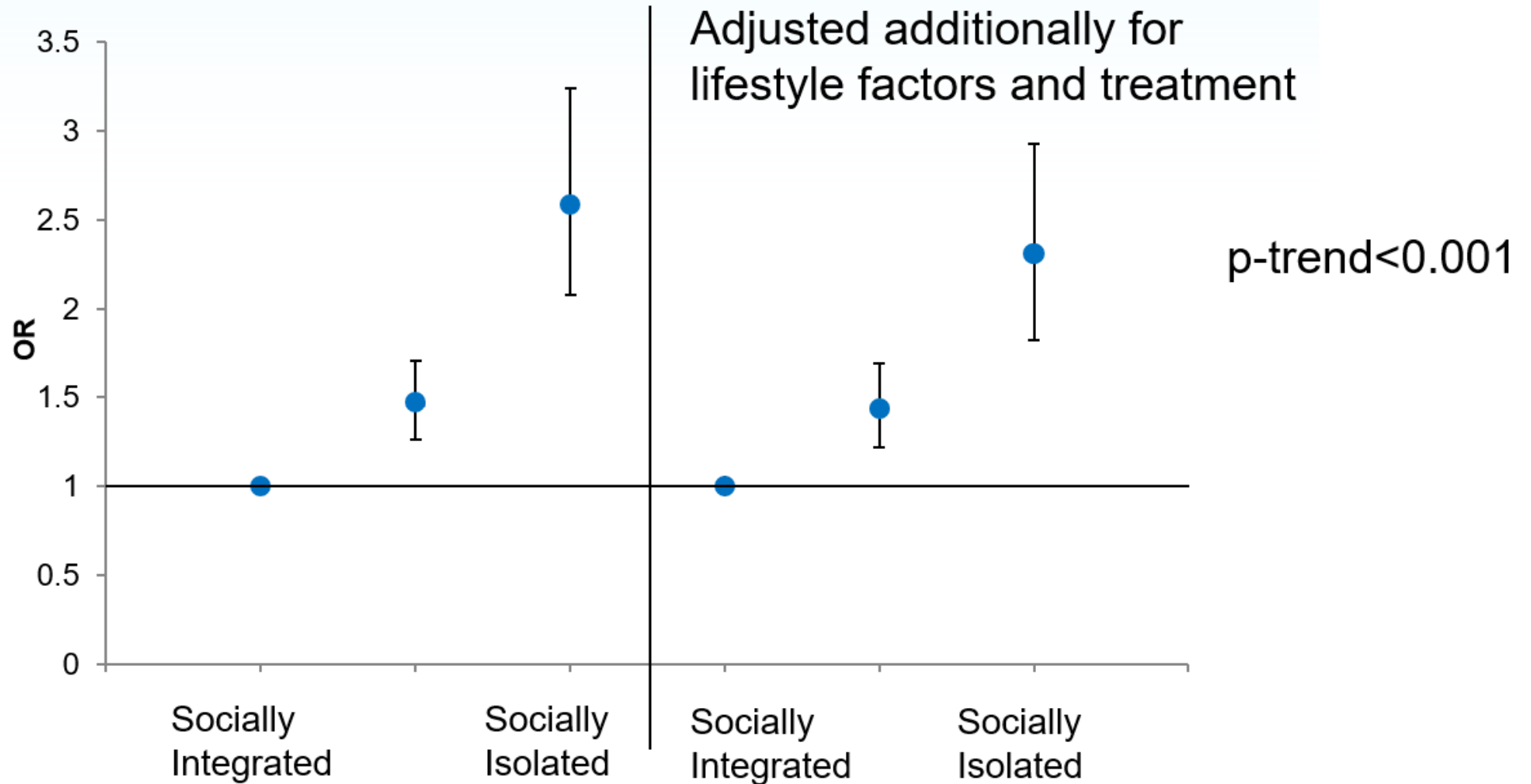
Low social support predicted lower adherence to adjuvant endocrine therapy, Pathways

Noninitation

    High social support — Reference

    Moderate social support — 1.18 (0.96-1.46)

    Low social support — 1.31 (1.06-1.62)

    P = 0.02 (trend)

Discontinuation

    High social support — Reference

    Moderate social support — 1.19 (0.98-1.44)

    Low social support — 1.30 (1.07-1.58)

    P = .009 (trend)

Nonadherence

    High social support — Reference

    Moderate social support — 1.24 (1.01-1.52)

    Low social support — 1.37 (1.11-1.68)

    P = .004 (trend)

Axis: 0.5   1.0   2.0

Effect Estimate*

* The effect estimates are odds ratios (noninitiation) and hazard ratios (discontinuation and nonadherence); the horizontal axis is presented on a log scale.

Kroenke et al., Breast Cancer Res Treat, 2018

Low social support resources predict higher odds of surgery delays > 30 days, Pathways

Kroenke et al., SBM and ASPO, 2020
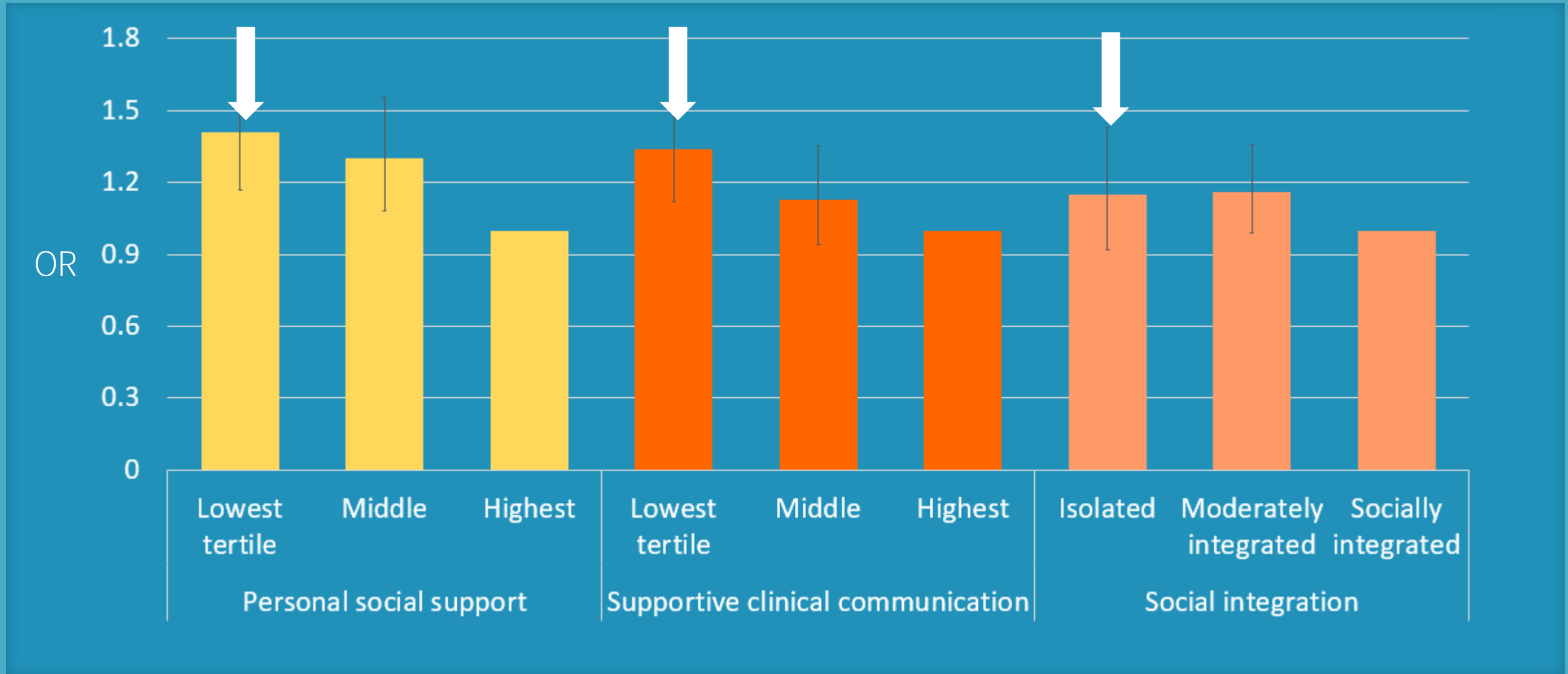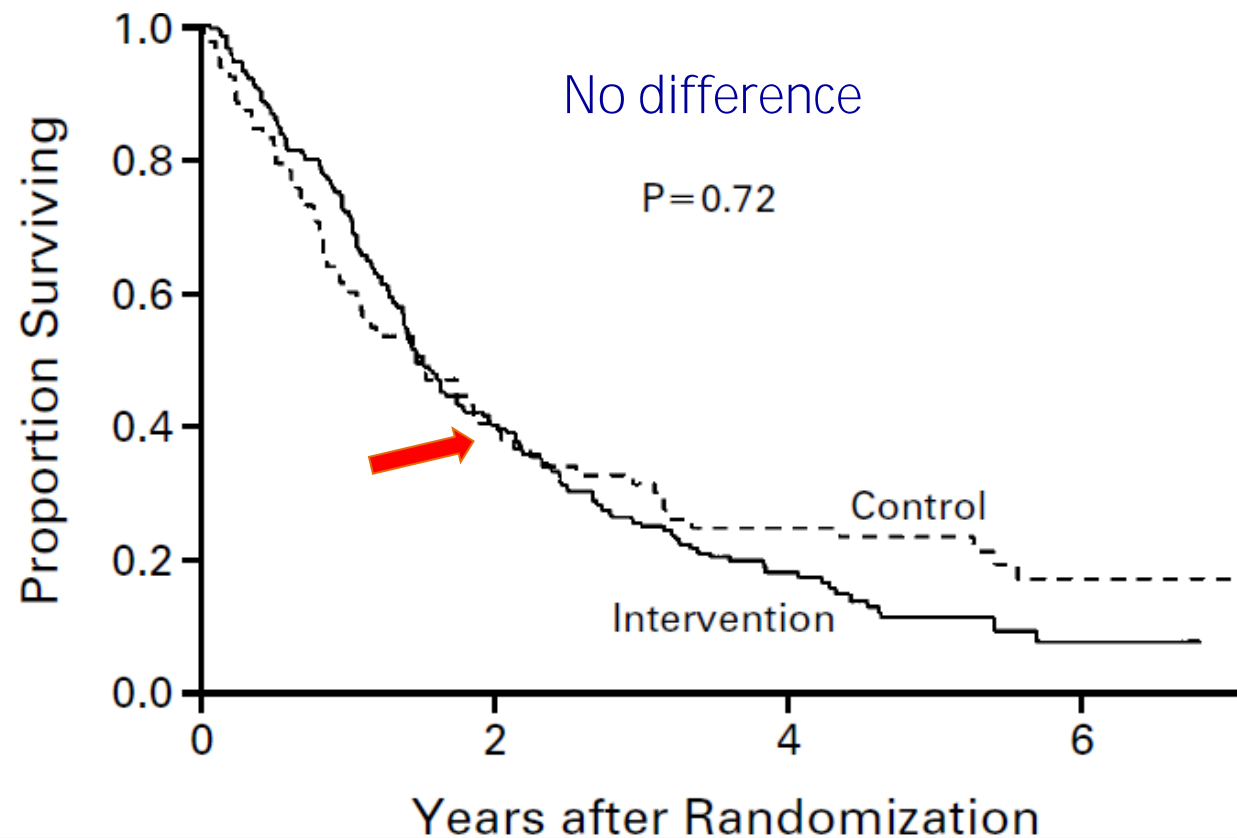
Overview

Concepts

Population studies

Implications

Implications of the research

Survival in metastatic breast cancer patients unaffected by social support groups

Kaplan–Meier Survival Curves for Women Assigned to the Intervention Group and the Control Group

No difference

P=0.72

Goodwin, NEJM, 2001

Social support RCT also failed to improve CVD outcomes

Effect of Enhancing Recovery in Coronary Heart Disease Patients (ENRICHD) Intervention on Risk of Death or Nonfatal Myocardial Infarction

Berkman et al, JAMA, 2003
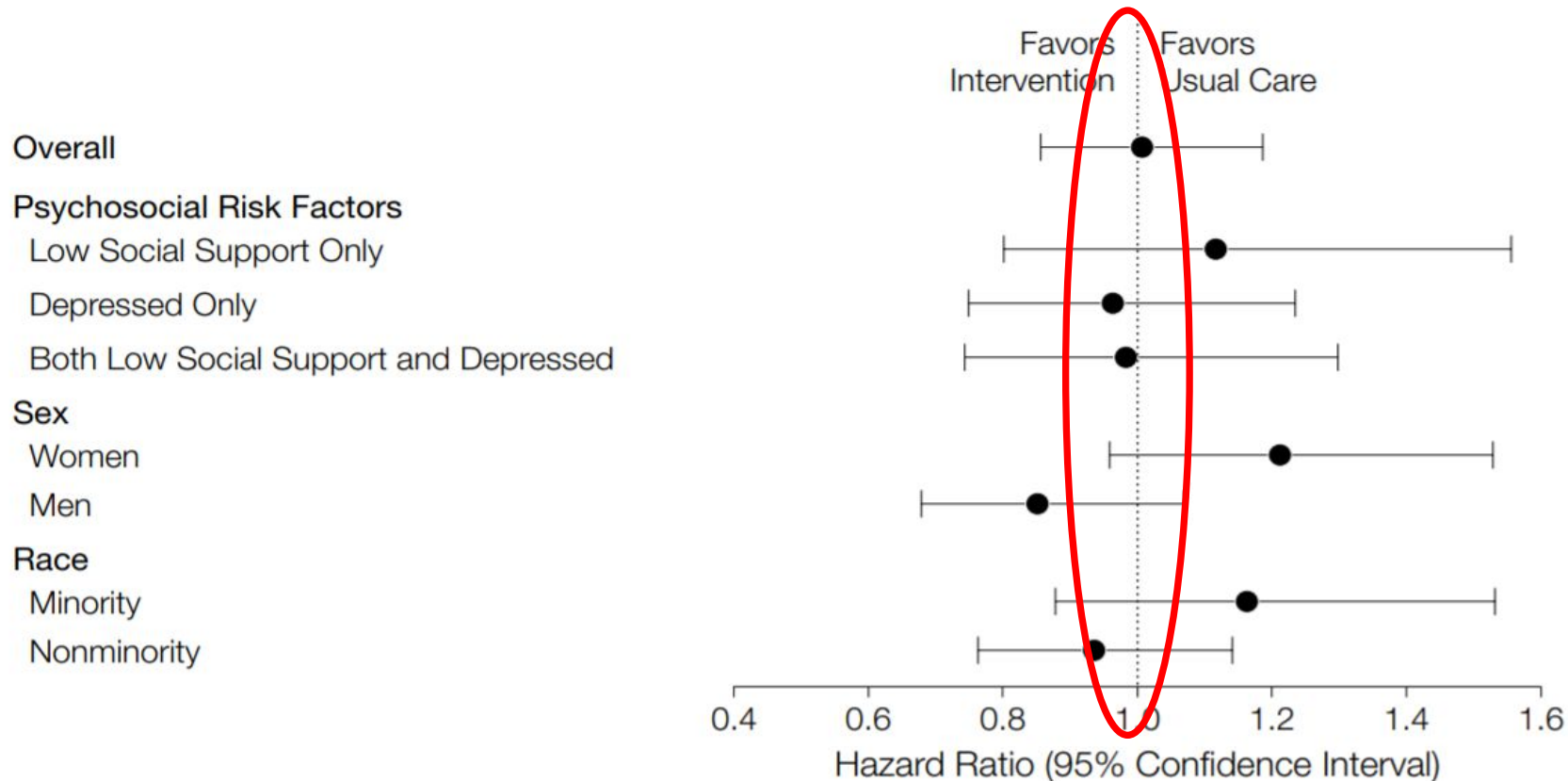
Emotional social support interventions only one means of providing support

May improve quality of life (QoL) in some patients (reduce in others)

Interventions haven't improved:

> breast cancer survival
> cardiovascular disease outcomes
> smoking quit rates

Social support matters but that knowledge does not point the way to best solutions

Ways to increase social support (APA)

- Cast a wide net

- Be proactive

- Take advantage of technology

- Follow your interests

- Seek out peer support

- Improve your social skills

- Ask for help (including professional help)

American Psychological Association
https://www.apa.org/topics/stress/manage-social-support

What compromises social support

"Deterioration"

Childhood trauma
Chronic (financial) stress
Discrimination

Inhibition

Social isolation/loneliness
Lack of support systems
Poor quality relationships
Stigmatization

Hypothesis: Systems can augment social support

Understanding <u>community</u> factors that contribute to feelings of social support could inform policies to improve social support

In <u>health systems</u>, collecting information on social support in may lead to higher support in patient populations

ENCLAVE
(ENCLAVE), NCI grant, PI: Kroenke

Understand the role of social networks in associations between immigrant status, lifestyle, and breast cancer outcomes in pooled study (*Pathways Study*, LACE, CHI)

1) Develop data on sociocultural institutions

2) Examine associations of immigrant status and lifestyle, examining mediation by social networks

3) Evaluate associations between immigrant status and BC outcomes evaluating mediation by social networks, lifestyle

Electronic Health Record Social support Patient Risk Tool (EHR-SUPPORT), NCI grant, PI: Kroenke

## Develop tool to ID patients at risk of low social support

1) Assemble data from the EHR on social support

2) Develop EHR-SUPPORT score from EHR data and validate against social support measures (*Pathways Study*)

3) Evaluate associations between EHR-SUPPORT, treatment, and mortality, overall and by race/ethnicity

Exploratory aim: Implementation workflow and IT requirements

Implications for breast cancer survivors

Individual level

- Build supportive networks before you are diagnosed
- Live in supportive communities
- Engage in the community
- Seek support after you are diagnosed (peer/online support groups, ACS Road to Recovery, Thrive Local)
- Keep participating in research

Systems (health systems and community) level

- Document social support, social worker referral, build resources
- Nurse/peer navigation and coordination of care
- Determine community factors that increase social support
- Community/policy action

In summary

- Supportive social networks matter for breast cancer survival, QoL, optimal treatment

- Opportunities as individual to improve support

- Research into how systems can increase social support in populations needed

- Participation in Pathways informs this work
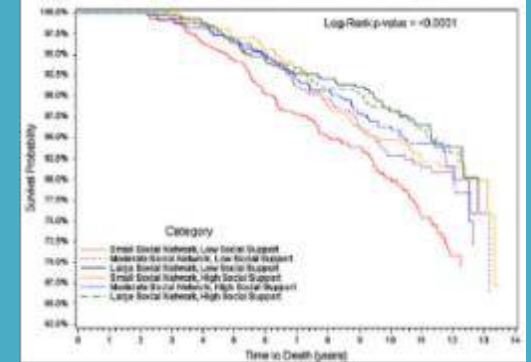
Thank you!
candyce.h.kroenke@kp.org