

Evaluation of Patient Navigation: State of Practice



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Objectives

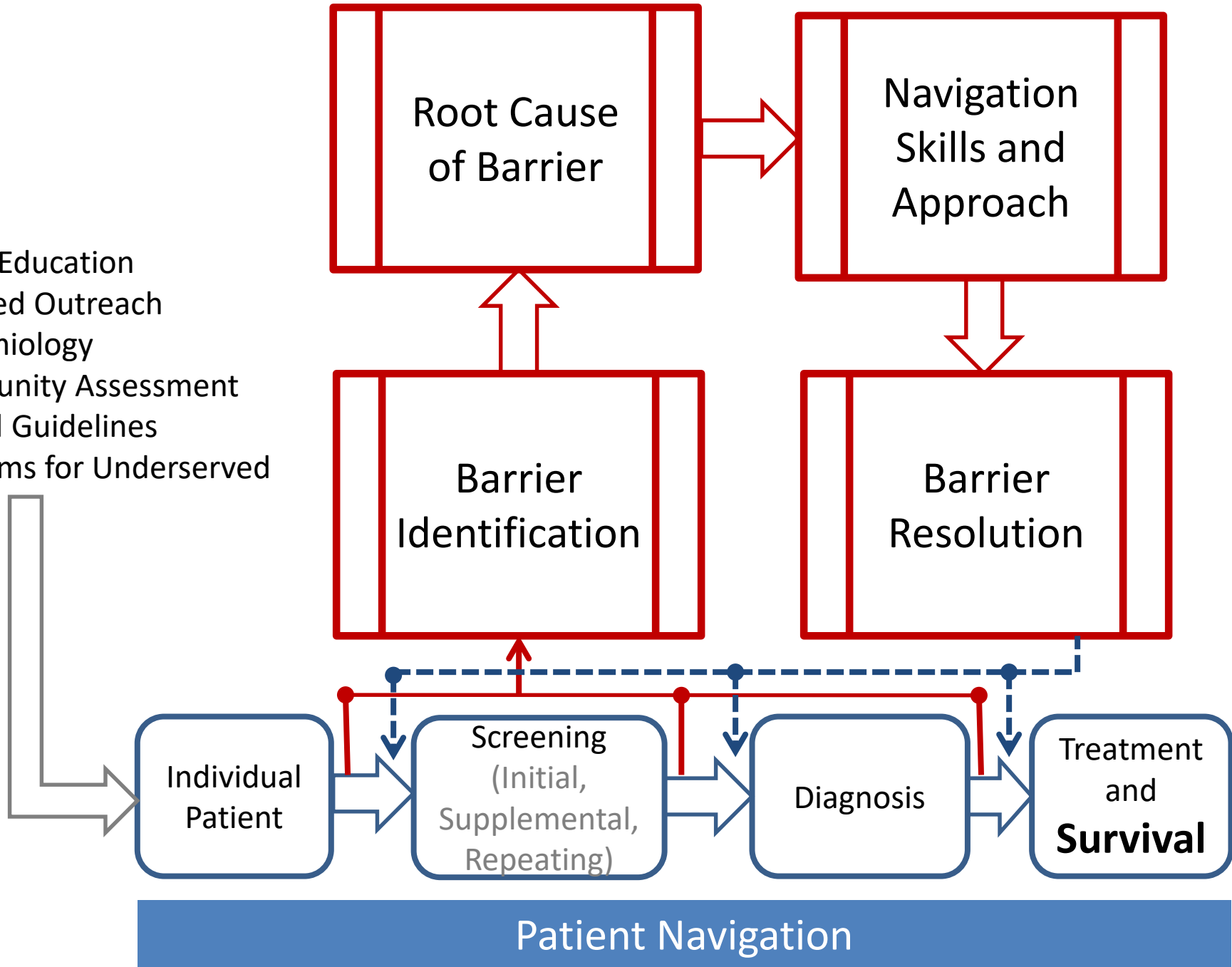
- Review navigation
- Briefly review literature and models
- Identify domains of evaluation
- Offer examples of approaches to evaluation
- Engage in discussion on evaluation

What is Patient Navigation?

- Individualized assistance to clients/patients that overcomes barriers to:
 - education and risk reduction
 - screening and diagnosis
 - treatment
 - survivorship
 - quality of life



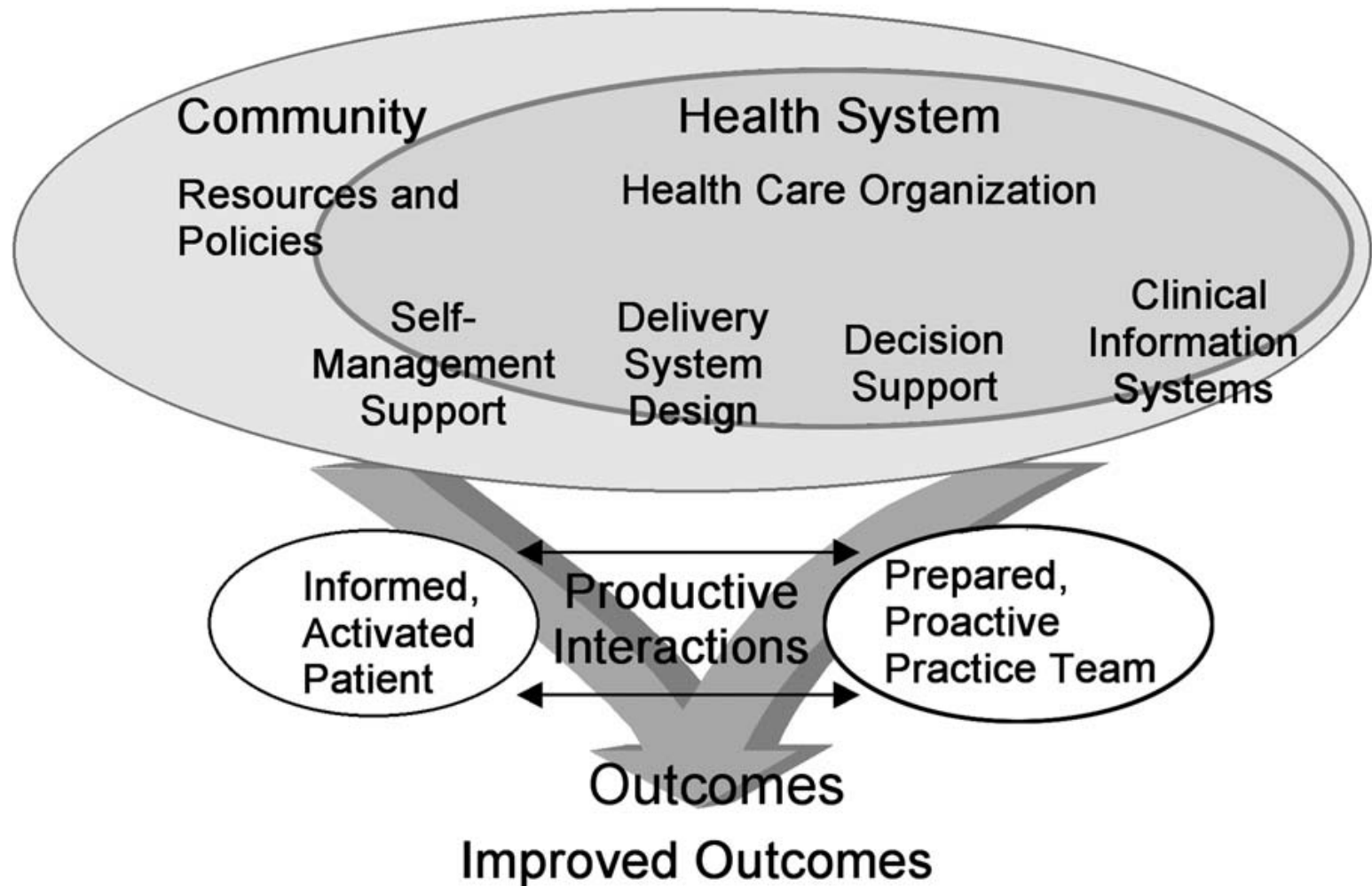
Public Education
Targeted Outreach
Epidemiology
Community Assessment
Clinical Guidelines
Programs for Underserved



Chronic Care Model and Patient Navigation

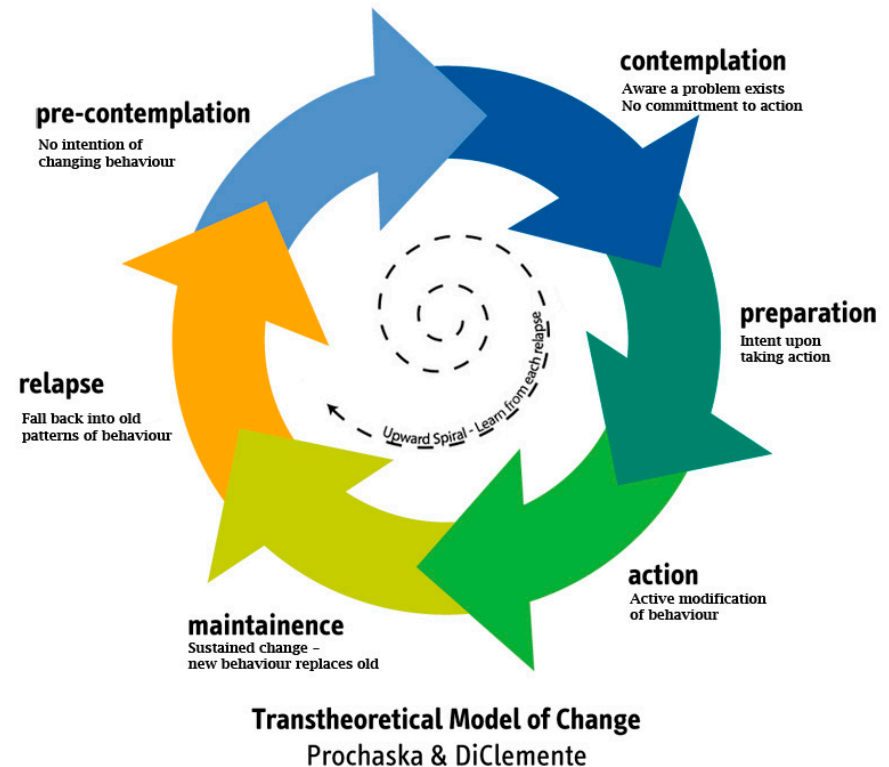
Evidence-based and Patient-centered

Wagner et al. J Alternative and Complementary Medicine 2005



Health Behavior Theory and Patient Navigation

- **Health Belief Model** (based upon personal motivation) (Rosenstock, 1974)
 - Perceived susceptibility
 - Perceived severity
 - Perceived benefits
 - Perceived barriers
 - Cues to action
 - Self-efficacy
- **Stages of Change** (based upon behavior change being a process, not an event) (Prochaska and DiClemente, 1983)
 - Individuals enter at pre-contemplation stage
 - May exit and re-enter at any stage, thus may
- **Social Support** (based upon behavior in a social environment) (Heaney and Israel, 2008)
 - Social networks and ties
 - Social contracts
 - Isolation



<http://www.therelationshipblog.net/2016/06/the-five-stages-of-change/>

PSCI Navigation Model

Across the Cancer Control Continuum

Prevention

**Screening &
Early Detection**

**Diagnosis &
Treatment**

Survivorship

Navigation can be delivered by registered nurses, case managers, social workers, community health workers, or Promotoras.

- Provide cancer education and outreach
- Refer to wellness and healthy lifestyle programs
- Engage community members and organizations in cancer control

- Identify barriers to cancer screening
- Address barriers through patient-centered care
- Facilitate access to screening facilities/resources

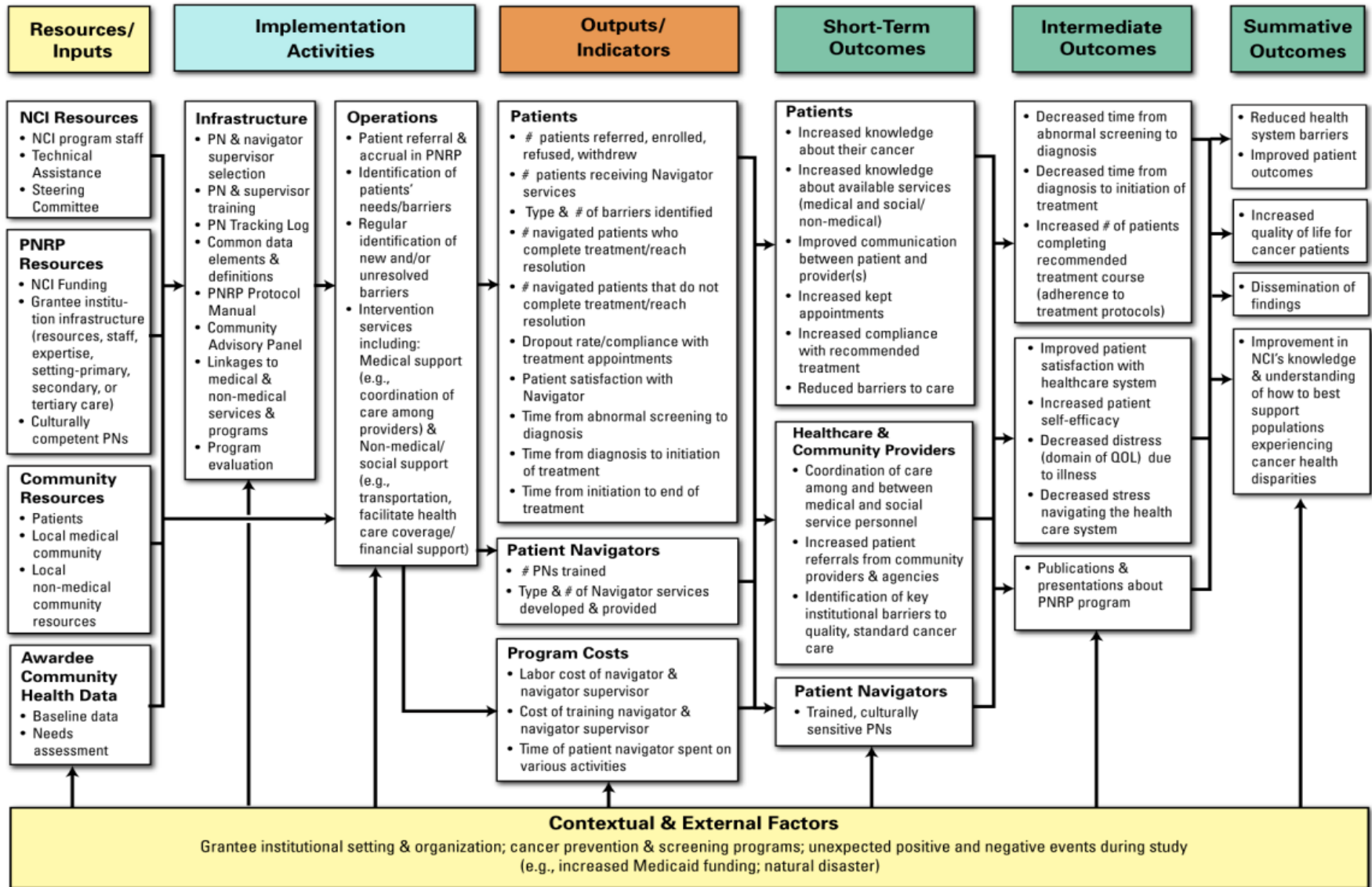
- Overcome barriers to diagnosis and treatment
- Provide social support through care
- Facilitate access to referral and treatment centers

- Encourage health care by primary care and specialists
- Support return to previous and new activities, such as support or survivorship groups
- Facilitate return to vocation and employment

Navigation has been shown to increase cancer screening rates, reduce time from diagnosis to treatment, and improve quality of life. Navigators provide patient-centered care that overcomes psychosocial barriers (e.g., health literacy, anxiety, knowledge, adult/child care, social support), geographical/physical barriers (e.g, transportation, lodging, access to food), and system-based barriers (e.g., health insurance/financial resources, language, referral and appointment processes).

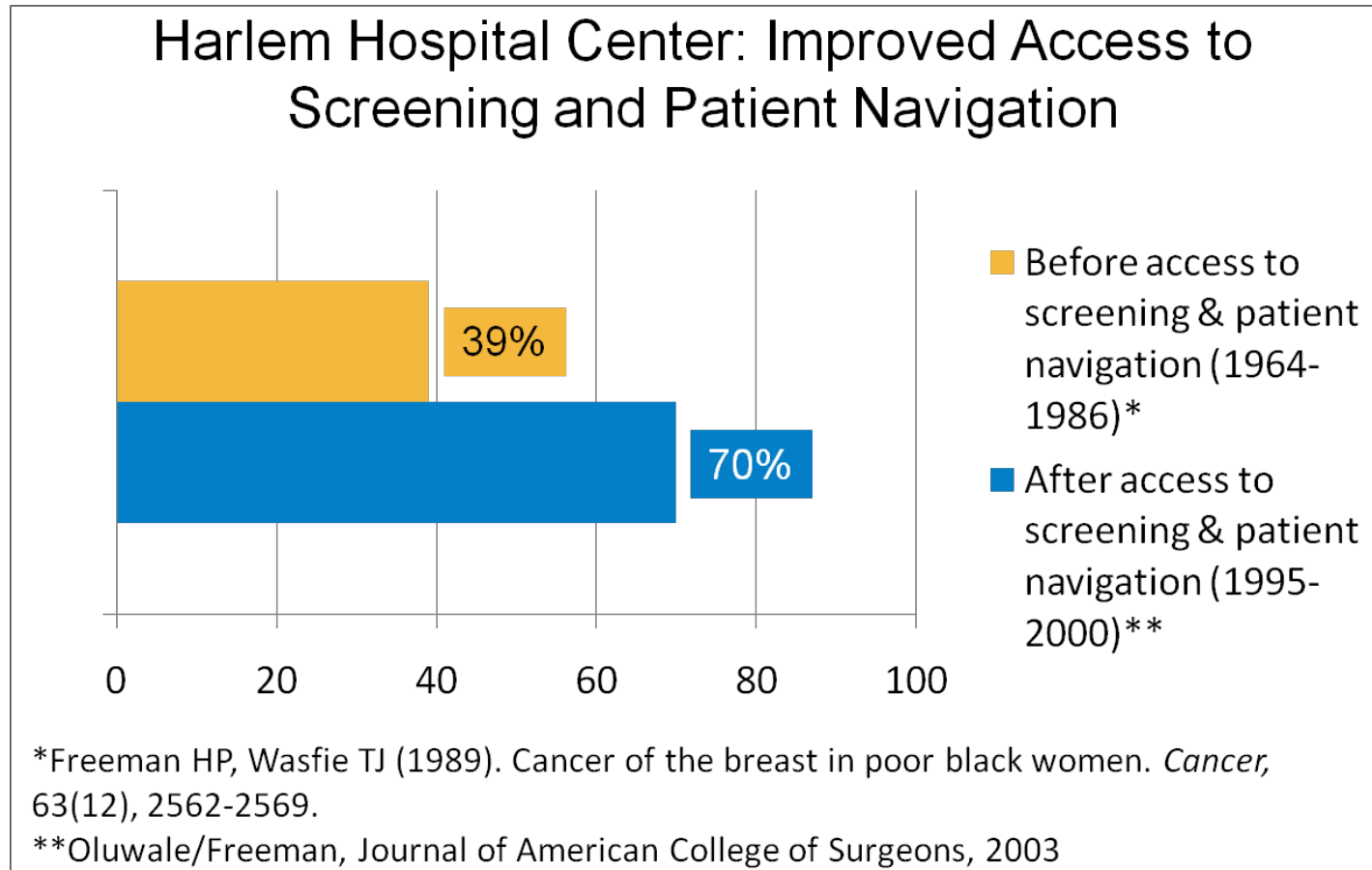
Logic Model: Expected Outcomes of the Patient Navigation Research Program

Copyright 2007:Amanda Greene



Results of Harlem Screening and Patient Navigation

Increase in survival of 31% over 5 yrs. in patients with breast cancer.



Types of Evaluation

- **Formative:** Evaluation that helps to develop the navigation program
 - What type of navigation is needed?
 - Who might best deliver navigation?
 - What type of clients/patients would benefit from navigation?
 - Might be addressed by community needs assessment
- **Fidelity:** Evaluation that determines whether navigation and the navigation program is being delivered as intended
 - Was navigation delivered in a timely manner?
 - Were the navigators using culturally sensitive, evidence-based approach?
 - Were barriers assessed?
 - Was a full range of community resources provided to clients/patients?
- **Summative:** Evaluation that determines the degree to which the program had an impact upon patients, community, or the health care system
 - Was the time between diagnosis and treatment decreased by navigation?
 - Were the clients/patients satisfied with the navigation?
 - What were the patient-reported outcomes?
 - Were there unintended consequences?
 - Was there an impact upon cost/reimbursement to the health care system?

Estimated Costs to Establish and Maintain Navigation in PNRP, Excluding Wages

Bensink et al, *Cancer* 2014

Cost	Mean (SE) 2011 USD ^a
Establishment	
Hiring	800 (140)
Equipment	710 (100)
Training	1200 (40)
Total cost	2480 (180)
Maintenance	
Office space	5160 (840)
Supervision	15,940 (6090)
Administrative support	2060 (440)
Office supplies	420 (130)
Mailing	360 (110)
Telephone	1030 (360)
Parking and travel	1070 (610)
Ongoing training	670 (210)
Annualized total cost	24,140 (6350)

Abbreviation: SE, standard error; USD, US dollars.

^aAverage per single navigator based on surveys from site managers; excludes wages.

Time and Associated Adjusted Costs of Providing Navigation to Diagnostic Resolution of Abnormal Cancer Screening Test Results in PNRP

Bensink et al, *Cancer* 2014.

Screening Test	No. Navigated to Diagnostic Resolution % (No.)	Total Navigation Time % (No.), Hours	Average Navigation Time Per Person Hours	Average Value of Navigator Time Per Person, Mean (95% CI) ^a 2011 USD	Average Total Costs Per Person, Mean (95% CI) ^b 2011 USD
Breast	57 (2468)	73 (10,344)	4.2	150 (50-460)	210 (100-560)
Cervical	31 (1358)	14 (2043)	1.5	70 (40-120)	130 (60-230)
Colorectal	5 (214)	9 (1220)	5.7	210 (140-450)	300 (180-530)
Prostate	7 (290)	4 (508)	1.8	110 (70-190)	200 (160-260)
Total	100 (4330)	100 (14,114)	3.3	130 (60-450)	190 (80-540)

95% CI, 95% confidence interval; USD, US dollars.

^a Includes navigator wages and fringe benefit cost.

^b Total costs of navigation include navigator time costs and ongoing maintenance costs (as shown in Table 2).

Activities and Average Time Spent by Navigator Among Patients After Program

Koh et al, Clinical Journal of Oncology Nursing 2011

ACTIVITY	n	%	MINUTES SPENT	
			\bar{x}	SD
Records or record keeping	50	100	41.1	6.65
Scheduling appointments	48	96	14.17	2.98
Education	26	52	17.5	10.51
Support	12	24	14.58	8.11
Arrangements	8	16	8.13	2.59
Referrals or direct contact	6	12	8.33	2.58
Proactive navigation	6	12	5.67	3.61
Directly contacting family	4	8	10	4.08
Accompany patient	—	—	—	—

N = 50

The authors also conducted analyses to investigate associations among the outcome variables. Results showed that the amount of time navigators spent on patients was negatively correlated with patient satisfaction (i.e., the navigator spent more time with patients who were less satisfied with their care experience [$r = -0.373$, $p = 0.042$]).

Barriers to Care, Resolution of Barriers and Average Time Spend by Navigator Among Patients after Program

Koh et al, Clinical Journal of Oncology Nursing 2011

BARRIER	TOTAL		COMPLETELY RESOLVED		MINUTES SPENT	
	n	%	n	%	\bar{X}	SD
System issues						
Location of healthcare facility	21	42	21	100	3.8	1.57
System problems with scheduling care	4	8	4	100	6.75	3.95
Medical and mental health comorbidity	3	6	2	67	8.33	5.77
Financial issues						
Insurance issues	6	12	3	50	8.67	6.38
Transportation	3	6	2	67	4	1.73
Employment issues	2	4	–	–	37.5	10.61
Psychosocial issues						
Perception or beliefs about tests or treatment	16	32	12	75	11.67	13.84
Social or practical support	12	24	7	58	8.82	8.51
Fear	10	20	4	40	5.7	2.45
Child or adult care issues	7	14	5	71	8.14	4.38
Attitudes toward providers	7	14	4	57	14.14	20.75
Out of town or country	4	8	4	100	8.75	4.79
Patient disability	4	8	2	50	6.67	2.89
Housing	1	2	1	100	5	< 0.01
Literacy	–	–	–	–	–	–
Communication issues						
Language or interpreter	1	2	1	100	5	< 0.01
Communication concerns with medical personnel	–	–	–	–	–	–

N = 50

RE-AIM

The RE-AIM framework is designed to enhance the quality, speed, and public health impact of efforts to translate research into practice



RE-AIM

Definitions

- **R**each your intended target population
- **E**fficacy or effectiveness
- **A**doption by target staff, settings, or institutions
- **I**mplementation consistency, costs and adaptations made during delivery
- **M**aintenance of intervention effects in individuals and settings over time

Examples for Patient Navigation

- **R**: African American women 40-64 years of age
- **E**: 75% of women who received PN were screened
- **A**: Church has expanded deacon activities to include PN
- **I**: Delivered PN to church congregation because of member interest
- **M**: Trained a church volunteer to be patient navigator

PN Evaluation Tool

Sr. No	Patient Survey Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	Navigator adequately prepared me to start my cancer treatment (e.g., side effects of treatment, treatment schedule)	1	2	3	4	5
2	I received adequate information pertaining to education of my illness.	1	2	3	4	5
3	My calls were attended or returned in a timely manner	1	2	3	4	5
4	Navigator helped me understand what my responsibility was in managing the side effects of my treatment	1	2	3	4	5
5	Navigator helped me becoming more tolerant of my treatment.	1	2	3	4	5
6	I felt the navigator knew about my case	1	2	3	4	5
7	The navigator provided me with helpful information during my care	1	2	3	4	5
8	I was satisfied with instructions and had responsive answers to questions asked	1	2	3	4	5
9	The navigator was thorough and kept me informed	1	2	3	4	5
10	Support services referrals for my own barriers met my needs	1	2	3	4	5

PN Evaluation Tool

11	The navigator helped me in getting an easy access to medical care	1	2	3	4	5
12	The navigator helped me reduce the time duration between diagnosis and start of treatment.	1	2	3	4	5
13	Navigator has helped in improving my own adherence to treatment	1	2	3	4	5
14	Navigator has helped me ease out my financial burden	1	2	3	4	5
15	The navigator has decreased my barriers to care.	1	2	3	4	5
16	Navigator helped me and motivated me for timely show up for diagnostics and treatment	1	2	3	4	5
17	I valued working with the navigator	1	2	3	4	5
18	I found the patient navigation materials helpful	1	2	3	4	5
19	My navigator treats me in a friendly and respectful manner	1	2	3	4	5
20	I would recommend this service to others	1	2	3	4	5

AWARE – Randomized feasibility study of navigation of women with dense breast tissue

Penn State Cancer Institute

- Dense breast tissue
 - Risk for breast cancer
 - Notification of results
 - Clinical recommendations
 - Supplemental screening
- Randomized Design (12 week study length) (n=60)
 - Comparison: Usual care
 - Intervention: Brief telephonic navigation (4, 8 wks)
 - Enrollment began 7/2018; Study completed by 1/2019
- Outcomes
 - Patient:
 - Knowledge, attitudes, and behaviors
 - Social interaction
 - Receipt of supplement screening (self-report and EMR)
 - System:
 - Navigation time and resources
 - Communication with primary care physician
 - Resources for system implementation

Conclusions

- Evaluation Foundation
 - Theory (e.g., system, social, individual)
 - Model (e.g., logic model)
 - Purpose (e.g., formative, fidelity, outcome)
- Outcomes
 - Patient
 - Time to resolution/treatment; patient satisfaction – small gain
 - Barrier assessment and overcome
 - Targeted recruitment (e.g., AWARE)
 - Health System
 - Cost
 - Time
 - Implementation (e.g., AWARE)
 - Community
 - RE-AIM

Discussion

- What has been your experience with evaluation of navigation programs?
- What are the barriers to evaluation?
- What approach do you use to evaluate navigation programs?
- Do you incorporate EMR? Tablets? Phones?
- When and how do you report program evaluation to administration?
- Are there collaborative opportunities for us related to navigation evaluation?

Thank You!

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