Engaging community pharmacists in a shared care model for breast cancer survivors

Learning objectives:

- ❑ Define cancer survivorship and the underlying principles.
- ❑ Discuss the roles community pharmacists can play in breast cancer survivorship.
- ❑ Describe strategies to optimize community pharmacists' role in a multidisciplinary care team for cancer survivors.
- ❑ Discuss the types of resources commonly used to guide the implementation of health services involving pharmacists.

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4 March 2023

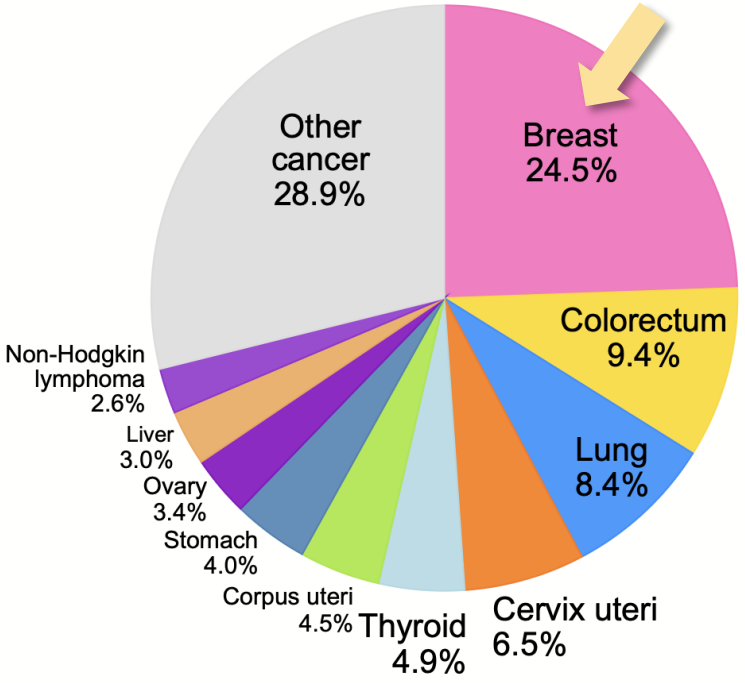
Conflict of Disclosure

- Nothing to disclose.

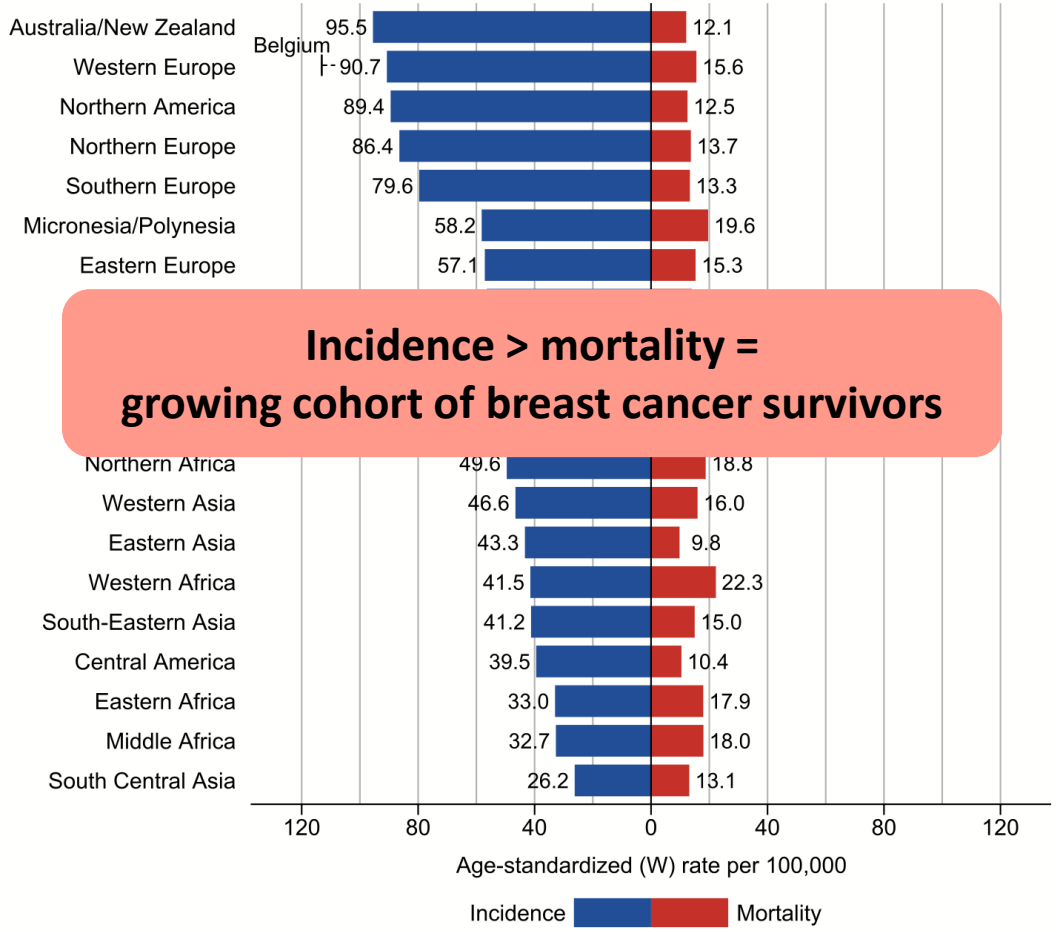
Breast Cancer Burden

Global

Distribution of Cases and Deaths for the Top 10 Most Common Cancers



Region-specific incidence & mortality



Incidence > mortality = growing cohort of breast cancer survivors

1. Sung et al. **CA Cancer J Clin**. 2021; 71(3):209-249

Cancer survivorship

begins from diagnosis till the end of life

1. NCI Dictionary of Cancer Terms

Acute survivorship (6-12 months)

Cancer center, hospitals

Anxiety, depressive symptoms

Acute toxicities

E.g. nausea & vomiting, insomnia

Long-term toxicities

E.g. fatigue, neuropathy

Completed primary treatment*

*Surgery, chemotherapy, radiotherapy

Extended survivorship

Community

- Cancer center
- Primary care clinics

Body image concerns, fear of recurrence

Late toxicities

E.g. cardiovascular diseases

Chronic conditions

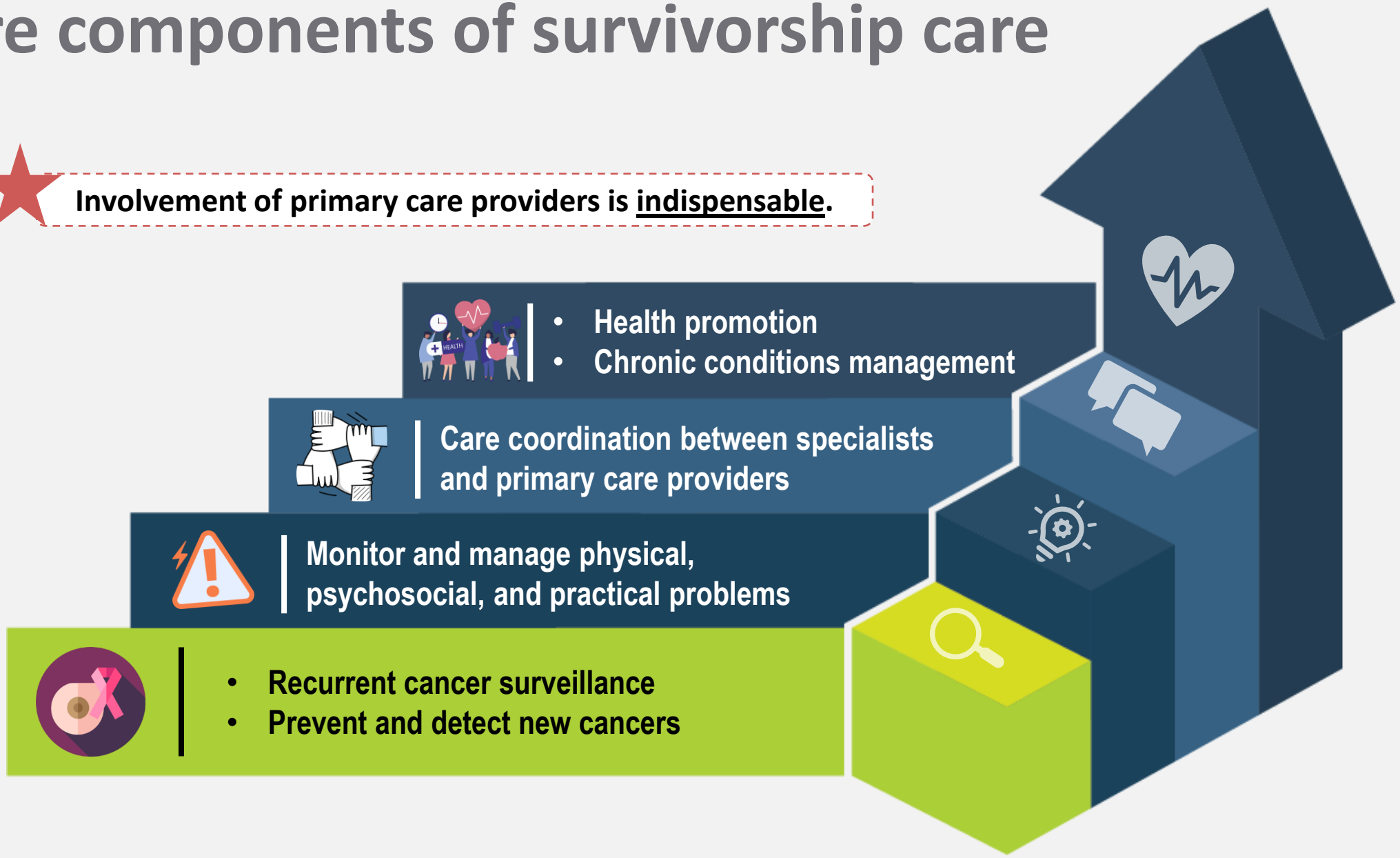
Provide treatment and manage acute toxicities in the tertiary setting

Maintaining health and maximizing quality of life in the community

1. Cheung et al. **Support Care Cancer**. 2013;21(8):2185-94
2. Mahendran et al. **Singap Med J**. 2020
3. Kenyon et al. **J Obstet Gynecol Neonatal Nurs**. 2014;43(3):382-9

Core components of survivorship care

Involvement of primary care providers is <u>indispensable</u>.



1. Hewitt et al. **National Academies**. 2006
2. Nekhlyudov et al. **J Natl Cancer Inst**. 2019;111(11):1120-30

How is survivorship care delivered globally?

Care Delivery	Total (N= 27)	Total (%)	Total LIC/LMIC (n = 7)	LIC/LMIC (%)	Total UMIC (n = 7)	UMIC (%)	Total HIC (n = 13)	HIC (%)
Health care coverage								
Universal	11	40.8	0	0	2	28.6	9	69.2
Mixed system, all survivors have coverage	4	14.8	1	14.3	1	14.3	2	15.4
Mixed system, most survivors have coverage	4	14.8	1	14.3	1	14.3	2	15.4
Mixed, many survivors do not have coverage	8	29.6	5	71.4	3	42.9	0	0
Cancer-related follow-up care								
Treating institution	20	74.1	5	71.4	5	71.4	10	76.9
Mix of treating institution and GP/PCP	6	22.2	1	14.3	2	28.6	3	23.1
Most seen by GP/PCP	1	3.7	1	14.3	0	0	0	0
Many survivors receive no formal follow-up care	0	0	0	0	0	0	0	0
Noncancer-related follow-up care								
Treating institution	3	11.1	1	14.3	2	28.6	0	0
Mix treating institution and GP/PCP	8	29.6	2	28.6	1	14.3	5	38.5
Most seen by GP/PCP	13	48.1	4	57.1	2	28.6	7	53.8
Many survivors receive no formal follow-up care	3	11.1	0	0	2	28.6	1	7.7
Models of follow-up care (check all)								
Oncology	24	88.9	5	71.4	6	85.7	13	100
Primary care led	8	29.6	2	28.6	1	14.3	5	38.5
Shared care	12	44.4	3	42.9	2	28.6	7	53.8
Nurse led	5	18.5	1	14.3	0	0	4	30.8
Multidisciplinary survivorship clinic	6	22.2	2	28.6	0	0	4	30.8
None	1	3.7	0	0	1	14.3	0	0
Use of survivorship guideline								
Almost all/most	15	55.5	3	42.8	4	57.1	8	31.5
About half	6	22.2	0	0	2	28.6	4	30.8
Some	3	11.1	3	42.9	0	0	0	0
Just a few	3	11.1	1	14.3	1	14.3	1	7.7

Cancer-related care is almost <u>exclusively</u> provided by cancer centers/ hospitals

Tertiary care providers are still consulted for non-cancer-related issues.

Most countries adopt <u>oncologist-led</u> model, followed by <u>shared care</u> model.

Care fragmentation?

Sustainability?

1. Mollica et al. **JCO Glob Oncol**. 2020; 6: GO.20.00180

Types of cancer survivorship care models

- **Oncologist-led**
- Led by a nurse/ allied health professional
- Multidisciplinary team
- Integrated survivorship clinics

Tertiary-based

Primary care-based

Complete discharge to primary care providers (e.g., general practitioners)

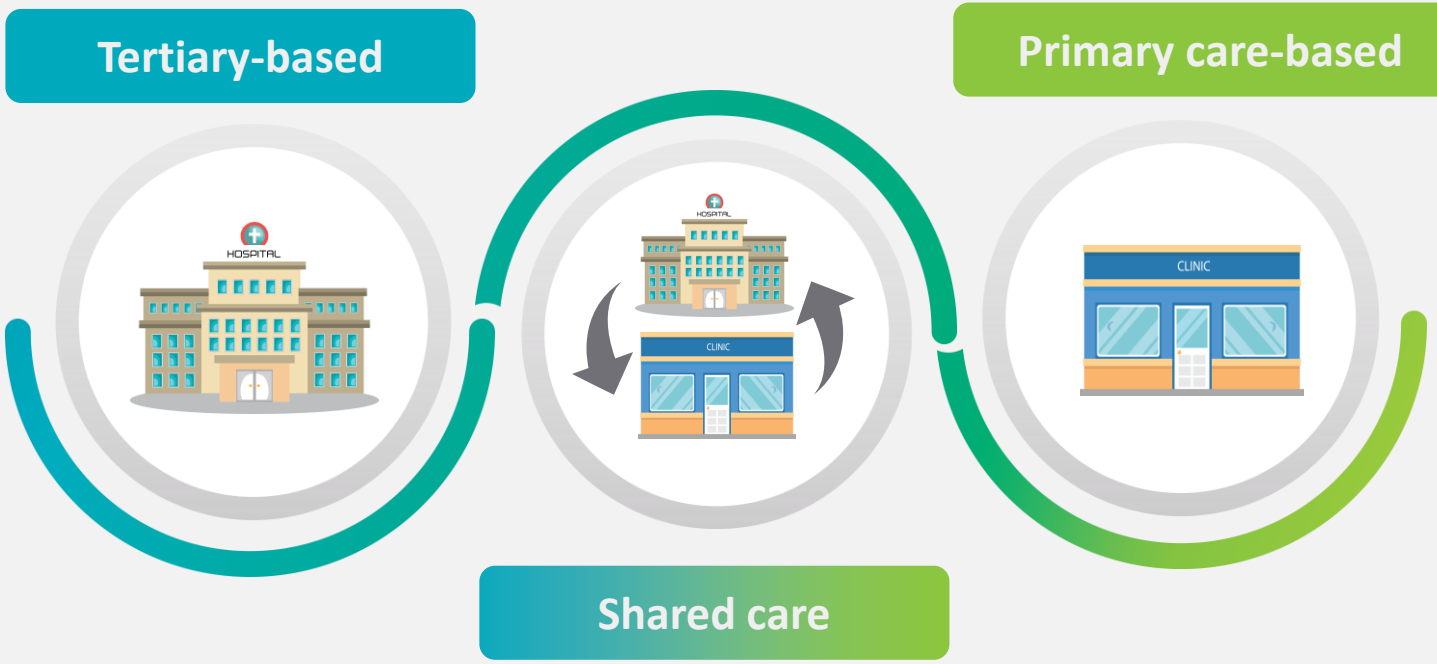
Shared care

Formalized collaboration between tertiary and primary care providers

No demonstrated superiority of any care model in healthcare outcomes.

1. Termuhlen et al. **Springer International Publishing, Cham**. 2018; pp103-117
2. Nekhlyudov et al. **Lancet Oncol**. 2017; 18(1):e30-e38
3. Chan et al. **J Cancer Surviv**. 2021;1-25

Which care model should be adopted?



Prognosis

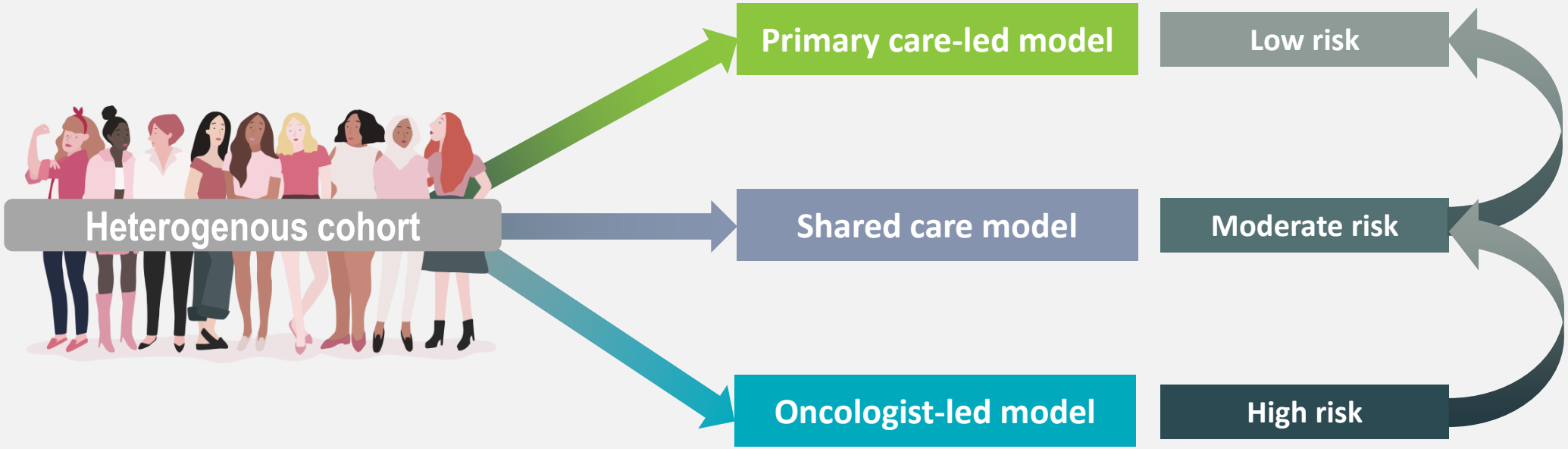
Risk profiles

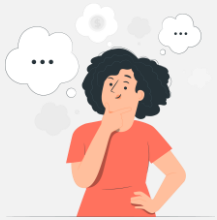
Care preferences

A <u>one-size-fits-all</u> model applicable to all survivors across all survivorship phases does not exist.

1. Termuhlen et al. **Springer International Publishing, Cham**. 2018; pp103-117
2. Nekhlyudov et al. **Lancet Oncol**. 2017; 18(1):e30-e38
3. Chan et al. **J Cancer Surviv**. 2021;1-25

A personalized approach to cancer survivorship



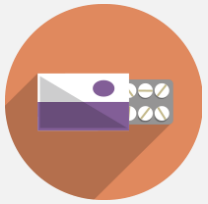


The development and evaluation of care models need to be context-specific, taking into consideration organizational and healthcare system-level factors.

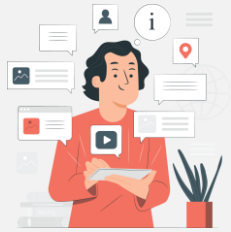
1. Fitch MI. **Can Oncol Nurs J**. 2008;18(1):6-24
2. Vardy et al. **Aust J Gen** Pract 2019; 48(12):833

Community pharmacists can play a role in shared care and primary care-based models

Cancer screening advice, cancer surveillance



Medication compliance, optimization



Informational support, education, lifestyle modification

Conveniently located in the community → **access points**

Mental health support

1. Egbewande et al. **Innov Pharm**. 2022;13(3):10.24926/iip.v13i3.4946
2. Rubio-Valera et al. **Int J Environ Res Public Health**. 2014;11(10):10967-90

Community pharmacists' strengths are compatible with survivorship care provision

- Medication reconciliation and optimization
- Non-pharmacological counselling, lifestyle advice

- Survivorship care plans
- Communication with oncology team/ other HCPs

- Assess and manage physical toxicities
- Psychosocial support, resource provision

Promote adherence to annual surveillance mammogram and second cancer screening

- Health promotion
- Chronic conditions management

Care coordination between specialists and primary care providers

Monitor and manage physical, psychosocial, and practical problems

- Recurrent cancer surveillance
- Prevent and detect new cancers

However, research on community pharmacists' engagement in survivorship care is limited

Specific to adjuvant treatment

The Role of Community Pharmacists in Addressing Medication-related Issues for Breast Cancer Patients Receiving Adjuvant Endocrine Therapy

KINAN MOKBEL[1,2] and KEFAH MOKBEL[2]

Development of a community pharmacy-based intervention to enhance adherence to adjuvant endocrine therapy among breast cancer survivors guided by the Intervention Mapping approach

Mauranne Labonté[a,b,c,d], Laurence Guillaumie[b,e], Anne Dionne[a,c,f], Michel Dorval[a,c,d,f,g], Hermann Nabi[a,c,d,h,i], Julie Lemieux[c,f], Louise Provencher[c,f], Sophie Lauzier[a,b,d,f,*]

Specific to cancer pain

A community pharmacist medicines optimisation service for patients with advanced cancer pain: a proof of concept study

Zoe Edwards[1] · Michael I. Bennett[2] · Alison Blenkinsopp[1]

Specific to lifestyle modification

Creating a teachable moment in community pharmacy for men with prostate cancer: A qualitative study of lifestyle changes

Karen Poole[1] | Jane Ogden[2] | Sophie Gasson[1] | Agnieszka Lemanska[1] | Fiona Archer[1] | Bruce Griffin[3] | John Saxton[4] | Karen Lyons[5] | Sara Faithfull[1]

BMJ Open **Community pharmacy lifestyle intervention to increase physical activity and improve cardiovascular health of men with prostate cancer: a phase II feasibility study**

Agnieszka Lemanska,[1] Karen Poole,[1] Bruce A Griffin,[2] Ralph Manders,[3] John M Saxton,[4] Lauren Turner,[5] Joe Wainwright,[6] Sara Faithfull[1]

- Overall impact remains unclear
- Evaluation of care *in silo* fragments care conceptualization
- Overlooked importance of team-based care approach

Care model delivery should be envisioned as a ***complex intervention***

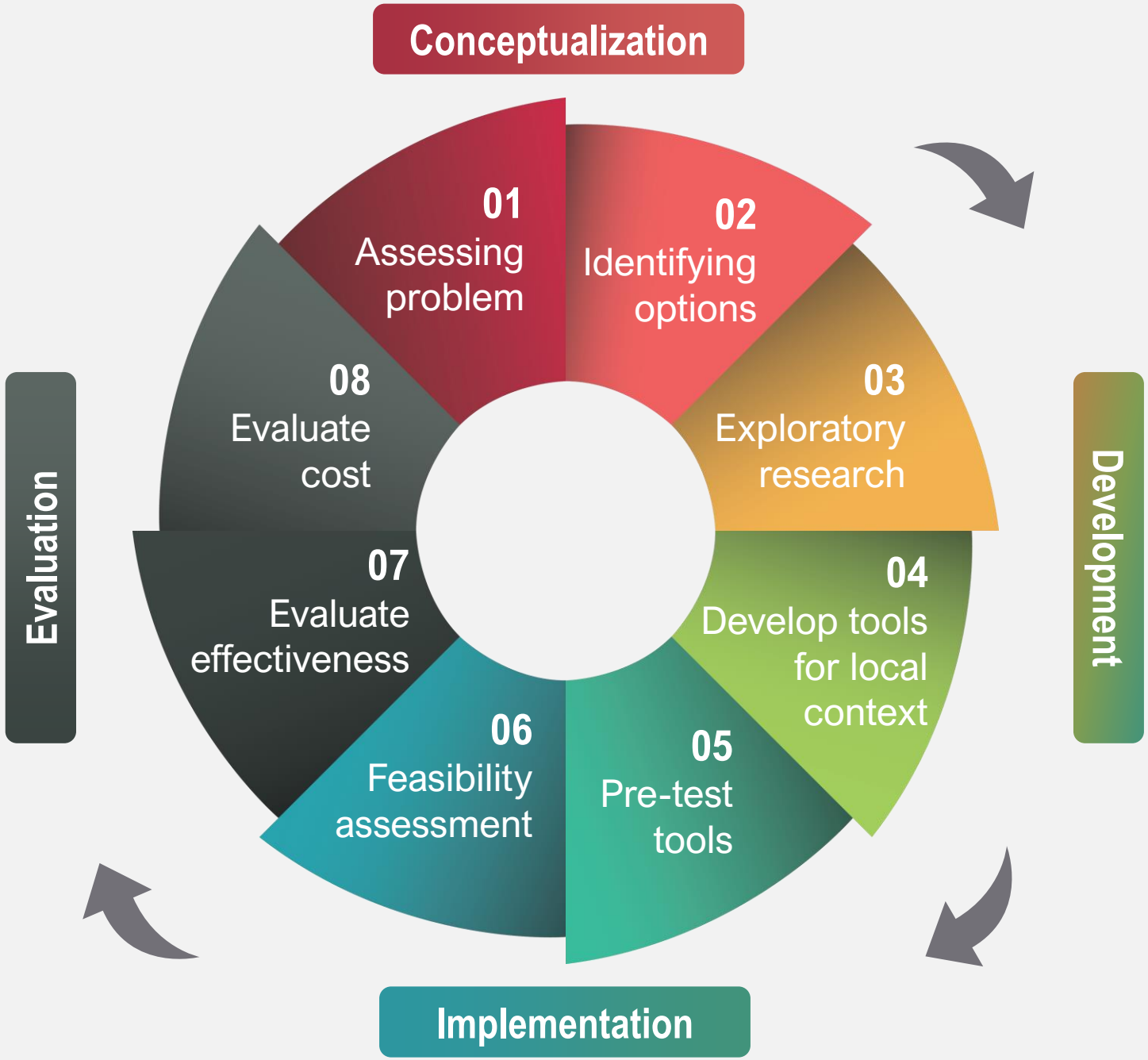
1. Mokbel et al. **Anticancer Res**. 2022;42(2):661-666
2. Labonté et al. **Res Social Adm Pharm**. 2020;16(12):1724-1736
3. Poole et al. **Psychooncology**. 2019;28(3):593-599
4. Lemanska et al. **BMJ Open**. 2019;9(6):e025114
5. Edwards et al. **Int J Clin Pharm**. 2019;41(3):700-710

Care model delivery is a complex intervention

RESEARCH		Intervention (E.g., new diabetic drug)	Complex intervention (E.g., care model delivery)
Intervention characteristics	**Mechanism of action**	Biological pathways at molecular level	Theories, logic and systems thinking
	Intervention components	Active ingredient(s), usually independent	Multiple and interacting workflow changes, implementation strategies
	Flexibility	Strict adherence to protocol	Adaptable and **pragmatic**
Evaluating intervention	**Level**	Patient	Patient, **organization/ institution**, **health system**
	Study environment	Highly controlled	**Real-world**, context-sensitive
	Study endpoints	Efficacy	**Effectiveness**, implementation outcomes

1. Craig et al. **BMJ**. 2008; 337:a1655

Framework for health service development & research



1. Walley et al. **Health Res Policy Syst.** 2018;16(1):67

Step 0:
Before embarking…

- **Know your context** – *barriers and facilitators?*
- **Assemble a committed multidisciplinary core workgroup** – *we cannot succeed alone!*
- **Identify and engage your key stakeholders** – *they are important to ensure sustainability/ funding of your service!*
- **Source of preliminary funding** – *grants, quality improvement funds, etc…*

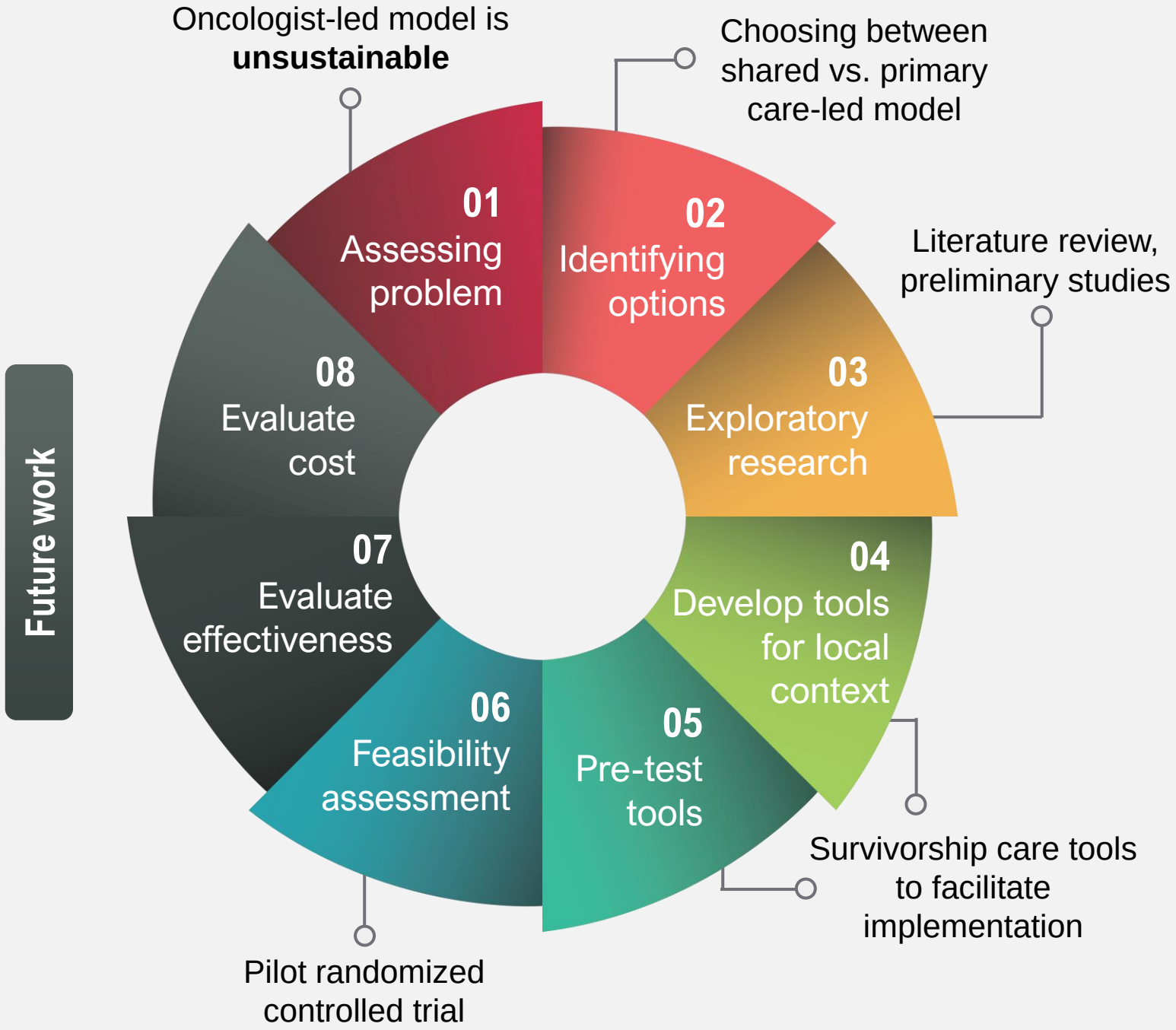
CASE STUDY:

Developing and piloting a shared care model for Singapore breast cancer survivors

Getting to know the Singapore context

- High income Southeast Asian country
- Multi-ethnic and multilingual population
- Universal health coverage with a **co-payment** system
- Adopts the **oncologist-led model** for cancer survivorship

Applying the framework for health service development & research



1. Walley et al. **Health Res Policy Syst.** 2018;16(1):67

Step 1: The need for alternative care models

special article

Cancer Supportive and Survivorship Care in Singapore: Current Challenges and Future Outlook

CURRENT CHALLENGES IN SINGAPORE'S SUPPORTIVE AND SURVIVORSHIP CARE LANDSCAPE

Health Care System

In Singapore, the majority of survivors of cancer consult their oncologists, who may be based at various cancer centers, for their supportive and survivorship care needs, with cancer surveillance being the primary focus of survivorship care. With the increasing cancer incidence and survival rates, the existing infrastructure in Singapore cannot meet the increasing demand for cancer supportive and survivorship care services in a sustainable manner. The current oncologist-centric survivorship landscape is in stark contrast with survivorship care models in the developed countries of North America and Europe, where primary care providers are actively involved in a shared-care model of survivorship care delivery.[9] Such a shared-care

Historically, cancer has always been a disease managed in tertiary health care settings in Singapore, and currently, there is a lack of training or robust professional development courses to allow primary health care providers to develop skill sets in cancer survivorship. Without the involvement of primary health care providers in cancer survivorship care, community care coordination for survivors of cancer, especially those with complex comorbidities, is lacking. In recent years, there have been increasing efforts to transition care from tertiary institutes to the community by empowering and engaging community-based family physicians; however, it must be emphasized that Singapore's initiative for one family physician for every Singaporean is still in the infancy stage.[15,16]

Limitations of oncologist-led model

Patient-level: suboptimal community care coordination, comorbidity management

Health system level: unable to meet the demands of a growing cohort of cancer survivors sustainably

Initial momentum for service development and research

1. Loh et al. **J Glob Oncol**. 2018;4:1-8

Step 2: Which model is suitable for Singapore?

National directives[1] + community interest[2]

Less favorable rating of primary care[3]

Lower confidence among survivors[4]

1. MOH Committee of Supply Debate 2018
2. Chan et al. **Health Soc Care Community**. 2018;26(3):404-11
3. Khoo et al. **Asia Pac Fam Med**. 2014;13(1):8-
4. Chan et al. **J Glob Oncol**. 2017;3(2):98-104

Step 3: Scope of exploratory research

Knowledge gaps

a. A poor understanding of current survivorship care practice as a **comparator**.

b. Unclear **cross-system applicability** of implementation recommendations from Western health care systems.

Research question	(a) How well does survivorship care provision adhere to ASCO care guidelines?	(b) What strategies could guide implementation of shared care in Singapore?
Study design	Retrospective observational study	Qualitative studies
Participants	Breast cancer survivors	Breast cancer survivors, family physicians, community pharmacists
Data collection	Medical records review	In-depth interviews, focus group discussions
Outcomes	Surveillance, monitoring late effects, healthcare utilization, preventive care	Perspectives and attitudes towards shared care, perceived barriers and facilitators
Analysis	Descriptive statistics, regression	Deductive thematic analysis

Step 3a: How well does survivorship care provision adhere to ASCO care guidelines?

original reports

SUPPORTIVE CARE & SYMPTOM CONTROL

Adherence to Cancer Survivorship Care Guidelines and Health Care Utilization Patterns Among Nonmetastatic Breast Cancer Survivors in Singapore

Yu Ke, BSc Pharm (Hon)[1]; Chia Jie Tan, PhD[1]; Hui Ling Angie Yeo, MSc[1]; and Alexandre Chan, PharmD, MPH[2,3]

- ✓ Adherent to annual surveillance mammogram
- ✓ Adherent to osteoporosis preventive care
- ✗ Extensive utilization of oncologist services in survivorship

TABLE 4. Oncology, Nononcology Primary Care Consultations, Emergency Department Visits, and Hospitalizations Over the Follow-Up Period

Months Post-Treatment	0-6 (N = 189)	6-12 (N = 189)	12-18 (N = 189)	28-24 (N = 189)	24-30 (N = 189)	30-36 (N = 189)	36-42 (N = 139)	42-48 (N = 112)	48-54 (N = 78)	54-60 (N = 47)
Oncology[a] consultation(s), median (IQR)	6 (4-10)	4 (3-5)	3 (2-4)	2 (1-4)	2 (2-4)	2 (1-3)	2 (1-4)	2 (1-3)	2 (1-3)	2 (1-3)
Consultations in the community/polyclinics										
No. of consultations	181	232	242	232	310	303	264	171	121	55
Survivors with consultation(s), No. (%)	79 (41.8)	84 (44.4)	86 (45.5)	82 (43.4)	101 (53.4)	93 (49.2)	81 (58.3)	58 (51.8)	46 (59.0)	26 (55.3)
Survivors with ≥ 1 emergency department visit(s), No. (%)	19 (10.1)	17 (9.0)	16 (8.5)	13 (6.9)	15 (7.9)	15 (7.9)	9 (6.5)	15 (13.4)	6 (7.7)	1 (2.1)
Survivors with ≥ 1 hospitalization episode(s), No. (%)	18 (9.5)	4 (2.1)	5 (2.7)	4 (2.1)	0 (0)	7 (3.7)	4 (2.9)	6 (5.4)	3 (3.9)	1 (2.1)

Abbreviation: IQR, interquartile range.
[a]Included consultations with medical, radiologic, and surgical oncologists.

~4 oncologist consultations annually
Guideline: every 6-12months

Increased % of survivors utilizing community services

Opportunities to engage and coordinate care across settings

1. Ke et al. **JCO Glob Oncol**. 2022;8:e2100246

Step 3b: What strategies could guide the development and implementation of shared care in Singapore?

Practitioners' perspectives on community-based breast cancer survivorship care in Singapore: A focus group study

Alexandre Chan PharmD, MPH, FCCP, BCPS, BCOP[1,2,3] | Guo Hui Ngai BSc (Pharm) (Hons)[1] | Wing Lam Chung BSc (Pharm) (Hons)[4] | Angie Yeo BSc (Hons), MSc[1] | Terence Ng BSc (Pharm) (Hons), PhD[1,2] | Kiley Wei-Jen Loh MBBS (Melbourne), FRACP (Australia)[5] | Mohamad Farid MBBS, M Med (Int Med), MRCP (UK)[5] | Yoke Lim Soong MBBS, FFRRCSI, FRCR[6*] | Ro

Roles and recommendations from primary care physicians towards managing low-risk breast cancer survivors in a shared-care model with specialists in Singapore—a qualitative study

Rose Wai-Yee Fok[a,*], Lian Leng Low[b,c], Hui Min Joanne Quah[c,d], Farhad Vasanwala[e], Sher Guan Low[f], Ling Ling Soh[f], Farid Mohamad[a], ndre Chan[c,h,i] and

Need to capture perspectives from diverse groups and all key stakeholders (e.g., survivors, health care professionals, leadership)

original report

Perceptions and Barriers of Survivorship Care in Asia: Perceptions From Asian Breast Cancer Survivors

Open Access

Implementing a community-based shared care breast cancer survivorship model in Singapore: a qualitative study among primary care practitioners

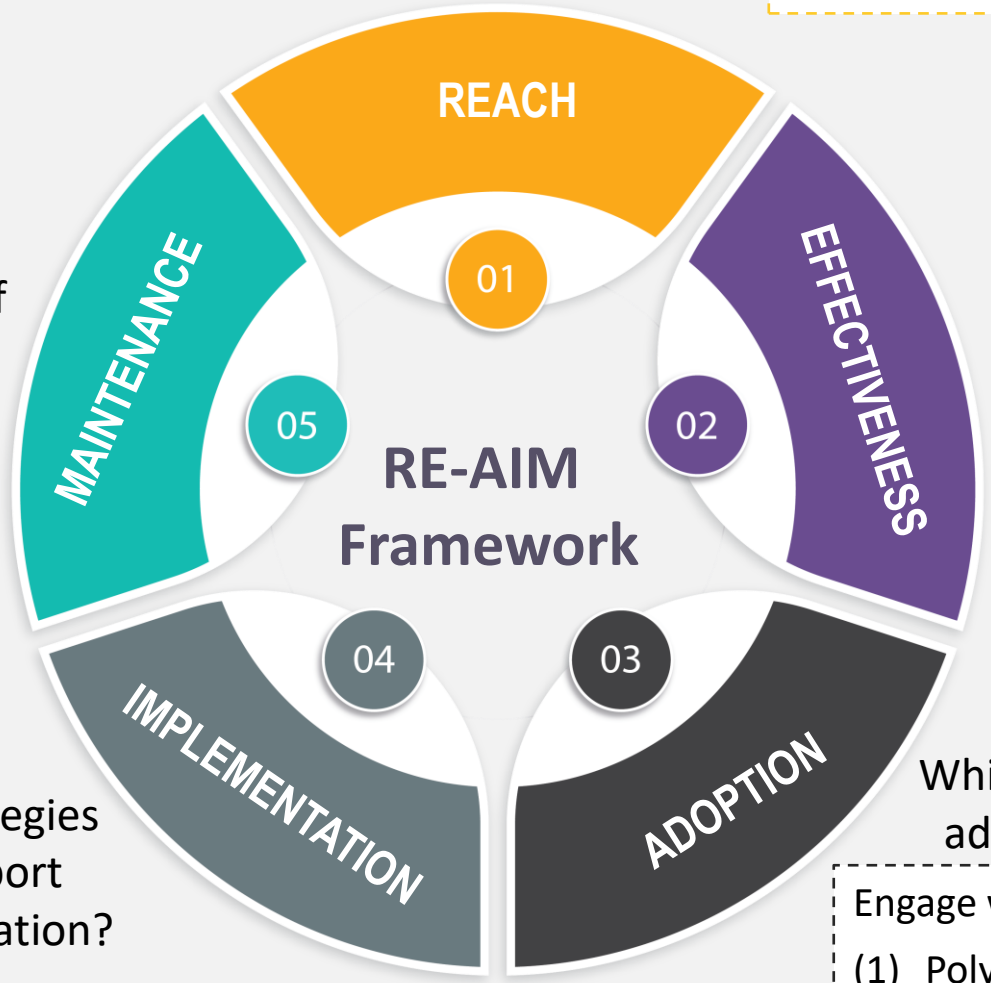
Yu Ke[1†], Rose Wai Yee Fok[2†], Yoke Lim Soong[3], Kiley Wei-Jen Loh[2], Mohamad Farid[2], Lian Leng Low[4], Joanne Hui Min Quah[5], Farhad Fakhrudin Vasanwala[6], Sher Guan Low[7], Ling Ling Soh[7], Ngiap-Chuan Tan[5] and Alexandre Chan[8,9*]

1. Chan et al. **J Glob Oncol**. 2016;3(2):98-104
2. Chan et al. **Health Soc Care Community**. 2018;26(3):404-411
3. Fok et al. **Fam Pract**. 2020;37(4):547-553
4. Ke et al. **BMC Prim Care**. 2022;23(1):73

Step 3b: Useful analytical framework

Who should the new model target?

Low-risk survivors should be ascertained by oncologists before introduction to shared care.



How to measure and ensure effectiveness of the new model?

Robust **training** programs are needed to ensure quality care provision.

Which institution(s) are adopting the model?

Engage with **early adopters**

(1) Polyclinics

(2) Private pharmacy chains

What strategies can support implementation?

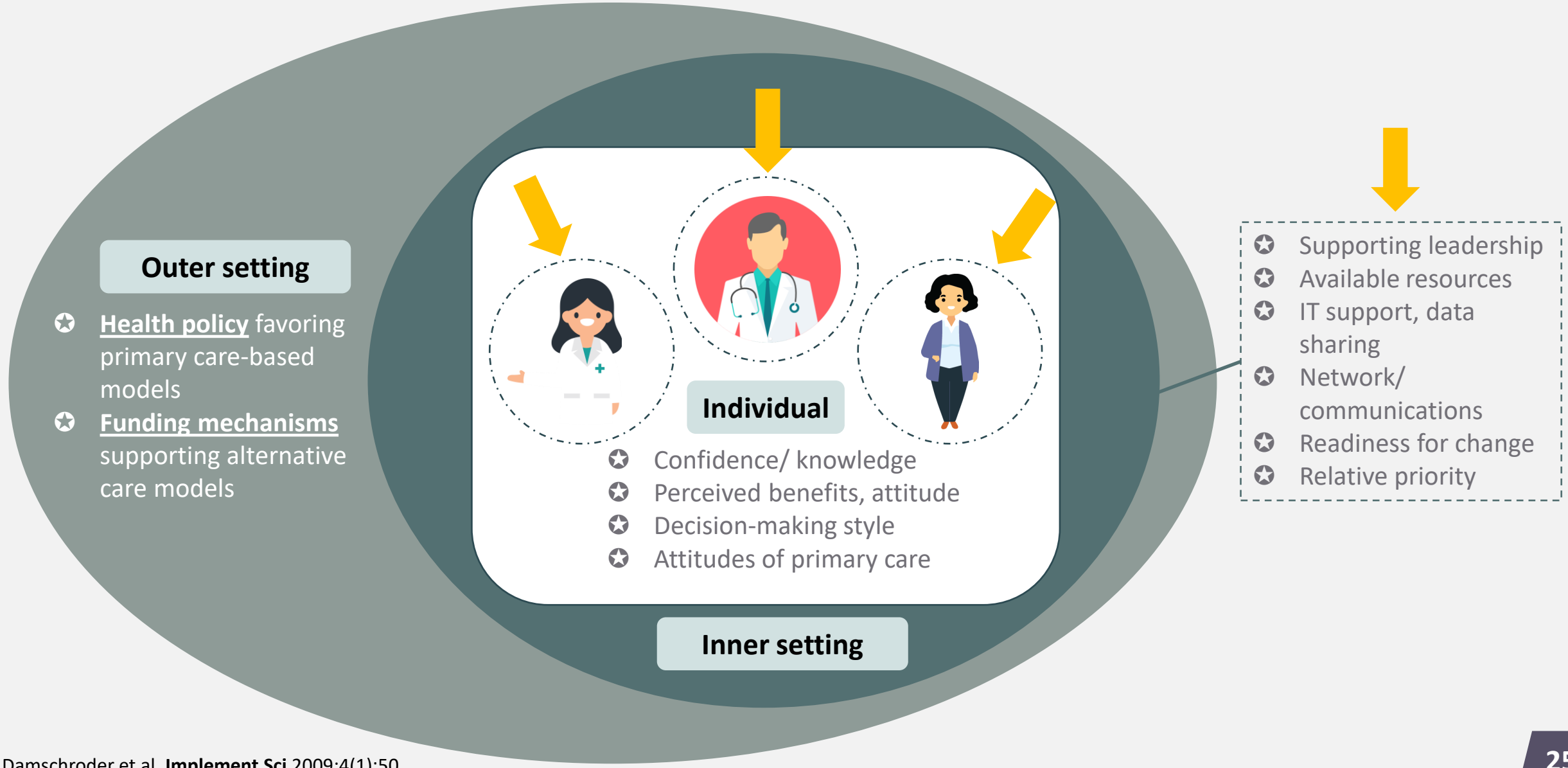
Understand implementation barriers to intervene

How to ensure sustainability of the model?

Align with national directives for **sustainability**.

1. Glasgow et al. **Front Public Health** 2019; 7:64

Step 3b: Understanding implementation barriers



1. Damschroder et al. **Implement Sci** 2009;4(1):50

Step 4 & 5: Develop & test survivorship care tools

Core workgroup

Distress thermometer (screening)

- To be completed before consultation with primary care provider

To identify active problems (physical, practical, emotional) systematically and facilitate consultations.

Survivorship care plan

- Treatment summary, key care areas to focus on, communication

Facilitates information sharing, updates on care across care providers.

Training toolkit & workflows

- Provided by specialists from cancer center
- Didactic e-learning lectures, case studies discussion, clinical attachments with oncologists

Reduce clinical practice variation, improve primary care providers' self-efficacy and confidence.

Before continuing…

- ❑ **Could you explain your service/ new model to a lay person?** – *versus usual care*
- ❑ **Are you clear about how the proposed service/ new model will work?** – *a logic model will be useful!*

How does shared care compare with usual care?

National Cancer Centre Singapore
SingHealth

Oncologist

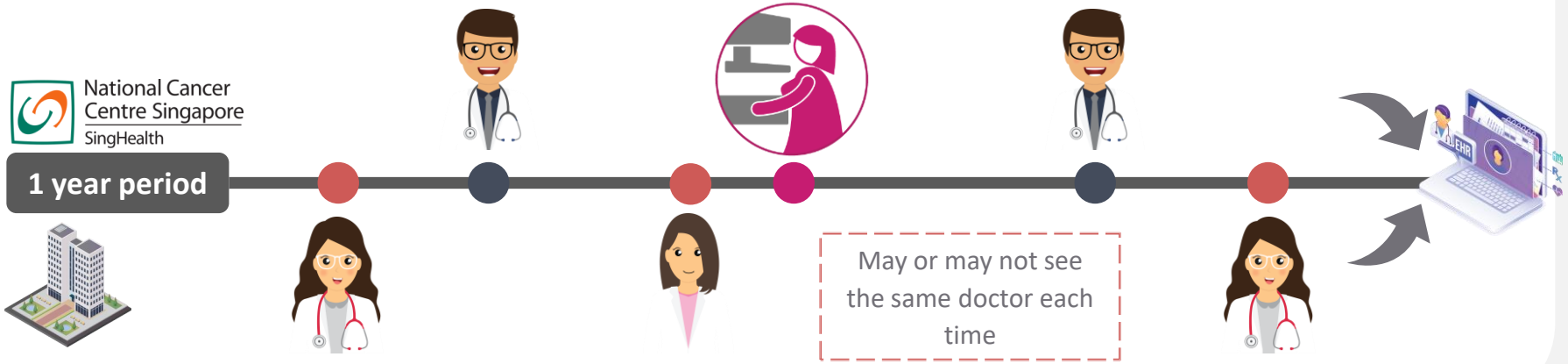
Polyclinics
SingHealth

General/ family physician

watsons

Community pharmacist

Usual care



Shared care

Clear roles & responsibilities distribution

Components of survivorship	Responsibilities	Oncologist	Family physician	Community pharmacist
Follow-up medical care	Assessment and management of toxicities	✓	✓	✓
	Management of comorbidities		✓	✓
	Caring for patient's psychosocial wellbeing (referral to psychosocial team)	✓	✓	✓
	Prescription of anti-cancer drugs	✓		
	Prescription of drugs for comorbidities		✓	
	Rapid access to oncologist (due to new symptoms)		✓	✓
Surveillance for new/ recurrent cancers	Perform breast examination	✓	✓	
	Assessing the need & scheduling for mammogram	✓		
	Ensuring patient has scheduled/ completed mammogram	✓	✓	✓
	Monitor for signs and symptoms of cancer recurrence/ secondary cancers	✓	✓	✓
Health promotion	Health promotion	✓	✓	✓
Care coordination	Development of survivorship care plan	✓		
	Updating survivorship care plan	✓	✓	✓

Drafting an initial research logic model

Determinants (CFIR)

Intervention characteristics
- Encouraging evidence from literature
- Trialable in small scale
- Moderate complexity: changing workflows, inter-setting

Outer setting
- Early adopters within same healthcare cluster/ prior experience
- Peer pressure exerted by other healthcare cluster
- Overarching Healthier SG initiative

Inner setting
- Positive tension for change (strain in tertiary setting)
- Cultural shifts required

Individual characteristics
- Unclear overall beliefs, knowledge, state of change among cancer survivors and HCPs
- Unclear if primary care providers are self-efficacious to manage cancer survivors

Strategies & Mechanisms

Support care providers
- Facilitate information relay through survivorship care plans

Promote communication in care teams to ensure care coordination

Develop stakeholder interrelations
- Identify & prepare champions
- Promote network weaving

Reinforce value, sustainability, communication

Train & educate stakeholders
- Develop & distribute educational materials
- Conduct educational outreach activity

Improve self-efficacy, enhance readiness

Restructuring roles/ workflows
- Creation of new pathways

Minimize complexity, reinforces efficiency while ensuring safety

Engaging end-users
- Publicity, roadshows,

Enhance uptake and adherence

Outcomes

Implementation
- Reach
- Adoption & appropriateness
- Cost
- Feasibility
- Fidelity

Service
- Safety
- Timeliness
- Patient-centeredness
- Effectiveness

Survivor outcomes
- Satisfaction levels
- Self-efficacy levels
- Quality of life
- Symptom burden

- **Combined synthesis of results from exploratory research & literature review**
- **A "roadmap" for subsequent implementation & evaluation – *What worked? For whom it worked? How did it work?***

1. Smith et al. **Implement Sci**. 2020;15(1):84

Evaluating a shared care model for breast cancer survivors in Singapore: a pilot randomized controlled trial

1. **Primary objective**: assess the feasibility and acceptability of a shared care model for breast cancer survivors in Singapore
2. **Secondary objective**: provide robust parameters estimation of clinical outcomes' standard deviations for sample calculation in the expanded trial

Design: pilot randomized controlled study
Study period: Mar 2021 to Jul 2022
Follow-up duration: every 3 months to 1 year

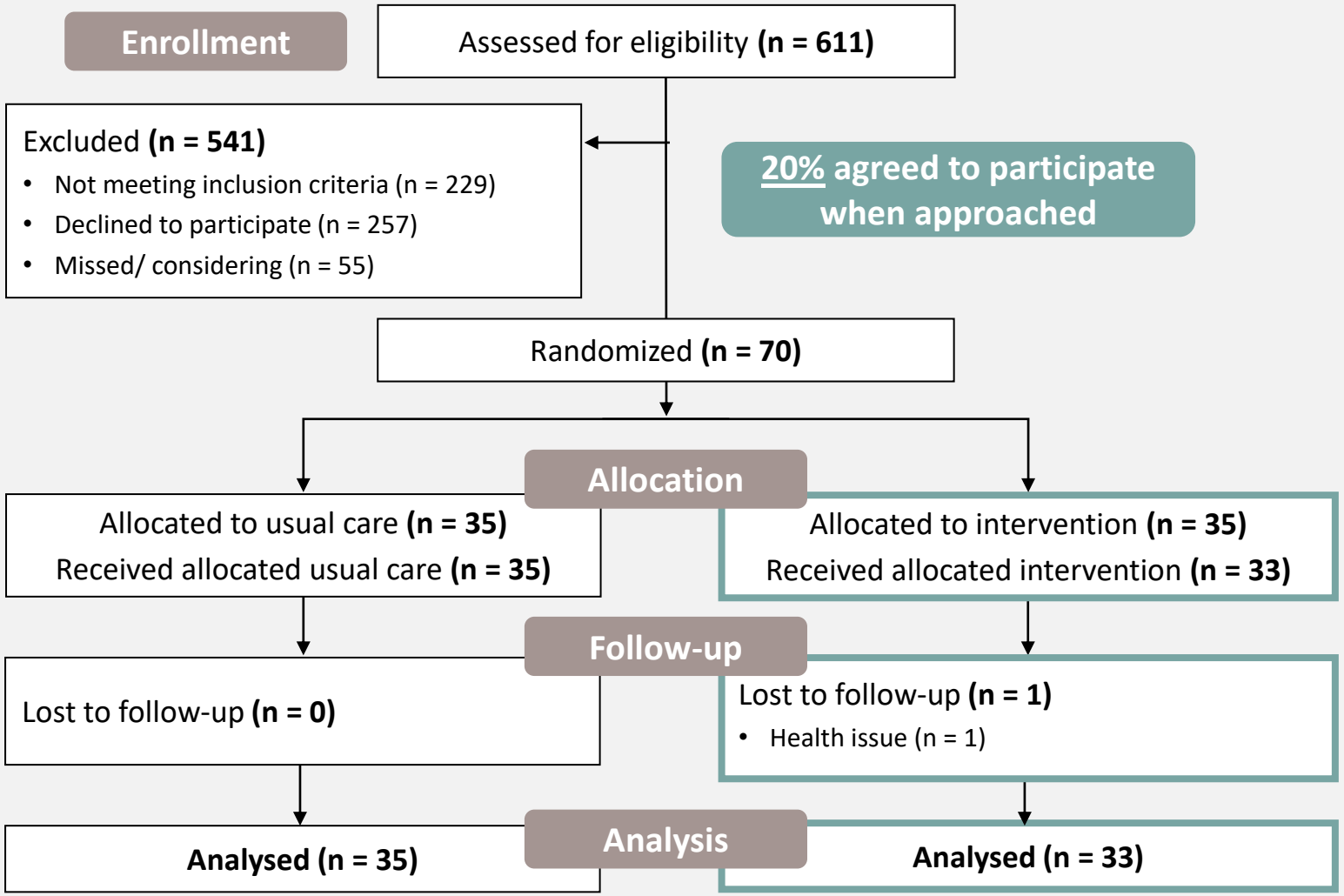
Participants: 1) ≥21 years, 2) breast cancer, 3) ≥3 years aft primary treatment, 4) ECOG 0-2, 5) **low-risk ascertained**, 6) understand English/ Chinese

Data collection: 1) EORTC QLQ-C30 questionnaire, 2) Rotterdam Symptom Checklist, 3) satisfaction questionnaire

Outcomes: 1) acceptability, 2) feasibility of model delivery, 3) preliminary estimates of effectiveness measures, 4) satisfaction

Data analysis: descriptive statistics

Shared care model is generally acceptable



Reasons for rejection (N = 217)

Category	Reasons, n (%)
Practical	1. **Busy, unable to commit**, n = 49 (22.6%) 2. Inconvenient polyclinic location, n = 37 (17.1%)
Care preferences	1. **Already has a regular primary care provider**, n = 42 (19.4%) 2. Low perceived utility of shared care, n = 14 (6.5%) 3. Not confident of family physicians, n = 5 (2.3%)

Participant characteristics

Characteristic	Intervention (N = 33)	Control (N = 35)	P
Age, mean ± SD	61.0 ± 6.2	60.9 ± 7.1	0.943
Race, n (%)			0.504
Chinese	29 (87.9%)	31 (88.6%)	
Malay	1 (3.0%)	2 (5.7%)	
Indian	0 (0%)	1 (2.9%)	
Marital status, n (%)			0.492
Single/ divorced/ widowed	13 (39.4%)	11 (31.4%)	
Widowed	20 (60.6%)	24 (68.6%)	
Private insurance, n (%)	13 (39.4%)	14 (40.0%)	0.959
Stay alone, n (%)	6 (18.2%)	3 (8.6%)	0.242
Education, years, mean ±SD	11.7 ± 4.5	10.3 ± 4.0	0.164
Employed, n (%)	23 (69.7%)	16 (45.7%)	**0.046**
Survivorship, >5 years, n (%)	30 (90.9%)	33 (94.3%)	0.594
Treatment received, n (%)			
Surgery	31 (93.9%)	33 (94.3%)	0.952
Radiotherapy	18 (54.6%)	15 (42.9%)	0.335
Chemotherapy	15 (45.5%)	23 (65.7%)	0.093
Endocrine therapy	18 (54.6%)	16 (45.7%)	0.467
Comorbidity status, n (%)			0.283
No chronic condition	10 (30.3%)	15 (42.9%)	
≥1 chronic condition	23 (69.7%)	20 (57.1%)	

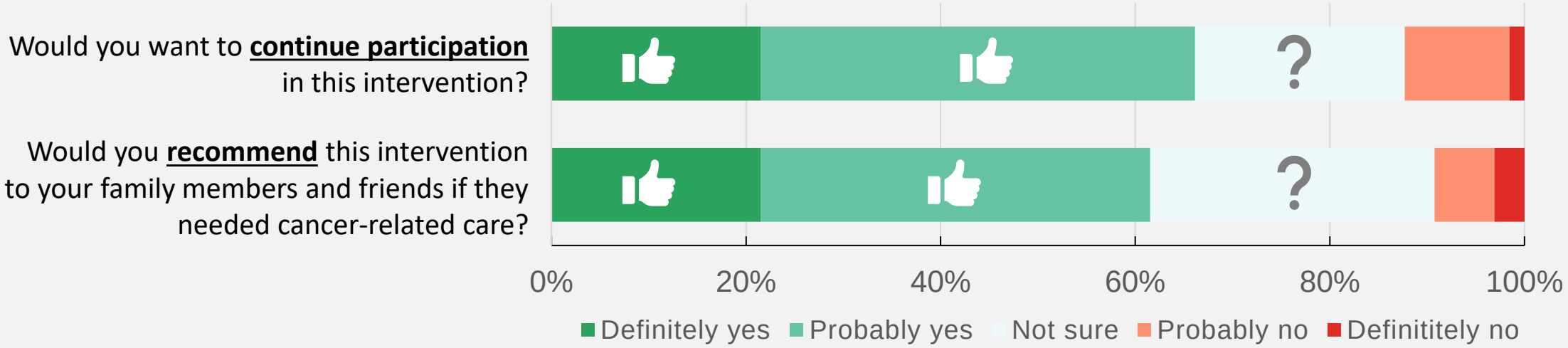
- ≥50 years old
- Received pre-university education on average
- >5 years after active treatment
- ≥1 of the common chronic conditions

Shared care is feasible in mobilizing survivors to engage with primary care

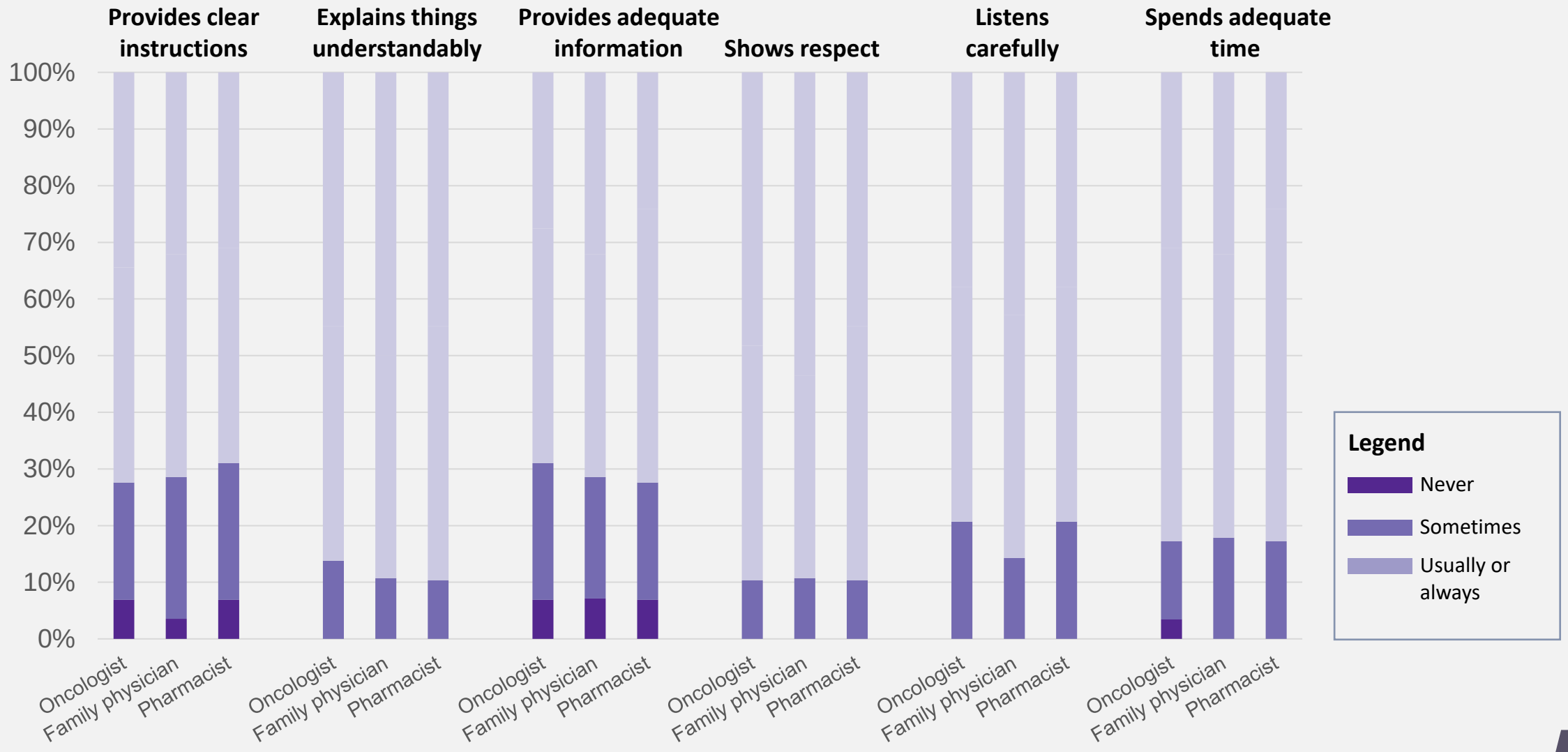
Indicator	Outcome (N = 33)
Number of polyclinic visits, median (range)	2 (0, 6)
Number of pharmacy consults, n (%)	
1-2 consults	4 (12.1%)
3 consults	29 (87.9%)

- Overall acceptability of **2 visits** per year to family physicians
- Telehealth could innovatively integrate **community pharmacists** into survivorship care provision

Behavioral intentions



Care experience was positive across all care providers

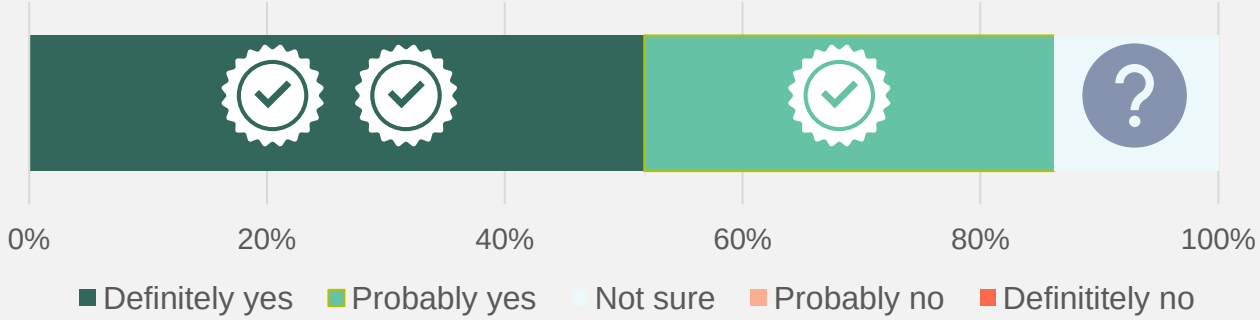


Signals for positive benefits of shared care

Outcomes	Raw score (SD)		Attributable difference (95% CI)	P value
	Intervention	Control		
Physical symptom distress levels				
Baseline	9.47 (10.75)	9.17 (9.11)	-	
3 months	6.32 (7.75)	7.25 (8.88)	-1.06 (-4.88, 2.76)	>0.999
6 months	6.76 (6.99)	8.03 (9.81)	-0.98 (-4.88, 2.92)	>0.999
9 months	6.79 (7.78)	6.32 (9.92)	-0.50 (-4.40, 3.40)	>0.999
12 months	6.50 (7.02)	11.96 (12.50)	-5.13 (-9.08, -1.19)	**0.005**

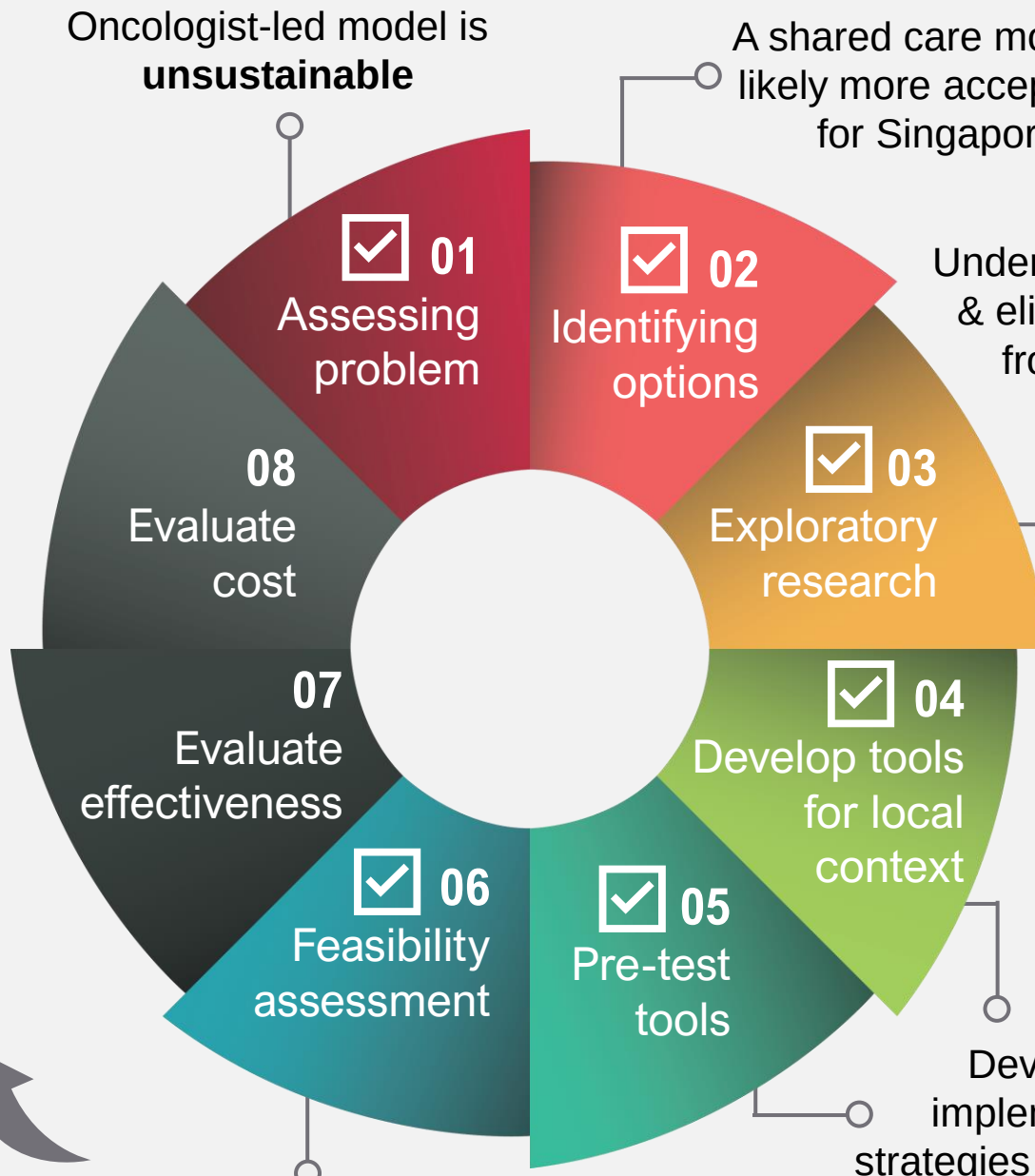
- The evaluated cohort was **well**, with high functioning and low distress.
- Shared care's positive effect on physical symptom distress may stem from **active co-management** of long-term treatment effects.

Improvement in self-efficacy from baseline



86% of participants agreed that they felt more confident in managing their health as compared to baseline.

Revisiting the framework for health service development & research



This pilot trial directly informs the design of an expanded trial and endpoint selection, including the positive trends observed for **physical distress levels** and **self-efficacy**.

1. Walley et al. **Health Res Policy Syst.** 2018;16(1):67

Reviewing our learning objectives

1. Define cancer survivorship and the underlying principles

- ☑ Cancer survivorship is a comprehensive and holistic concept
- ☑ Core components of cancer survivorship care

2. Discuss the roles community pharmacists can play in breast cancer survivorship

- ☑ Active surveillance, second cancer screening
- ☑ Medication compliance, optimization
- ☑ Informational support, lifestyle modification

Tap on existing strengths, upskill where necessary, grow in tandem with progress in profession

Reviewing our learning objectives

3. Describe strategies to optimize community pharmacists' role in a multidisciplinary care team for cancer survivors

- ☑ Clear roles & responsibility distribution → ***avoid duplicity/ confusion***
- ☑ Engage their perspectives on perceived barriers → ***recognize their voices***
- ☑ Targeted training and workflow support → ***provide assurance and instill confidence***
- ☑ Survivorship care plan → ***adequate information sharing and communication***

4. Discuss the types of resources commonly used to guide the implementation of health services involving pharmacists

- ☑ Framework for health service development & research
- ☑ RE-AIM framework
- ☑ Consolidated Framework for Implementation Research (CFIR)
- ☑ Implementation research logic model

Take home messages

- **New health services involving pharmacists will involve the health system and multiple disciplines** – *work collaboratively in your context*
- **Consider available evidence for your context** – *assess the need for additional preliminary studies*
- **Plan thoroughly and be flexible** – *expect the unexpected*
- **Be familiar with available research support** – *implementation scientists, statisticians, epidemiologists…*
- **Transforming both survivors' and community pharmacists' mentality of cancer survivorship as a specialized care area** – *work-in-progress*

Thank you!