

# Patient-mediated knowledge translation (PKT) interventions for clinical encounters: a systematic review

---

Anna R Gagliardi, PhD

Scientist, University Health Network

Associate Professor, University of Toronto

CIHR New Investigator (2008-2013)

# Learning objectives

1. Learn about a variety of approaches and strategies for engaging patients in their own health care
2. Understand how those approaches and strategies have been employed for patients with arthritis or cancer
3. Identify outcomes associated with these interventions
4. Discuss gaps in knowledge that warrant further research

# Overview of my research

## Guideline implementation

- Framework and considerations for developing guideline implementation tools
- Patient-oriented tools packaged in guidelines to promote self-management

## Knowledge translation/exchange

- KT mentorship scoping review and qualitative interviews
- Integrated knowledge translation scoping review

## Post-market surveillance of medical devices

- Mixed methods study of determinants of medical device purchasing, use, and patient engagement; and reporting and resolution of AMDEs

## Multidisciplinary teamwork

- Mixed methods study of determinants and impact of MDT on service delivery (wait times, # visits) in cancer diagnostic assessment programs

# Implement Sci 2016 - publication

Gagliardi *et al.* *Implementation Science* (2016) 11:26  
DOI 10.1186/s13012-016-0389-3

Implementation Science

SYSTEMATIC REVIEW

Open Access

## Patient-mediated knowledge translation (PKT) interventions for clinical encounters: a systematic review



Anna R. Gagliardi<sup>1\*</sup>, France Légaré<sup>2</sup>, Melissa C. Brouwers<sup>3</sup>, Fiona Webster<sup>4</sup>, Elizabeth Badley<sup>4</sup> and Sharon Straus<sup>5</sup>

# Co-authors

- France Légaré, Université Laval
- Melissa C Brouwers, McMaster University
- Fiona Webster, University of Toronto
- Elizabeth Badley, University of Toronto
- Sharon Straus, St. Michael's Hospital

# Implement Sci 2011 - protocol

Gagliardi *et al. Implementation Science* 2011, **6**:25  
<http://www.implementationscience.com/content/6/1/25>



IMPLEMENTATION SCIENCE

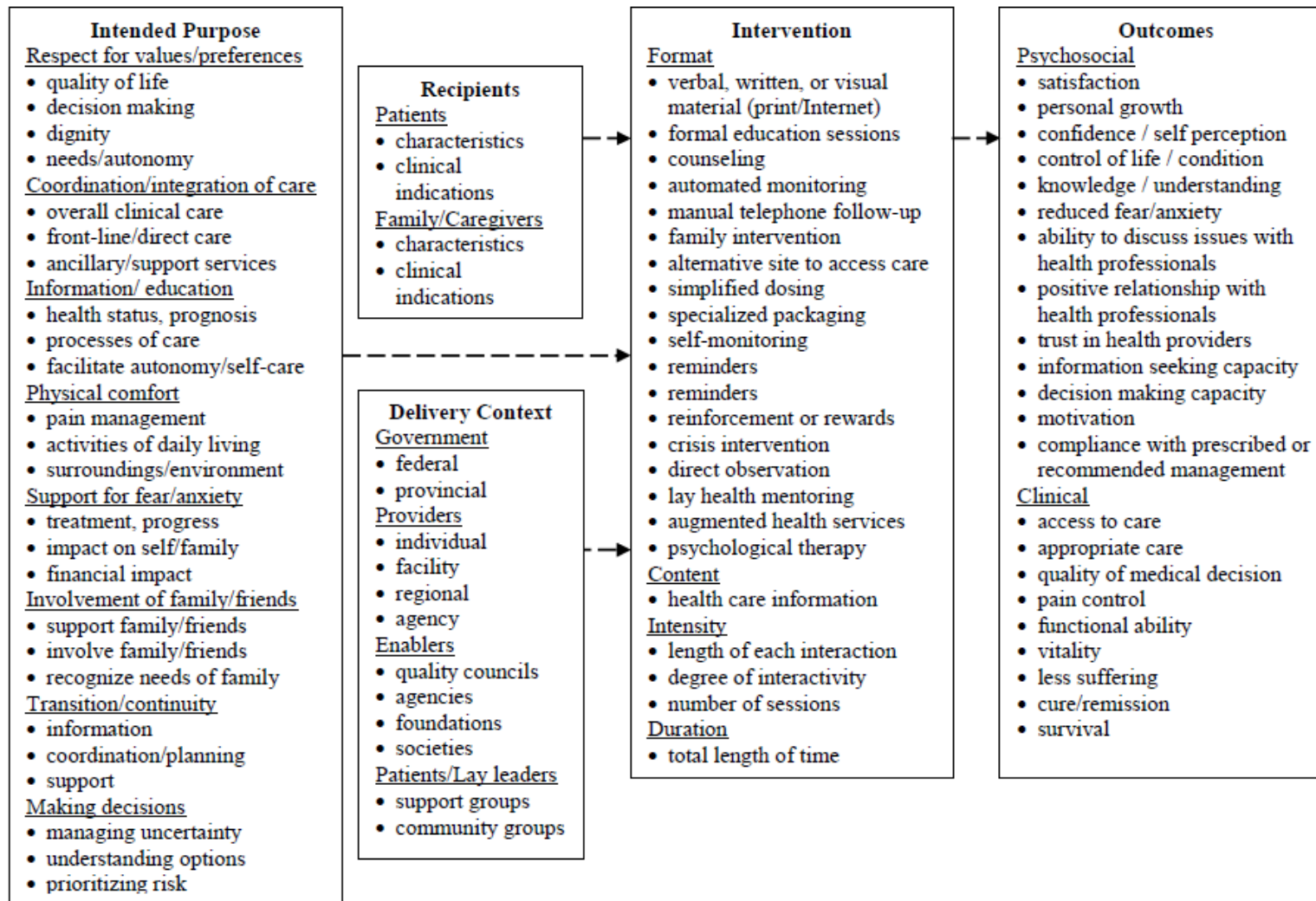
**STUDY PROTOCOL**

**Open Access**

Protocol: developing a conceptual framework of patient mediated knowledge translation, systematic review using a realist approach

Anna R Gagliardi<sup>1\*</sup>, France Légaré<sup>2</sup>, Melissa C Brouwers<sup>3</sup>, Fiona Webster<sup>4</sup>, David Wiljer<sup>5</sup>, Elizabeth Badley<sup>6</sup> and Sharon Straus<sup>7</sup>

# Protocol framework



# Changing patient behaviour

- Many advocate for tools/processes at the point-of-care to inform, educate and engage patients (Pronovost 2013, Greenhalgh 2014)
- Interventions aimed at patients and providers may be more effective than targeting one group alone (Légaré 2014)
- What are the interventions that can be aimed at patients?



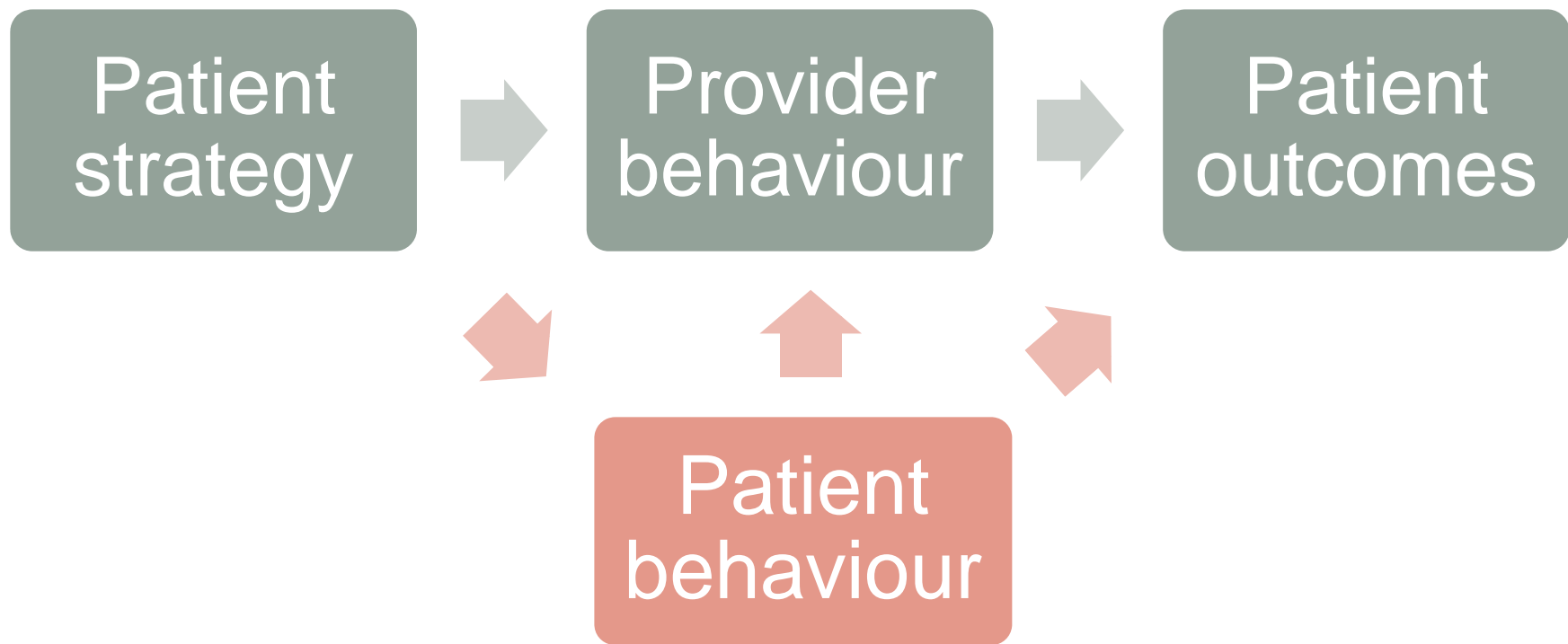
# Patient-mediated strategies

- Educational interventions aimed at patients could influence physician behaviour (Davis JAMA 1992)
- “Patient-mediated” first used (Oxman CMAJ 1995, Davis JAMA 1995)
- Any intervention aimed at changing the performance of providers for which information was sought from or given directly to patients
  - Clinical information collected from patients and given to the provider
  - Patient summaries, education, counselling

# Patient as external change agent



# Patient as target of change



# Intervention taxonomies - EPOC

Category	Intervention
Professional (patient-mediated)	Information collected from patients and given to providers (i.e. depression scores)
Patient	Premium, co-payment, user fee, financial or non-financial incentive, grant or allowance, penalty
Patient-oriented	Mail order pharmacy, patient suggestions or complaint mechanism, participation in governance
Self-management	Shifting responsibility for healthcare management to the patient and/or their family
Discharge planning	An individualized plan of discharge to facilitate the transfer of a patient from hospital to another setting
Patient-initiated appointments	Systems that enable patients to make urgent appointments when they feel they cannot manage their condition or when something has changed unexpectedly
Shared decision-making	Shared healthcare decision-making among different individuals, potentially including the patient

# Intervention taxonomies - ERIC

Intervention	Definition
Fees	Create fee structures where patients pay less for preferred treatments and more for less-preferred treatments
Educational meetings	Hold meetings targeted to different stakeholder groups including patients to teach them about the clinical innovation
Enhance uptake and adherence	Develop strategies with patients to encourage and problem solve around adherence
Involve patients and family members	Engage or include patients and families in the implementation effort
Obtain patient and family feedback	Develop strategies to increase patient and family feedback on the implementation effort
Prepare patients to be active participants	Prepare patients to be active in their care, to ask questions, and to enquire about guidelines, evidence behind clinical decisions
Mass media	Use media to reach large numbers of people to spread the word about the clinical innovation

# Patient- or Person-centred care

- Design of patient care wherein institutional resources and personnel are organized around patients rather than around specialized departments (MeSH 1995)
- No standard definition or taxonomy of interventions (Rathert 2015)
  - Respect for patient preferences, values, and expressed needs
  - Information, education, and communication
  - Emotional support
  - Involvement of family and close others
  - Physical comfort
  - Coordination and integration of care and services
  - Continuity and transition from hospital to home
  - Access to care and services

# Patient- or Person-centred care

- Design of patient care wherein institutional resources and personnel are organized around patients rather than around specialized departments (MeSH 1995)
- No standard definition or taxonomy of interventions (Rathert 2015)
  - **Respect for patient preferences, values, and expressed needs**
  - **Information, education, and communication**
  - **Emotional support**
  - **Involvement of family and close others**
  - Physical comfort
  - Coordination and integration of care and services
  - Continuity and transition from hospital to home
  - Access to care and services

# Providers support for PCC

- Hospitals with higher inpatient experience scores (Aboumatar 2015)
  - Patient information boards in patient rooms, multidisciplinary rounds, discharge folders, post-discharge telephone calls
  - Training and incentives for providers to deliver PCC



# Objectives

- To identify and describe effective strategies for patient-mediated knowledge translation (PKT)
- Strategies that engage patients in their own health care
  - Direct – influence patients
  - Indirect – influence providers

# Design / Scoping

- Systematic review using standard methods, PRISMA reporting criteria
- Clinical encounters
  - Directly before, during and upon conclusion of clinical encounters
  - Community- or hospital-based physician office setting
  - Focused on discussions about treatment/management
- Arthritis (osteo/rheumatoid) and cancer (breast/prostate)
  - Contrast chronic and acute conditions
  - Explore variable care delivery, patient engagement and outcomes

# Eligibility

- Patients
  - 18+ with arthritis (osteo/rheumatoid) or cancer (breast/prostate)
- Intervention
  - Delivered to patients before (i.e. question prompt), during (i.e. decision aid), or upon conclusion (i.e. summary) of a single visit by a physician, clinician or other staff
  - Prompt, incentive or other intervention for providers
- Comparisons
  - Single or multiple PKT interventions alone, or compared with usual care/control, another PKT intervention or other type of intervention
- Outcomes
  - Any reported impact including patient or provider behaviour and outcomes including benefits and harms

# Searching / Screening

- MEDLINE, EMBASE, Cochrane Library
- Eligible study references
- 2005 to 2014 inclusive
- English language
- Titles/abstracts and full text screened in duplicate

# Data extraction

- Duplicate data extraction
- Study characteristics
  - Publication date, country, design, number/type participants
- Intervention characteristics
  - Content, delivery, duration/timing, personnel, participants
  - Explicit mention of theory used to design or evaluate intervention
  - Interventions to prepare clinicians to deliver the PKT intervention
- Impact
  - Benefits/harms experienced by patients and/or providers
- Quality assessment
  - Cochrane Collaboration Risk of Bias, Downs and Black

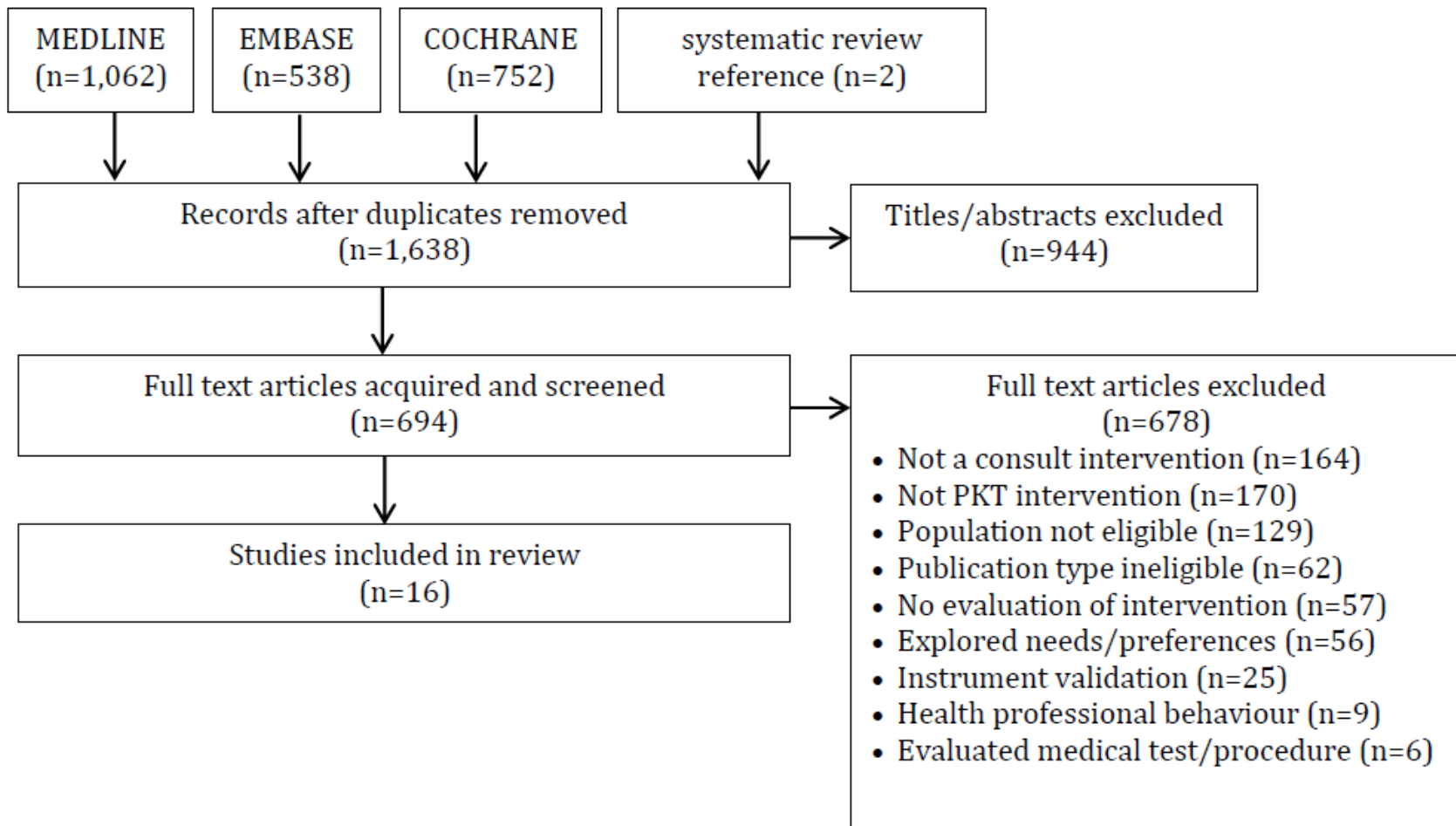
# Analysis

Type of engagement <sup>a</sup>	Type of support <sup>b</sup>	Examples
<b>Inform</b>  Text based information that provides patients with knowledge about their condition and an understanding of how to manage it	Condition and treatment	Information and evidence about the condition, prognosis, what to expect, and its management
	Activities of daily living	Information and advice on how to undertake generic activities such as hygiene, dressing, preparing meals, transportation
	Lifestyle advice	Information and guidance on lifestyle behaviours that support disease management
<b>Activate</b>  Text based prompts or tools to prompt action for actively managing the condition and enhancing quality of life	Decision aids	Informational resources that help people consider the benefits and harms of treatment options
	Lifestyle monitoring	Reminders, diaries or other prompts to support adherence to medication or recommended lifestyle behaviours
	Action plans for condition	Guidance specific to medical condition signs of worsening condition, how to self-adjust treatment, and response if deterioration continues
	Physiological monitoring	Self-evaluation tools to log and monitor physiological measures for personal assessment, and to share with clinicians
	Psychological strategies	Mechanisms for problem-solving, goal-setting, reframing, relaxation
<b>Collaborate</b>  Text based links, prompts or tools that lead to interaction and engagement	Communication with providers	Guidance and prompts to facilitate communication with health care professionals
	Available resources	Links to or contact details for organizations that offer information, psycho-social support, or financial aid
	Social support	Links to or contact details for organizations that offer support, mentoring, or socializing

<sup>a</sup> Carmen 2013, Grande 2014, Coulter 2007

<sup>b</sup> Taylor 2014

# Eligible studies



# Study characteristics

Descriptor	Arthritis studies	Cancer studies
Number	5	11
Publication dates	2007 to 2012	2005 to 2013
Country	4 US, 1 UK	6 US, 1 each Canada, China, France, Netherlands, UK
Study design	5 RCTs, 1 cohort	8 RCT, 3 cohort
Risk of bias	RCT (1 low, 3 high) Cohort (low)	RCT (2 low, 3 unclear, 3 high) Cohort (low)



# Intervention design and delivery

- 1 study explicitly cited a theory upon which the intervention was based (Theory of Planned Behaviour, Common Sense Model of Illness)
- Patient interventions were delivered by physicians, nurses, health educators, research personnel, trained volunteer
  - Before/upon conclusion of visits (14/16)
  - By researchers or health educators (9/13)
- No studies included interventions aimed at clinicians or organizations

# Type of interventions

Engagement	Support	Intervention	Arthritis (5)	Cancer (11)
Inform	Condition and treatment	Brochure, booklet, print material, video, computer program, web site, list of web sites, counselling	3	8
	Activities of daily living	None	---	---
	Lifestyle advice	Print material, video	1	1
Activate	Decision aids	Brochure, booklet, video, computer program, web site, list of web sites	3	6
	Lifestyle monitoring	Print material, counselling	---	2
	Physiological monitoring	None	---	---
	Action plans for condition	None	---	---
	Psychological strategies	None	---	---
Collaborate	Communicate with providers	Brochure, print material, video, computer program, counselling	---	5
	Available resources	None	---	---
	Social support	None	---	---

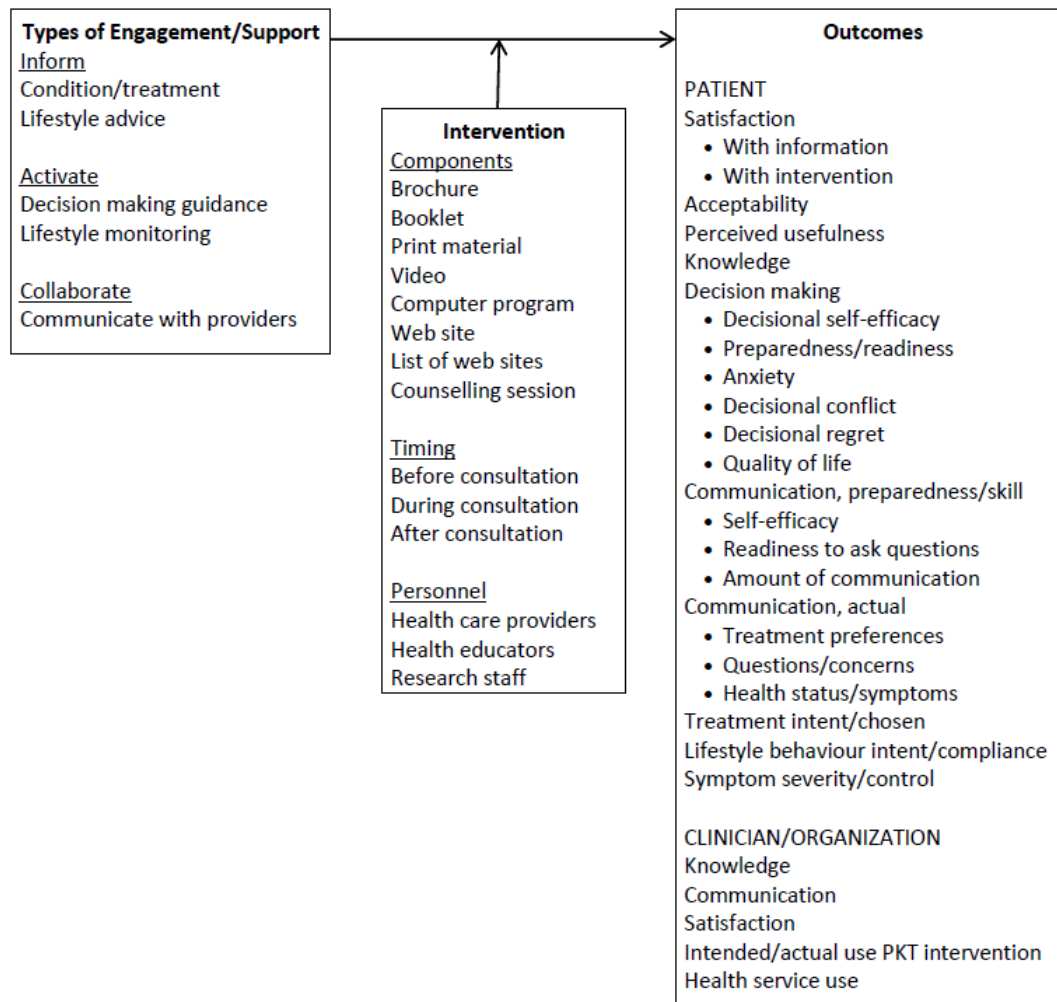
# Influence of design on outcomes

Condition	Intervention	Timing	Engagement (support)	Outcome
<b>SINGLE (10)</b>				
Cancer	Booklet	After	Inform (condition), activate (decision aid)	+
Arthritis	Video	Before	Activate (decision aid)	+
Cancer	Print material	During	Inform (condition, lifestyle advice) Activate (lifestyle monitoring)	+
<b>MULTI (6)</b>				
Cancer	Computer program, list of web sites	After	Inform (condition)	+
Cancer	Computer program, list of web sites, brochure	Before	Inform (condition) Activate (decision aid) Collaborate (communication)	+/-

# Intervention outcomes

- 7 studies that assessed patient satisfaction reported favourable views
- No studies assessed patient harms
- 2 studies assessed impact on clinicians/organizations
  - Intent to provide patients with print material dropped from 92% at launch to 64% upon study completion (not relevant, could not be tailored, too long)
  - CD-ROM and list of web sites did not reduce number of visits to oncologist or time spent with oncologist compared with controls

# PKT interventions for clinical encounters



# Brief summary

- All interventions achieved positive impact on at least one outcome measured
- Most interventions were single print or electronic material to inform and activate
- Conceptual framework
  - Recognizes more patient-oriented interventions than previous taxonomies
  - Can be used in future to plan or evaluate PKT interventions

# Limitations

- Search strategy may not have identified all studies
- Publication bias for positive studies
- Stringent inclusion/exclusion criteria
- Few studies (n=16)
- 9/16 had unclear or high risk of bias
- 1/16 employed theory
- Heterogeneity of interventions precluded data pooling

# Ongoing research

- Gaps in types of interventions (reviews, primary research)
- Few interventions delivered during visits and no interventions aimed at providers (organizational resources and support)
- No link between type of PKT intervention and specific outcomes (other conditions, settings)





Many thanks for your kind attention

[anna.gagliardi@uhnresearch.ca](mailto:anna.gagliardi@uhnresearch.ca)