

Inside Help:
A Systematic Review of Champions
in Healthcare-Related Implementation

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HSR&D Center for Health Information & Communication

Indianapolis, IN

HSR&D Cyberseminar

June 2, 2016

Cyberseminar Overview

- I. Background
- II. Design & Methods
- III. Preliminary Findings
- IV. Discussion and Reflection
- V. Q&A

Background

- Several hundred published studies related to implementation efforts within healthcare over the last two decades refer to the role of “champion”
- Idea that champions are crucial to effective implementation appears to have gained broad acceptance

Background: Challenges

- Different terms have been used over the last twenty years in the published literature to refer to the underlying construct of “champion”
 - Examples: “change agent” and “opinion leader”

Background: Challenges

- Many variations on the term “champion” itself have appeared in the literature
 - clinical champion
 - program champion
 - internal champion
 - change champion

Background: Challenges

- Champions also surface across the implementation spectrum
 - sometimes as part of an intervention
 - sometimes as part of an implementation strategy
 - sometimes as neither
 - reside “naturally” in context where implementation occurs

Goals

1. Bring greater clarity to an important construct in implementation science that has been hampered by inconsistent use across the published literature
2. Establish the current state of the literature on this key construct

Conceptual Framework

- The Consolidated Framework for Implementation Research (CFIR) served as the conceptual and theoretical framework guiding this systematic review
 - draws upon twenty years of published literature in implementation research
 - contextualizes the construct of “champion” within larger context of implementation science
 - “champion” one of 39 different constructs in the CFIR
 - falls within CFIR domain of “Implementation Process”

Conceptual Framework

- Champion description in original 2009 CFIR article:
 - 'Individuals who dedicate themselves to supporting, marketing, and 'driving through an [implementation]', overcoming indifference or resistance that the intervention may provoke in an organization. A defining characteristic of champions is their willingness to risk informal status and reputation because they believe so strongly in the intervention. The main distinction of champions from opinion leaders is that champions actively associate themselves with support of the intervention during implementation. There is the old adage that an intervention 'either finds a champion or dies.' (Damschroder et al, 2009)

Definition

- Implementation-related role occupied by people who
 - are internal to an organization
 - have an intrinsic interest and commitment to implementing a change
 - work relentlessly toward adoption
 - are enthusiastic, dynamic, energetic, personable, and persistent

Design & Methods

- Inclusion Criteria:

- peer-reviewed
- English-language journals
- published from 1980 to 2014
- indexed in MEDLINE and
- accessible in full-text format

NOTE: articles could be from any country as long as they met all inclusion criteria

Design & Methods

- Exclusion Criteria:
 - only written in a language other than English
 - appeared in journals that were not peer-reviewed
 - reported no data or outcomes
 - review articles
 - not retrievable in a full-text version or
 - published before 1980 or after 2014

Design & Methods

Screening

- Lead investigator (EJM) searched online MEDLINE database via OVID and PubMed using following keywords:
 - champion, implementation leader, opinion leader, facilitator, change agent
- When MEDLINE search results yielded abstract that potentially met inclusion criteria, lead investigator retrieved and reviewed full text of article and conducted a second screening

Design & Methods

- Screening
 - Full text articles that passed second screening forwarded to study team for data abstraction
 - As a supplemental search strategy, bibliographies of full-text articles that met inclusion criteria were also reviewed for additional references not yet identified via the main strategy of conducting keyword searches in MEDLINE

Design & Methods

- Data Abstraction
 - A five-member doctoral-level team abstracted all full-text articles meeting inclusion criteria using a 27-field standardized NVivo10 template
 - basic bibliographic information
 - whether or not the article met specific inclusion criteria
 - terms used in study for champion
 - study design
 - conceptual framework of study
 - outcomes associated with champion activities

Design & Methods

- Data Abstraction
 - To ensure consistent abstraction of articles across study team members, a second reviewer independently and blindly extracted 15% of all articles that met inclusion criteria
 - Questions or disagreements among the study team related to data abstraction were resolved by discussion and consensus

Design & Methods

- Data Synthesis
 - Extracted data for all articles meeting inclusion criteria were merged into a single, unified NVivo10 project file
 - allowed the creation of tables and matrices that summarized the data in both quantitative and qualitative format
 - Results of these analyses led iteratively to an overall synthesis of the role of the champion in healthcare-related implementation in the published literature

Design & Methods

- Funding
 - internal funding provided by VA Stroke QUERI Center based at the Roudebush VAMC in Indianapolis (STR-03-168)

Design & Methods

- Project Team
 - Edward J. Miech
 - Teresa M. Damush
 - Nicholas Rattray
 - Mindy E. Flanagan
 - Laura Damschroder
 - Arlene Schmid

Preliminary Results

- 138 unique first authors listed across 144 articles
 - no single author stood out from the rest as closely identified with champion research
- Most of the articles considered champions as one of several implementation components or organizational factors that could potentially mediate or moderate a study's main outcomes
 - champions did not constitute the central focus of the study

Preliminary Results

- Over time number of articles explicitly focused on champions themselves has markedly increased, accompanying jump in number of champion articles in general
 - term “champion” itself did not appear in the title of any articles that met inclusion criteria between 1980 and 2008 during entire first half of systematic review’s 35-year timeframe
 - in 2009 term “champion” surfaced in article titles three times and then at least once every year thereafter, including five times in 2012

Preliminary Results

- Many different variations on the term “champion” itself appeared across the articles
 - Some descriptors topic-related
 - hand-washing champion, guideline champion, program champion
 - Some linked to specific job positions
 - physician champion, nurse champion
 - Some to broader organizational roles
 - executive champion, clinical champion
 - especially in studies where multiple champions operated simultaneously at single sites

Preliminary Results

- Alternative Terms for Champion
 - Terms other than “champion” appeared in the literature to refer to this construct
 - change agent, opinion leader, advocate, liaison, facilitator, main supporter, practice leader, key influencer, cheerleader, key stakeholder
 - Authors who employed these alternative terms typically used them instead of champion

Preliminary Results

- Alternative Terms for Champion
 - A notable exception to this pattern of substitution involved the alternative term “opinion leader”
 - Authors on multiple occasions applied the term “opinion leader” and “champion” in the same study to refer to the same person, often in the same sentence

Preliminary Results

- Champions & Opinion Leaders: Two Terms, Same Construct
 - an intervention arm of a trial of guideline dissemination in surgery was randomized to a web-based resource “championed by opinion leaders” [Rycroft-Malone, 2012]
 - program designed to help nurses detect delirium superimposed on dementia relied on “unit champions,” defined as “local or external opinion leaders who are seen by others as trustworthy and who can persuade others to implement evidence-based practice” [Yevchak, 2014]

Preliminary Results

- Authors used various approaches for operationalizing “champion” in order to incorporate champions into their analyses

Preliminary Results

- Most common method across studies was use of dichotomous variable for champion “presence or absence”
 - employed in over 90% (133/144) of articles
 - most of these articles simply designated if a champion was present or not
 - a few studies further explicitly operationalized the dichotomous variable as the presence or absence of an effective champion, with effectiveness defined with the context of the individual study [Pare, 2011; Kawhati, 2011]

Preliminary Results

- A few articles operationalized champions in non-dichotomous ways based on skills or effectiveness:
 - introducing an intermediate value midway between present and absent to designate champions with limited influence [Goodson, 2001] or “questionable effectiveness” [Hopkins, 2012]
 - using a performance index that ranged continuously between 0 to 1 based on the presence or absence of six champion components [Valois, 2000]

Preliminary Results

- A few articles operationalized champions in non-dichotomous ways based on skills or effectiveness (cont.):
 - rating champions from 1 (low) to 5 (high) based on degree of leadership and advocacy effectiveness [Aagaard, 2010]
 - rating champions on a 5-point scale between -2 and +2 based on the relative strength (strong or weak) and direction (positive, negative, or neutral) of their influence on implementation [Damschroder & Lowery, 2013]

Preliminary Results

- Random Allocation of Presence or Absence of Champions
 - About 3% of all of champion studies (4 of 144) randomly allocated the presence or absence of a champion
 - 3 of these studies randomly allocated champions within a randomized-controlled trial (RCT)
 - 1 used a quasi-experimental design
 - All 4 studies conducted outside of the United States

McCabe et al. 2013

- Australian study published in 2013 of a multicomponent staff education intervention to improve staff detection of depression in residential aged care settings
 - three-arm randomized-controlled trial with randomization carried out at facility level
 - intervention group (n = 2 facilities) vs control group (n = 3) vs “intervention plus” group (n=3)
 - “intervention plus” = educational intervention enhanced by the addition of a screening process and the formal identification and designation of a “study champion”

McCabe et al. 2013

- Champion group outperformed the control group (87% vs 43%, $p < 0.001$) and the intervention-only group (87% vs. 52%, $p < 0.001$) in terms of correctly identifying depression among depressed residents
- However, both control group (91% vs 28%, $p < 0.001$) and the intervention-only group (80% vs 28%, $p < 0.001$) outperformed the champion group in terms of correctly identifying no depression among non-depressed residents

Acolet et al. 2011

- RCT involving 180 neonatal units in the UK
 - control arm (n=93) where clinicians received information about evidence-based preterm baby care for babies born with a gestation period of fewer than 27 weeks through passive dissemination channels (sent copy of report, slides, position statement)
 - active arm (n=87) where the same information dissemination activities were enhanced through the recruitment and training of volunteer clinicians in those units to act as champions for the active dissemination and local implementation of evidence-based preterm baby care

Acolet et al. 2011

- Champion arm outperformed the control arm in admitting babies to the neonatal intensive care unit with a higher temperature (mean difference=0.29 Celsius; $p=0.03$) and in being more likely to have the baby's trunk delivered in a plastic bag (RR=1.27, $p=0.04$)
- Differences between champion and control groups were not significant in terms of likelihood of giving surfactant to babies in the labor ward (RR=1.30, $p=0.06$) or having an ideal resuscitation team at birth (RR=1.18, $p=0.09$)

Preliminary Results

- Calculating a summary statistic of the effect of champions based on these four studies not indicated
 - small number of studies
 - broad contrast in settings
 - diverse research questions and outcome measures
 - different types of champions
- Collectively demonstrate feasibility of random allocation of presence and absence of champions within broader context of healthcare

Preliminary Results

- Other champion articles represented the full spectrum of designs used in implementation research and health services research
 - case studies, cross-case comparisons, surveys, interview studies, formative evaluation, program evaluation, pre/post repeated measures design, Qualitative Comparative Analysis, action research, quality improvement, demonstration projects, and secondary data analyses

Preliminary Results

- More than 80% of champion articles in systematic review (n=119) involved the identification of champions as one of several key factors associated with implementation success
 - “Effective leadership, **the presence of a system champion**, availability of technical training and support, and adequate resources are essential elements to the success of the EMR” [2000 Wager]
 - “A focus on patient satisfaction, **the presence of a team champion**, and the involvement of the physicians on the team were each consistently and positively associated with greater perceived team effectiveness” [2004 Shortell]
 - “Contributions to success included having **a protocol champion**, a sepsis education program, and a nurse educator “[2010 Nguyen]
 - “Factors significantly associated with high implementation were high level of involvement from the administrator or director of nursing, high level of nurse manager participation, presence of in-house dietitian, high level of participation of staff educator and QI personnel, **presence of an internal champion**, and team’s openness to redesign” [2013 Sharkey]

Solo vs Multiple Champions

- Five articles raised questions about effectiveness of a solo champion, finding instead that multiple champions had to work simultaneously in a coordinated way at a single site in order for implementation success to occur
 - Damschroder (2009) found that “it was possible for a single well-placed champion to implement a new technology, but **more than one champion was needed when an improvement required people to change behaviours**. Although the behavioural change itself may appear to be an inexpensive and simple solution, implementation was often more complicated than changing technology because behavioural changes required interprofessional coalitions working together”

Solo vs Multiple Champions

- Soo (2009) found that **multiple champions had to leverage their respective organizational position and networks to forward the implementation process**, including executive champions who held senior leadership positions within the organization; managerial champions who were responsible for managing clinical departments, wards or units; and clinical champions who were front-line clinicians
- Marsteller (2012) found that small office practices most likely to engage in QI practices successfully “had **a strong physician champion determined to make quality improvement changes and a strong office manager** (in offices with multiple staff members) **equally determined to make changes**”

Solo vs Multiple Champions

- Shaw (2012) found that ambulatory practices with **two discrete types of champions - project champions and organizational change champions** – were most successful in implementing and sustaining diabetes care processes
- Kuehl (2013) found that a “Champ-and-Chief Model” directly connected to successful implementation of a firefighter wellness program, **requiring both the presence of an enthusiastic local champion along with a fire chief** who was willing to grant permission for the program to proceed

Champion Activities

- tenaciously advocating for an initiative within the work environment
- facilitating reflection
- serving as team leader
- engaging in planning activities
- educating and training staff about the initiative
- making a business case to leadership
- persuading staff that the initiative was important and worthwhile
- using data to persuade peers
- troubleshooting problems that emerged during implementation

Champion Characteristics

- negotiation skills
- communication across organizational boundaries
- enthusiasm and energy to drive the implementation process
- fully understanding both the initiative and the local context
- maintaining a positive focus
- strong educator and presentation skills
- a personal belief in the initiative and commitment to its successful implementation
- being personable, respected, credible and well-liked by peers
- having political acumen

Psychometric Studies

- In terms of psychometric studies and instrument development, 3 secondary data analyses examined validity and reliability of champion construct as an item measure or subscale within a broader measure of organizational readiness
- No studies in the review involved the development or validation of a standardized instrument that could identify champions, measure champion effectiveness or differentiate among champion types

Discussion and Reflection

- An inflection point in champion research appeared to take place in 2009, when champions appeared to start to become the focal point of studies themselves
- That year the term “champion” first appeared in the titles of articles; studies on multiple champions were first published; and the seminal article introducing the Consolidated Framework for Implementation Research appeared in *Implementation Science*, identifying champions as one of 39 key constructs linked to implementation success

Discussion and Reflection

- The number of champion articles was about to spike sharply upwards, tripling in 2010-2014 over the previous five-year period and reaching a total of nearly a hundred articles
- Champions began to move from the left side of the equation to the right, becoming an outcome of interest in their own right in addition to being studied as mediators and moderators of implementation success

Discussion and Reflection

- Evidence from the handful of trials with random allocation of the presence of absence of champions were generally positive but mixed
- Nearly all studies reporting odds ratios for champions found positive and significant associations with implementation outcomes
- More than 80% of champion articles identified champions as one of several key factors associated with implementation success

Discussion and Reflection

- Individual champion studies consistently found that champions were important to implementation
- Considered together, these studies collectively point to champions as a “necessary but not sufficient” condition for implementation success
 - Champions alone were inadequate to bring about change **yet in combination with other factors** proved essential to implementation success

Limitations

- Included only articles published in English and did not benefit from work on champions published in other languages
- Focused entirely on champions in healthcare settings, and did not integrate findings on champions from fields and disciplines not indexed in MEDLINE
- Despite best efforts search strategy likely missed articles that could have met inclusion criteria due to wide variation in terms being used to refer to underlying champion construct
- Not able to isolate or calculate an effect size for champions due to the small number of studies with random allocation of the presence and absence of champions

Next Steps for Research on Champions

- examine how and why champions are so important to implementation by conducting additional studies with random allocation of the presence and absence of champions
- expand upon and extend the excellent in-depth qualitative work already conducted in studies like Damschroder 2009, Soo 2009 and Henry 2012
- using set-theoretic approaches like Qualitative Comparative Analysis, as in Kahwati 2011
- operationalize champions using methods more nuanced than presence/absence such as those outlined in Damschroder & Lowery 2013
- use new approaches like Process Tracing that have not yet been applied to the champion literature
- develop a valid and reliable champion measure

Q & A

Selected References

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June 2, 2016

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