

Implementing evidence based healthcare through clinical networks

How can they be optimised as implementation vehicles?

Thank you to the Agency for Clinical Innovation – Network Managers, Chairs, Members, and Agency Executive.

Associate Professor Mary Haines

Director Implementation Research Group

17 September 2014

2nd Biennial Australian Implementation Conference 2014

NHMRC Partnership Grant ID: 571447 funded by the NHMRC and the Agency for Clinical Innovation

The Research Team

- **Sax Institute** Mary Haines, Sally Redman, Bea Brown, Amanda Dominello, Deanna Kalucy, Emily Klineberg
- **Agency for Clinical Innovation** Peter Castaldi, Carol Pollock, Hunter Watt, Kate Needham, Nigel Lyons
- **University of Sydney** Jonathan Craig, Elizabeth Elliott
- **University of Newcastle** Cate D'Este, Rob Sanson-Fisher, Chris Paul, Patrick McElduff
- **University of Melbourne** Anthony Scott
- **Australian Catholic University** Sandy Middleton, Elizabeth McInnes
- **University of California Los Angeles** Elizabeth Yano

What was known on this topic prior to this study

- The next frontier for evidence-based health care is to develop the science of its implementation into routine care across health systems
- Internationally, clinical networks are viewed as important organisational vehicles to implement evidence-based care into health systems
- Anecdotal and descriptive studies suggest that clinical networks can engage clinicians to implement evidence-based practice across their health systems in singular clinical areas (e.g. cancer and neonatal care)
- There are very few studies which focus on networks' effectiveness to implement evidence based care operating in large health systems that span multiple clinical disciplines across a geographical region

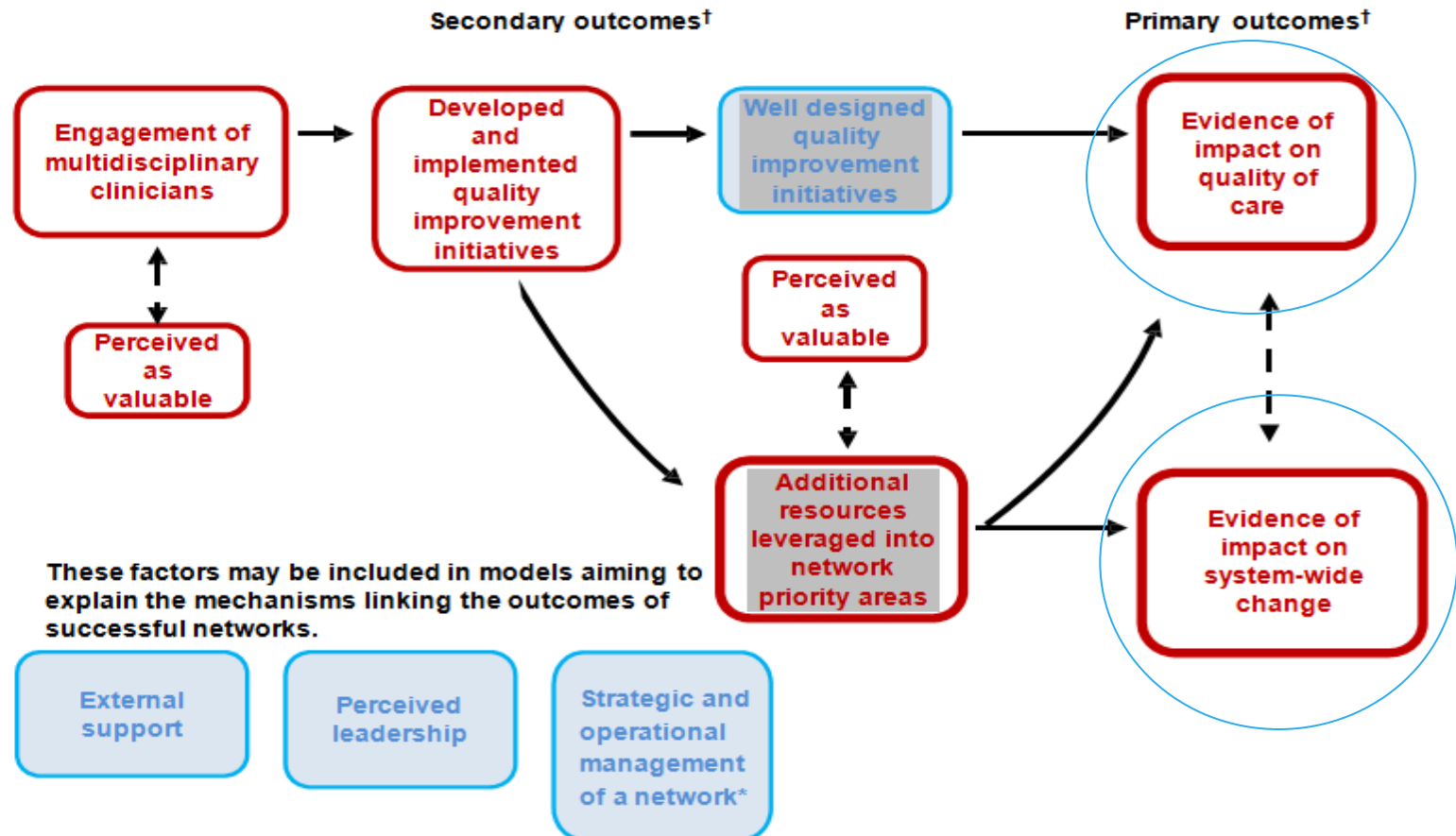
What is a clinical network?

- Voluntary groups of health professionals working in a co-ordinated manner to ensure provision of high quality and effective clinical services
- Clinical networks can provide 'bottom up' views on the best ways to tackle complex healthcare problems and can facilitate or champion change in practice at the clinical interface
- NSW state-funded clinical networks have a *system-wide focus* where clinicians identify and *advocate for models of service delivery* (e.g., outreach services, new equipment and technology) and *quality improvement initiatives* (e.g., guideline development and dissemination; training and education for health professionals) in specialty health service areas that serve a population of 7.3 million people
- The clinical networks facilitate implementation of agreed-upon changes in collaboration with other associated organisations

Objective and Hypothesis

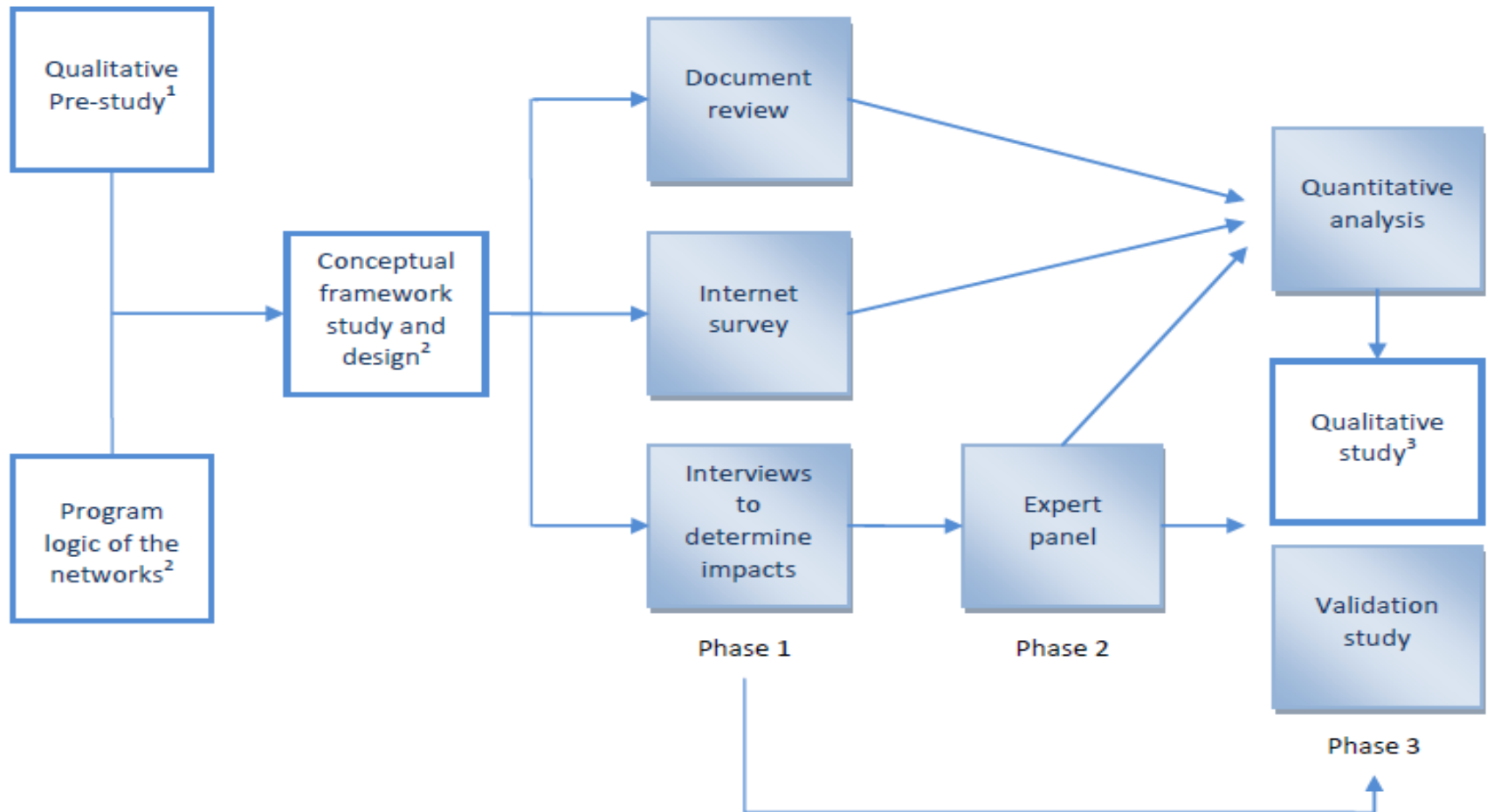
- **Objective:** To examine factors that contribute to the success of clinical networks
- **Hypothesis:** Clinical networks would be more successful if they had:
 - A high level of external support (from regional authorities, hospital management)
 - Effective organisation (strong clinical leadership, strategic and operational management)

Conceptual Model^[2]



- Shaded blue boxes= Explanatory factors
- Unshaded red boxes= Outcome factors
- Grey internal shading= Variables for which there were ceiling effects in main study. These were further assessed in the qualitative validation study
- *Label changed to more accurately reflect what was measured
- †See Additional files 1 & 2 for definitions & description of how variables were measured

Study Overview & Project Plan^[1]

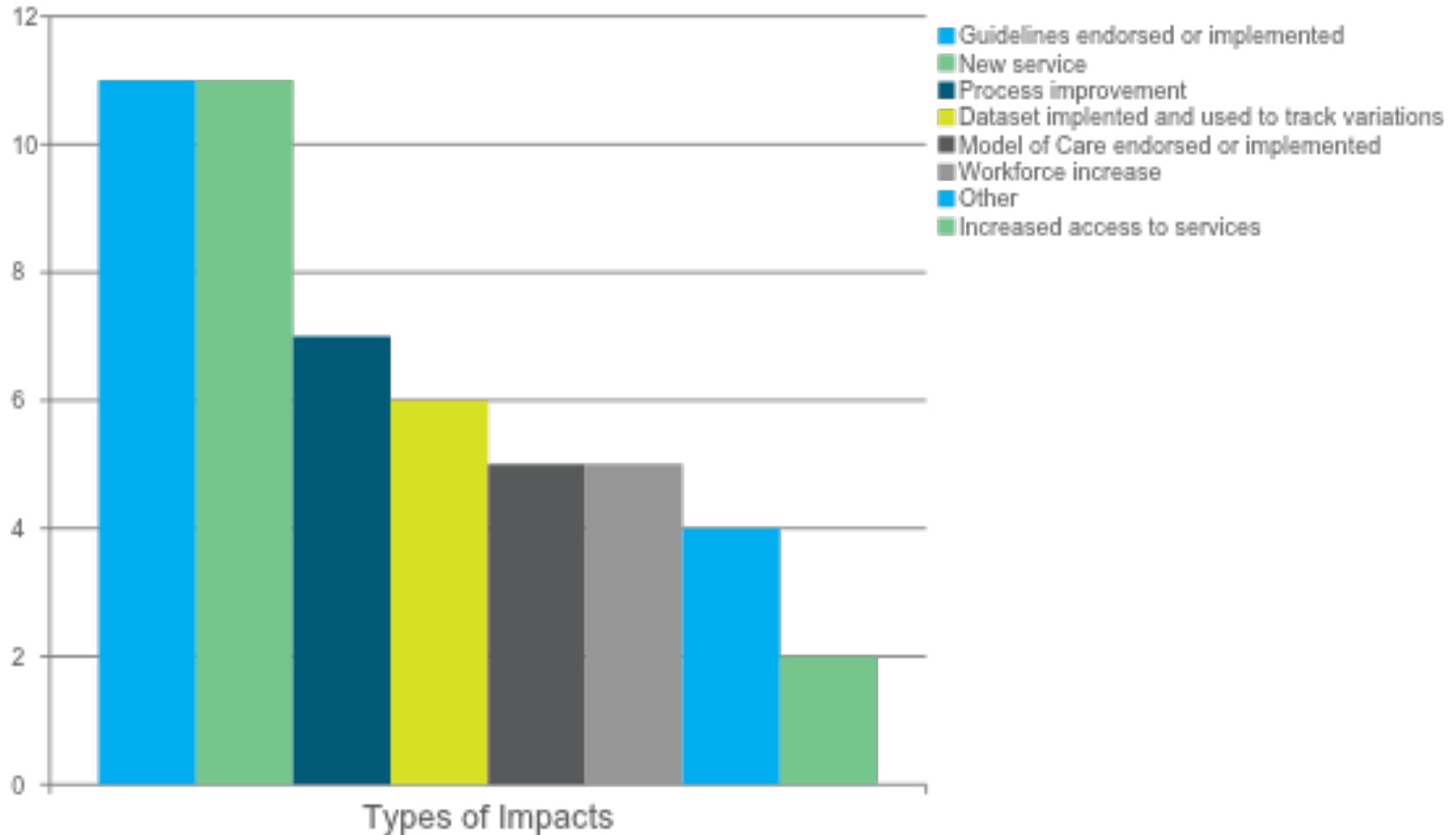


1. McInnes E, Middleton S, Gardner G, et al. A qualitative study of stakeholder views of the conditions for and outcomes of successful clinical networks. *BMC health services research* 2012;12:49. 2. Haines M, Brown B, Craig J, et al. Determinants of successful clinical networks: the conceptual framework and study protocol. *Implementation science : IS* 2012;7:16. 3. McInnes E, Haines M, Dominello A, et al. What are the reasons for clinical network success? A qualitative study of stakeholder views. *Under development for submission to BMC Health Services Research* 2013.

Three tests of an impact

1. **An impact happened in the wider NSW health system** that meets our definition of quality of care or system- wide change
2. **The network was largely responsible for this change** The change or improvement is a direct result of network activity undertaken between 2006-2008 (i.e. the change would not have happened without the network's initiative)
3. **There is credible evidence** that change occurred AND that it was linked to the network

Types of Impacts that arose from activities conducted between 2006–2008

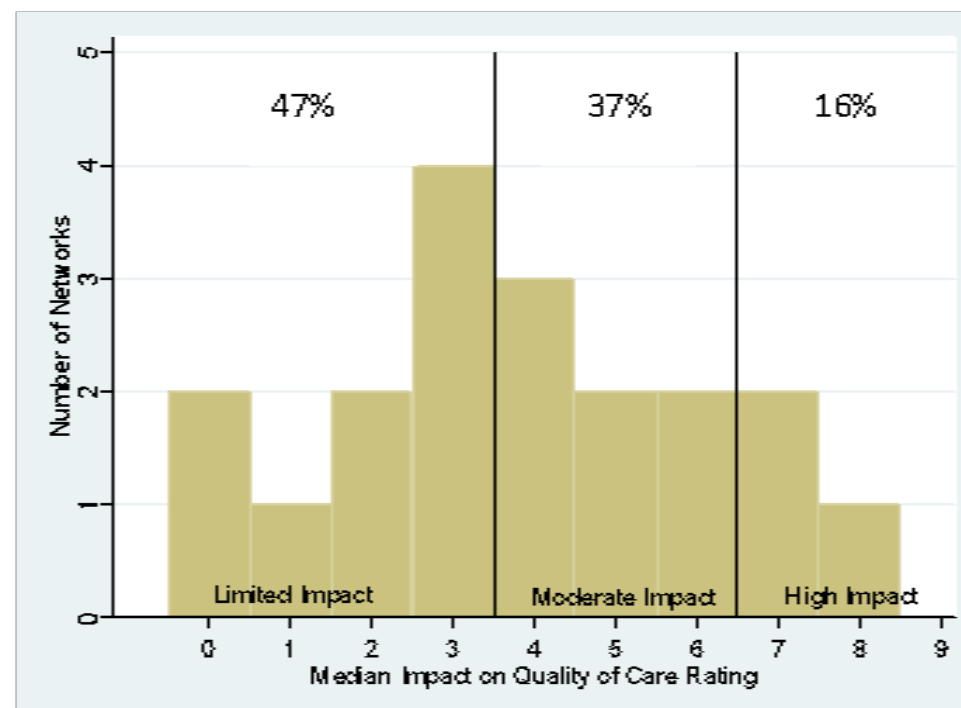


Impacts of networks that met the 3 tests which were determined through interview and document review

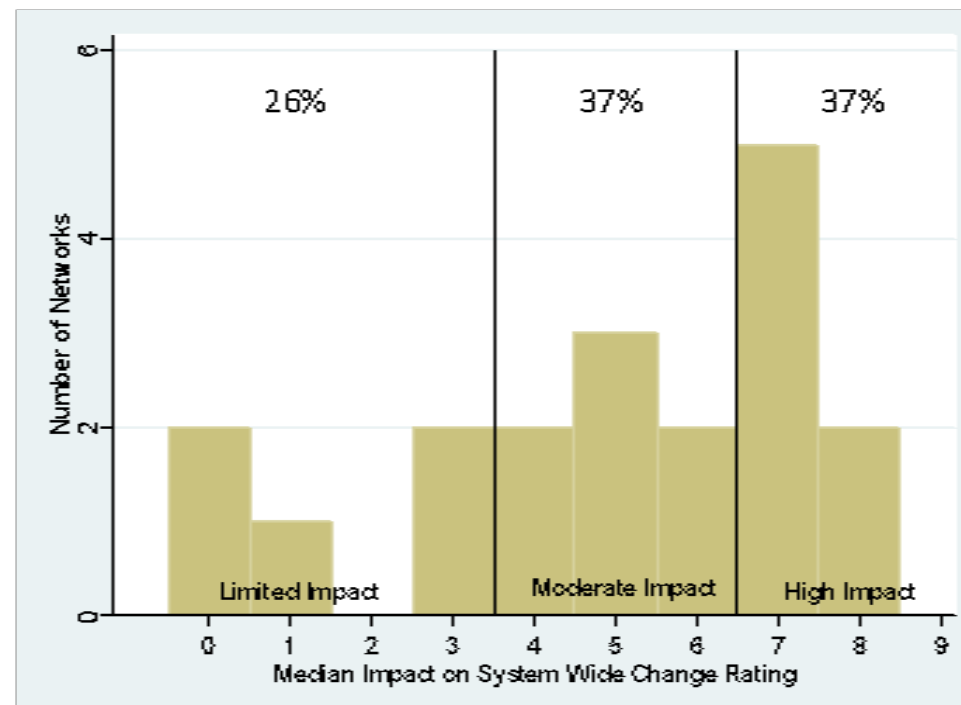
Expert Panel Method

- Adapted from the RAND/UCLA (University of California, Los Angeles) appropriateness method [4]
- Five-member panel comprised of national and international leaders independent of the Agency, with extensive experience in QI programs, implementing system-wide change, and clinical care
- Based on the evidence provided, panel members independently rated each network on their *impact on quality of care* and *system-wide change*
- Moderated meeting between panellists was conducted
- Panellists then individually re-rated each network
- The median of these second ratings was used in the final analysis

Networks Impact on Quality of Care as assessed by Expert Panel



Networks Impact on System-wide Change as assessed by Expert Panel



Factors associated with effective networks

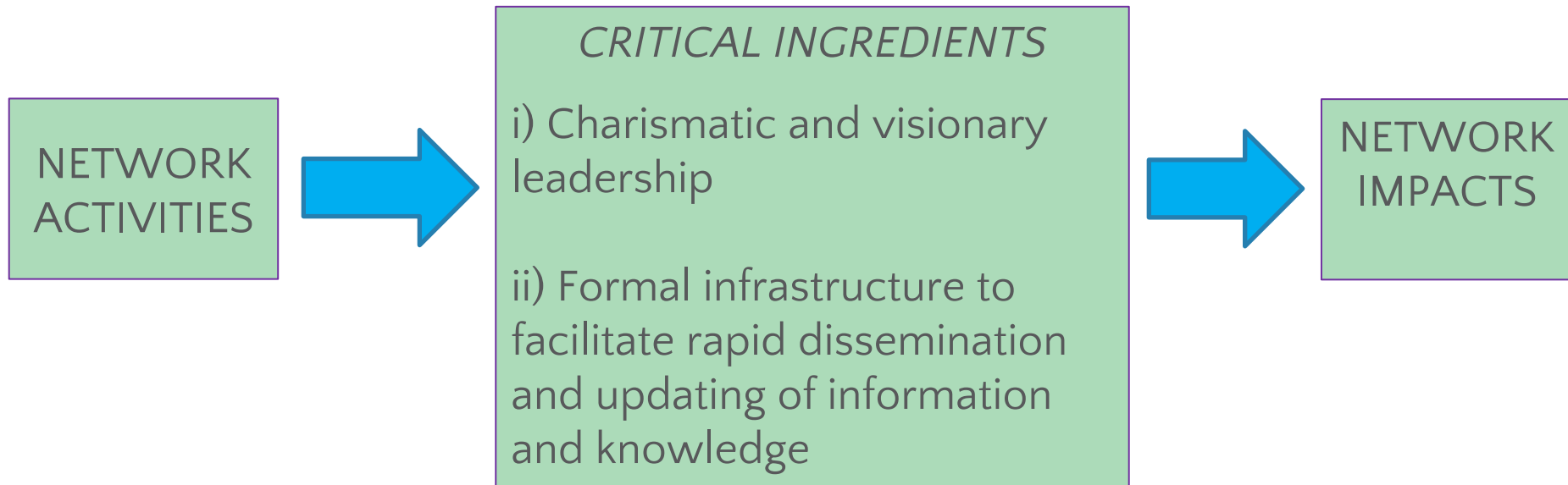
(using adjusted stepwise linear regression analyses)

- Better **perceived strategic and operational management** of a network was significantly associated with **higher rating for impact on quality of care** (Coefficient estimate=0.86; 95% CI 0.02 to 1.69, $p=0.045$) †
- Better **perceived leadership of the network manager** (Coefficient estimate=0.47; 95% CI 0.10 to 0.85, $p=0.018$) and **strategic and operational management of a network as signified by number of meetings** (Coefficient estimate=0.23; 95% CI 0.06 to 0.41, $p=0.013$) were associated with **higher rating for impact on system-wide change** †

† Adjusted for *Average FTE of the network manager* and *Average annual operating costs*. Other potential confounders considered that were not significant in univariate analysis and not entered into the models were: *Total in-kind costs (2006 – 2008)* and *Months of operation* of the network.

Themes emerging from qualitative study

How do networks achieve impacts?



Reflections from the Expert Panel

Networks with the greatest impact on quality of care and system-wide change:

- Had a defined and commonly held purpose and strategy to address health system priorities
- Conducted a systematic needs assessment for areas of focus
- Demonstrated appraisal of evidence in design of initiatives
- Did not reinvent the wheel; rather used international and national sources for evidence based care
- Involved patients, relevant community groups, area health services and hospital management in program development and roll out
- Evaluated the impact of the work

What this study adds

- This research uniquely studies a large number of clinical networks that span a state-wide health system taking into account a range of clinical disciplines and uses rigorous methods to assess factors that impact quality of care and system-wide change
- This study demonstrates that networks can be implementation vehicles to produce system-wide change to improve patient outcomes
- Strong and facilitatory leadership, strategic planning and efficient operational management were associated with successful networks

References

1. McInnes E, Middleton S, Gardner G, Haines M, Haertsch M, Paul CI, Castaldi P. A qualitative study of stakeholder views of the conditions for and outcomes of successful clinical networks. *BMC Health Services Research* 2012;12:49.
2. Haines M, Brown B, Craig J, D'Este C, Elliott E, Klineberg E, McInnes E, Middleton S, Paul C, Redman S, Yano EM on behalf of Clinical Networks Research Group. Determinants of successful clinical networks: the conceptual framework and study protocol. *Implementation Science* 2012;7:16 (<http://www.implementationscience.com/content/7/1/16>)
3. McInnes E, Haines M, Dominello A, et al. What are the reasons for clinical network success? A qualitative study of stakeholder views. *Under peer review for publication BMC Health Services Research* 2014.
4. Shekelle P. The appropriateness method. *Medical decision making: an international journal of the Society for Medical Decision Making* 2004;24(2): 228-31.