



Effective Health Care

Physician-Hospital Alignment

Results of Topic Selection Process & Next Steps

The nominator was interested in a new systematic review that compared the different physician-hospital alignment models to inform their constituency of health systems representatives.

Due to limited program resources, the program is unable to develop a review at this time. No further activity on this topic will be undertaken by the Effective Health Care (EHC) Program.

Topic Brief

Topic Name: Physician-Hospital Alignment, #751

Nomination Date: July 14, 2017

Topic Brief Date: December 7, 2017

Author:

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Conflict of Interest: The author does not have any affiliations or financial involvement that conflicts with the material presented in this report.

Summary:

- This nomination meets all selection criteria
- The evidence base for a new review would likely be small.

Table of Contents

Introduction	1
Methods	3
Appropriateness and Importance	3
Desirability of New Review/Duplication.....	3
Impact of a New Evidence Review	3
Feasibility of New Evidence Review	3
Value	3
Compilation of Findings	4
Results	4
Appropriateness and Importance	4
Desirability of New Review/Duplication.....	4
Impact of a New Evidence Review	4
Feasibility of a New Evidence Review	4
Value	5
Summary of Findings	5
References.....	6
Appendix A. Selection Criteria Summary	A-1
Appendix B. Search for Evidence Reviews (Duplication).....	B-1
Appendix C. Search Strategy & Results (Feasibility)	C-1

Introduction

The relationships between physicians and hospitals have significantly evolved over the past two decades.^{1,2} This evolution occurred due to changes in economics and policies of healthcare. In the past, hospitals and physicians have had a more symbiotic relationship or *alignment* wherein both stakeholders enjoyed mutually beneficial incentives to maintain a harmonious relationship that mainly encouraged hospital admissions. The more recent paradigm shift of care to the ambulatory setting sparked competition between physicians and hospitals.^{1,2} With greater outpatient care, physicians became less dependent on inpatient services offered by hospitals. In addition, physician practices incorporating ancillary services competed with hospital-based services. For the hospitals, loss of revenue for these services encouraged competition with physician practices in the outpatient market.

Currently, there are numerous alignment models delineating the nuanced relationship between physicians and hospitals. Table 1 lists brief descriptions of these models.³ To capture potentially useful sources of information we included models of healthcare delivery, such as the Patient-Centered Medical Home.

Table 1. Models of physician-hospital alignment

Model Name	Description
Accountable Care Organization (ACO)	An interdependent group of providers that delivers quality and cost-effective care for Medicare and other beneficiaries
Clinically Integrated Network (CIN)	A group of hospitals and providers who collaborate to improve the quality and efficiency of care for a defined patient population; typically deploys integrated information technology and data across multiple entities to achieve care quality outcomes
Patient-Centered Medical Home (PCMH)	A form of coordinated care achieved through designated primary care physicians and clinical teams in a focused ambulatory care environment; it can be part of an ACO/CIN model
Quality Collaborative (QC)	A consortium of providers who share information, research and methodologies for improving quality outcomes for a defined population
Call Coverage	Payment to physicians for unassigned hospital emergency department care
Clinical Co-Management / Service line	An arrangement between a hospital and practice or other management entity for developing, managing and rewarding efficiency and quality outcomes of a particular hospital service line
Equity Model / Captive Group Model	An arrangement in which a practice affiliates directly with a hospital; the group might be able to use its own compensation models and keep ancillary service revenues in the physician compensation formula
Foundation Model	An arrangement in which a not-for-profit hospital acquires a practice's tangible and intangible assets; physicians then form a medical group that contracts with the foundation on an exclusive basis for services
Independent Practice Association (IPA)	A network of physician practices who form an entity to contract with health maintenance organizations (HMOs) and other managed care plans.
Joint Venture	A contractual arrangement between two or more parties to cooperate in providing services or involving the creation of a new legal entity by the parties to provide such services.
Management Services Organization (MSO)	An organization owned by a hospital, physician group or other group of investors that provides management and/or administrative services to individual physicians or groups of practices; it is often used as a starting point for forming a relationship between hospitals, physician practices and/or medical group(s)
Medical Directorship	An aspect of governance in which physician leaders are directly involved in management and operations of hospital services/service lines.
Physician Employment/ Staff Model	An arrangement in which physicians are employed to provide medical services; and in which hospitals often acquire a practice's tangible assets
Physician Hospital Organization (PHO)	An organization formed by a contractual relationship between a hospital and certain physicians or attending medical staff; the PHO's full-service provider arrangement is advantageous when contracting with managed care plans and employers
Physician Recruitment	An incubation model in which a hospital supports the recruitment of a physician through income guarantees, tuition payments, provider plan development, etc.

Professional Services Agreement (PSA)	A hospital purchases a practice's ancillaries (technical component services) and compensates the practice's physicians for professional services at the practice
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Experts predict that the predominance of certain alignment models will have a profound impact on the practice of medicine in the U.S.^{4, 5} All these models aim to deliver high-quality healthcare at a sustainable cost; however, how these models compare in achieving favorable outcomes in both patients and physicians is unclear.

Nominator and Stakeholder Engagement

The nominator expressed that this was a topic of importance to healthcare systems due to the myriad models of physician-hospital alignment in existence. Determining which among these models would lead to the best possible patient outcomes through a well-conducted systematic review was of value. There was also interest in determining whether the benefits of various physician-hospital alignment models vary by determinants such as physician specialty, career level, and practice setting.

The key questions for this nomination are:

Key Question 1. What are the benefits and harms of various physician-hospital alignment models on physician outcomes?

Key Question 2. What are the benefits and harms of various physician-hospital alignment models on patient outcomes?

Key Question 3. Do the benefits and harms of various physician-hospital alignment models vary by physician characteristics?

To define the inclusion criteria for the key questions we specify the population, interventions, comparators, and outcomes (PICO) of interest. See Table 2.

Table 2. Key Questions and PICOs

Key Questions	1. What are the benefits and harms of various physician-hospital alignment models on physician outcomes?	2. What are the benefits and harms of various physician-hospital alignment models on patient outcomes?	3. Do the benefits and harms of various physician-hospital alignment models vary by physician characteristics?
Population	Practicing physicians; all specialties	Practicing physicians; all specialties	Practicing physicians; all specialties <i>Characteristics for subgroup analysis include: specialty/ sub-specialties, career-level/years in practice, practice setting</i>
Interventions/ Comparators	Physician-hospital alignment models compared to each other (See Table 1)	Physician-hospital alignment models compared to each other (See Table 1)	Physician-hospital alignment models compared to each other (See Table 1)

Outcomes	Physician recruitment, productivity, satisfaction, retention, unintended consequences (harms)	Clinical outcomes <i><u>Includes but not limited to:</u></i> <i>adherence to clinical practice guidelines, length of hospital stay, morbidity, complications, mortality, and readmissions</i> Patient-reported outcomes <i><u>Includes but not limited to:</u></i> <i>satisfaction, quality of life</i>	Same as KQs 1-2 stratified by subgroup
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Abbreviations: PICO=Populations, Interventions, Comparators, Outcomes; KQ=Key Question

Methods

We assessed nomination #0751 *Physician-Hospital Alignment*, for priority for a systematic review or other AHRQ EHC report with a hierarchical process using established selection criteria (Appendix A).. Assessment of each criteria determined the need for evaluation of the next one.

1. Determine the *appropriateness* of the nominated topic for inclusion in the EHC program.
2. Establish the overall *importance* of a potential topic as representing a health or healthcare issue in the United States.
3. Determine the *desirability of new evidence review* by examining whether a new systematic review or other AHRQ product would be duplicative.
4. Assess the *potential impact* a new systematic review or other AHRQ product.
5. Assess whether the *current state of the evidence* allows for a systematic review or other AHRQ product (feasibility).
6. Determine the *potential value* of a new systematic review or other AHRQ product.

Appropriateness and Importance

We assessed the nomination for appropriateness and importance (see Appendix A).

Desirability of New Review/Duplication

We searched for relevant high-quality, completed or in-process evidence reviews published in the last five years. See Appendix B for sources searched.

Impact of a New Evidence Review

The impact of a new evidence review was assessed by analyzing the current standard of care, the existence of potential knowledge gaps, and practice variation. We considered whether it was hypothetically possible for this review to influence the current state of practice through various dissemination pathways (practice recommendation, clinical guidelines, etc.).

Feasibility of New Evidence Review

We conducted a literature search in PubMed from October 2012 and October 2017. Due to the large number of articles identified, we reviewed a random sample of 200 titles and abstracts for inclusion and classified identified studies by study design, to assess the size and scope of a potential evidence review. We then calculated the projected total number of included studies based on the proportion of studies included from the random sample. We then applied the Cochrane RCT filter to identify RCTs that were not included in the first sample. See Appendix C for the PubMed search strategy and links to the ClinicalTrials.gov search.

Value

We assessed the nomination for value (see Appendix A). We considered whether or not the clinical, consumer, or policymaking context had the potential to respond with evidence-based change; and if a partner organization would use this evidence review to influence practice

Compilation of Findings

We constructed a table outlining the selection criteria as they pertain to this nomination (see Appendix A).

Results

Appropriateness and Importance

This is an appropriate and important topic. The topic represents an issue of uncertainty for health systems decision makers. The choice of physician-alignment model has cost implications to health systems and payers. Experts predict that the predominance of certain alignment models will have a profound impact on the practice of medicine in the U.S.

Desirability of New Review/Duplication

A new evidence review examining physician-hospital alignment models would not be duplicative of an existing review. We identified two systematic reviews that are relevant to Key Questions 1 and 2 but neither review adequately compared alignment models. See Table 2, Duplication column for the systematic review citations that were determined to address the key questions.

Impact of a New Evidence Review

A new systematic review on physician-hospital alignment models may have moderate impact due to variation in practice among health systems. The standard of care (or care delivery) is unclear due to a myriad of available alignment models.

Feasibility of a New Evidence Review

A new evidence review examining is feasible. We have low to moderate confidence that the total size of the relevant literature from October 2012 to the present may be approximately 12 studies across the three key questions. The scope aligns with a small-sized systematic review or a technical brief. See Table 3, Feasibility column.

Table 2. Key questions and relevant evidence reviews and original research

Key Question	Duplication (Completed or In-Process Evidence Reviews)	Feasibility (Published and Ongoing Original Research)
KQ 1: What are the benefits and harms of various physician-hospital alignment models on physician outcomes?	Total number of completed and in-progress systematic reviews: 2 Other - 2 ^{6, 7}	<u>Size/scope of review</u> Relevant Studies Identified: 3 <ul style="list-style-type: none"> • RCT – 1¹⁰ • Retrospective Cohort - 2^{11, 12} Projected Total: 12 <u>Cochrane RCT filter</u> Relevant Studies Identified: 0
2. What are the benefits and harms of various physician-hospital alignment models on patient outcomes?	Total number of completed and in-progress systematic reviews: 2 <ul style="list-style-type: none"> • Other - 2^{6, 7} 	<u>Size/scope of review</u> Relevant Studies Identified: 0 Projected Total: 0 <u>Cochrane RCT filter</u> Relevant Studies Identified: 1 ⁸

Key Question	Duplication (Completed or In-Process Evidence Reviews)	Feasibility (Published and Ongoing Original Research)
3. Do the benefits and harms of various physician-hospital alignment models vary by physician characteristics?	Total number of completed and in-progress systematic reviews: 0	<u>Size/scope of review</u> Relevant Studies Identified: 0 Projected Total: 0 <u>Cochrane RCT filter</u> Relevant Studies Identified: 1 ⁹

Abbreviations: KQ=Key Question; RCT=Randomized Controlled Trial

Value

The potential for value is high given that this topic will inform decision-making within health systems with regards to adopting optimal physician-hospital alignment models that meet health system needs and the needs of their patients.

Summary of Findings

- Appropriateness and importance: The nomination is both appropriate and important.
- Duplication: We found two systematic reviews^{6, 7} however, neither review compared different models of physician-hospital alignment.
- Feasibility: A new review is feasible and the evidence base is likely small.
- Impact: A new AHRQ product could have high impact
- Value: The potential for value is high

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Appendix A. Selection Criteria Summary

Selection Criteria	Supporting Data
1. Appropriateness	
1a. Does the nomination represent a health care drug, intervention, device, technology, or health care system/setting available (or soon to be available) in the U.S.?	Yes, this topic represents a health care system/setting available in the U.S.
1b. Is the nomination a request for a systematic review?	Yes, this topic is a request for a systematic review.
1c. Is the focus on effectiveness or comparative effectiveness?	The focus of this review is on both effectiveness and comparative effectiveness.
1d. Is the nomination focus supported by a logic model or biologic plausibility? Is it consistent or coherent with what is known about the topic?	Yes, it is both logical and plausible. Yes, it is coherent with what is known about the topic.
2. Importance	
2a. Represents a significant disease burden; large proportion of the population	Yes, this topic represents a significant burden since it encompasses healthcare outcomes in virtually all diseases.
2b. Is of high public interest; affects health care decision making, outcomes, or costs for a large proportion of the US population or for a vulnerable population	Yes, this topic affects health care decisions for a large proportion of the US population.
2c. Represents important uncertainty for decision makers	Yes, this topic represents important uncertainty for decision makers.
2d. Incorporates issues around both clinical benefits and potential clinical	Yes, this nomination addresses both clinical benefits and harms (unintended consequences).
2e. Represents high costs due to common use, high unit costs, or high associated costs to consumers, to patients, to health care systems, or to payers	Yes, the choice of physician-alignment model has cost implications to health systems and payers.
3. Desirability of a New Evidence Review/Duplication	
3. Would not be redundant (i.e., the proposed topic is not already covered by available or soon-to-be available high-quality systematic review by AHRQ or others)	We identified two systematic reviews that are relevant to KQ1 and KQ2 but neither review adequately compared alignment models.
4. Impact of a New Evidence Review	
4a. Is the standard of care unclear (guidelines not available or guidelines inconsistent, indicating an information gap that may be addressed by a new evidence review)?	Yes, the standard of care (or care delivery) is unclear due to a myriad of available alignment models. A gap exists which an evidence review could address.
4b. Is there practice variation (guideline inconsistent with current practice, indicating a potential implementation gap and not best addressed by a new evidence review)?	Yes, there is variation in practice among health systems. A gap exists which an evidence review could address.

5. Primary Research	
<p>5. Effectively utilizes existing research and knowledge by considering:</p> <ul style="list-style-type: none"> - Adequacy (type and volume) of research for conducting a systematic review - Newly available evidence (particularly for updates or new technologies) 	<p><i>Size/scope of review:</i> We estimate that the total size of the relevant literature (October 2012 – present) may be approximately 12 studies across three key questions (low to moderate confidence). Scope aligns with a small-sized systematic review or a technical brief.</p> <p><i>ClinicalTrials.gov:</i> We did not identify any relevant study on ClinicalTrials.gov.</p> <p><i>Cochrane RCT filter results:</i> We identified two additional studies relevant to KQ2 and KQ3.</p>
6. Value	
6a. The proposed topic exists within a clinical, consumer, or policy-making context that is amenable to evidence-based change	Yes, this topic will inform decision-making within health systems with regard to adopting optimal physician-hospital alignment models that meet their needs and the needs of their patients.
6b. Identified partner who will use the systematic review to influence practice (such as a guideline or recommendation)	Yes, the nominator will use the systematic review and disseminate it among member health systems.

Abbreviations: US=United States; KQ=Key Question; RCT=randomized controlled trial; AHRQ=Agency for Healthcare Research and Quality; HMA=Health Management Academy

Appendix B. Search for Evidence Reviews (Duplication)

Listed are the sources searched.

Source
Search date: October 1, 2012 to October 1, 2017
AHRQ: Evidence reports and technology assessments, USPSTF recommendations
VA Products: PBM, and HSR&D (ESP) publications, and VA/DoD EBCPG Program
Cochrane Systematic Reviews and Protocols http://www.cochranelibrary.com/
PubMed Health http://www.ncbi.nlm.nih.gov/pubmedhealth/
HTA (CRD database): Health Technology Assessments http://www.crd.york.ac.uk/crdweb/
PROSPERO Database (international prospective register of systematic reviews and protocols) http://www.crd.york.ac.uk/prospéro/
CADTH (Canadian Agency for Drugs and Technologies in Health) https://www.cadth.ca/
DoPHER (Database of promoting health effectiveness reviews) http://eppi.ioe.ac.uk/webdatabases4/Intro.aspx?ID=9
ECRI institute https://www.ecri.org/Pages/default.aspx
Secondary Sources checked on an as needed basis
Campbell Collaboration http://www.campbellcollaboration.org/
McMaster Health System Evidence https://www.healthsystemsevidence.org/
Robert Wood Johnson http://www.rwjf.org/
Systematic Reviews (Journal) : protocols and reviews http://systematicreviewsjournal.biomedcentral.com/
UBC Centre for Health Services and Policy Research http://chspr.ubc.ca/
WHO Health Evidence Network http://www.euro.who.int/en/data-and-evidence/evidence-informed-policy-making/health-evidence-network-hen
CINAHL (EBSCO)

Appendix C. Search Strategy & Results (Feasibility)

Topic: Physician-hospital alignment models Date: October 23, 2017 Database Searched: PubMed	
Concept	Search String
Physician-hospital alignment	((((((((((((((((((("physician hospital alignment"[Title/Abstract] OR "accountable care organization"[Title/Abstract]) OR "clinically integrated network"[Title/Abstract]) OR "patient-centered medical home"[Title/Abstract]) OR "quality collaborative"[Title/Abstract]) OR "call coverage"[Title/Abstract]) OR "clinical co-management"[Title/Abstract]) OR "clinical service line"[Title/Abstract]) OR "equity model"[Title/Abstract]) OR "captive group model"[Title/Abstract]) OR "foundation model"[Title/Abstract]) OR "independent practice association"[Title/Abstract]) OR "joint venture"[Title/Abstract]) OR "management services organization"[Title/Abstract]) OR "medical directorship"[Title/Abstract]) OR "physician employment"[Title/Abstract]) OR "staff model"[Title/Abstract]) OR "physician hospital organization"[Title/Abstract]) OR "physician recruitment"[Title/Abstract]) OR "professional services agreement"[Title/Abstract]))))
NOT	
Not Editorials, etc.	(((((("Letter"[Publication Type]) OR "News"[Publication Type]) OR "Patient Education Handout"[Publication Type]) OR "Comment"[Publication Type]) OR "Editorial"[Publication Type]) OR "Newspaper Article"[Publication Type]))
Limit to last 5 years, Human, English	Filters activated: published in the last 5 years, Humans, English.
N=822	
Systematic Reviews N=39	PubMed subsection "Systematic [sb]"
Randomized Controlled Trials N=143	Cochrane Sensitive Search Strategy for RCT's "(((((((groups[tiab])) OR (trial[tiab])) OR (randomly[tiab])) OR (drug therapy[sh])) OR (placebo[tiab])) OR (randomized[tiab])) OR (controlled clinical trial[pt])) OR (randomized controlled trial[pt]))"
Other N=640	

Clinicaltrials.gov Searched on October 23, 2017

9 studies found for: "physician hospital alignment" | studies received on or after 10/01/2012

https://clinicaltrials.gov/ct2/results?term=%E2%80%9Cphysician+hospital+alignment%E2%80%9D&sfpds=10%2F01%2F2012&Search=Apply&age_v=&gndr=&type=&rslt=