



FOR PRESENTATION ONLY

Accelerating HIT Adoption for Patient-Centered Medical Home to Improve Quality

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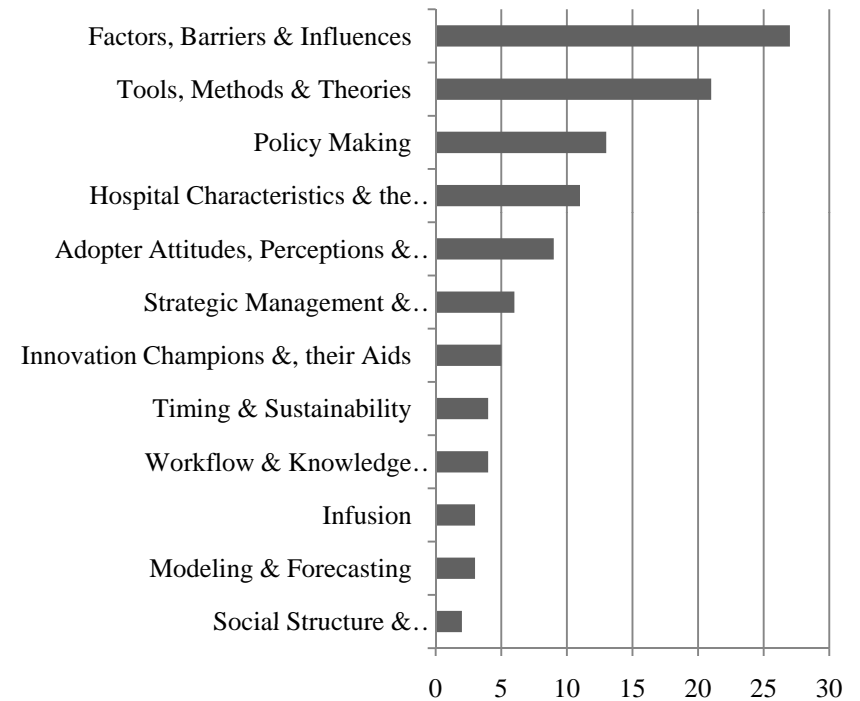
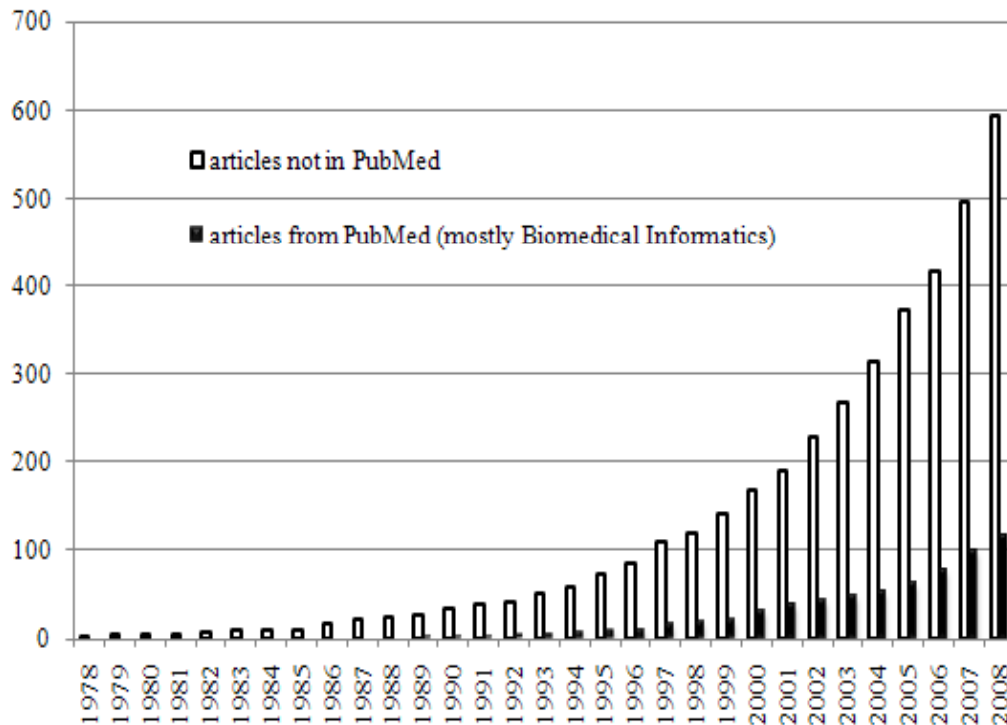
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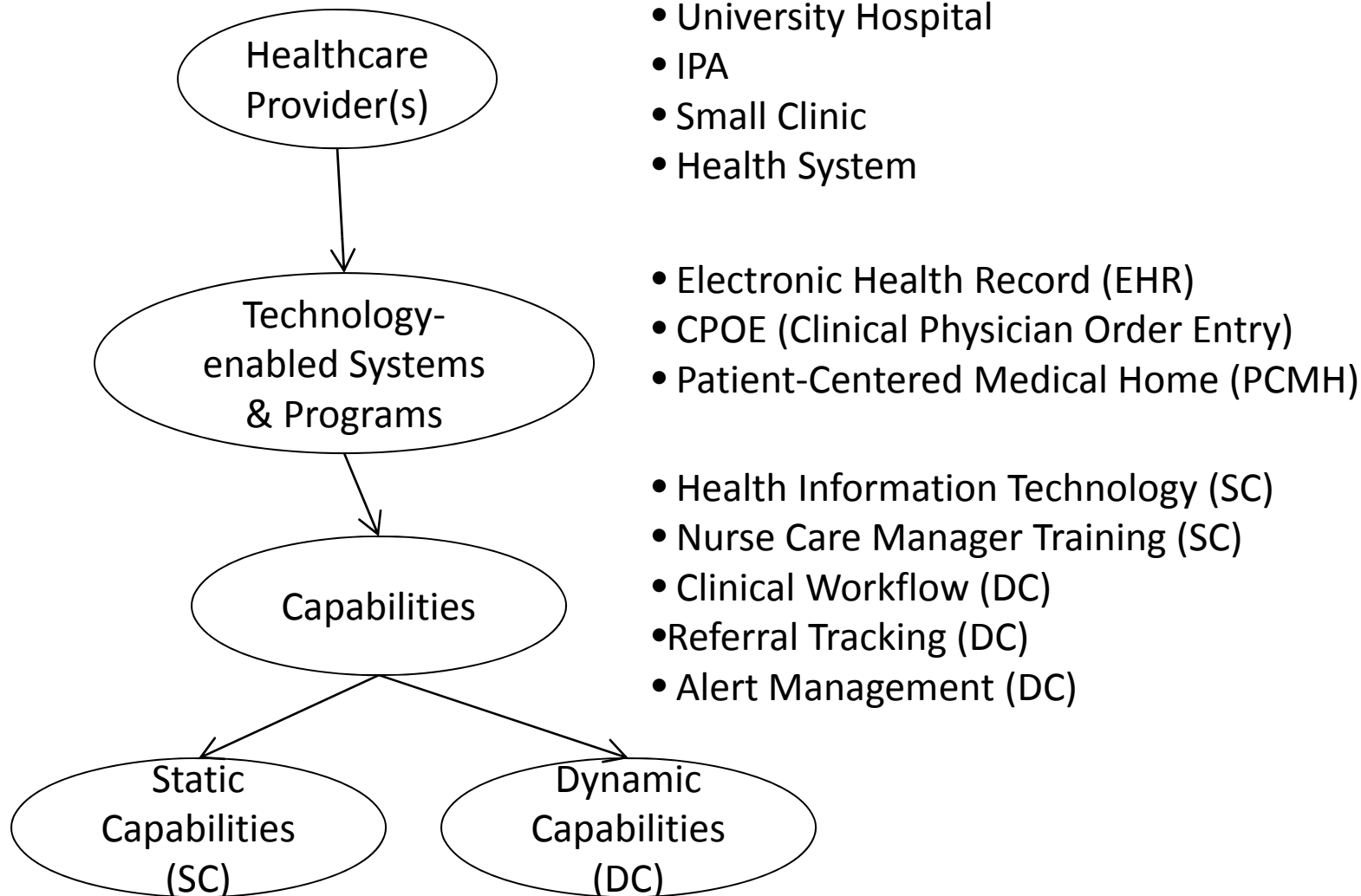
Literature Says

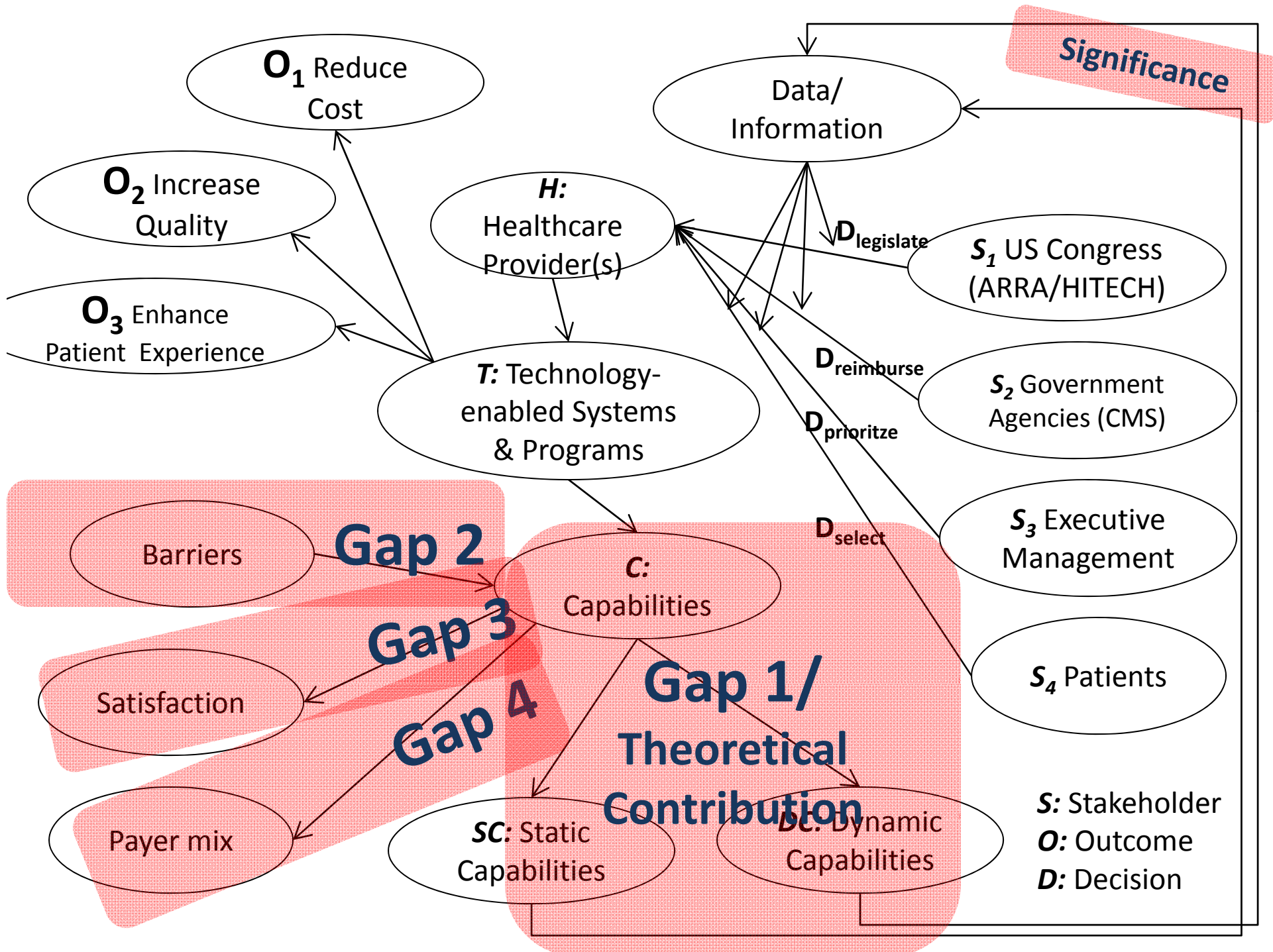
HIT can be an key facilitator to improve efficiency and effectiveness of US healthcare.	(Bates, 2002, Chaudhry <i>et al.</i> , 2006, Blumenthal and Glaser, 2007, Marmor <i>et al.</i> , 2009, 2010c).
Effective HIT use is associated with:	
improved preventive care	(Larsen <i>et al.</i> , 1989, Litzelman <i>et al.</i> , 1993, Willson <i>et al.</i> , 1995, Overhage <i>et al.</i> , 1996, Cannon and Allen, 2000, Demakis <i>et al.</i> , 2000, Teich <i>et al.</i> , 2000, Dexter <i>et al.</i> , 2004),
reduced complications	(Larsen <i>et al.</i> , 1989, Kucher <i>et al.</i> , 2005),
fewer adverse events	(Evans <i>et al.</i> , 1992)
medical errors	(Bates <i>et al.</i> , 1998, Evans <i>et al.</i> , 1998),
decreased resource utilization	(Tierney <i>et al.</i> , 1988, Tierney <i>et al.</i> , 1993, Bates <i>et al.</i> , 1999),
lower health care costs	(Tierney <i>et al.</i> , 1993).

HIT Adoption Publications (30 years)



Static & Dynamic Capabilities





HIT Case Study: Patient-Centered Medical Home (PCMH)

- Introduced in 1967 by the American Academy of Pediatrics (AAP)
- *“a team-based model of care led by a personal physician who provides:*
 - *continuous and coordinated care throughout a patient's lifetime to maximize health outcomes.*
 - *The PCMH practice is responsible for providing for all of a patient's health care needs or appropriately arranging care with other qualified professionals.*
 - *This includes the provision of preventive services, treatment of acute and chronic illness, and assistance with end-of-life issues.*
 - *It is a model of practice in which a team of health professionals, coordinated by a personal physician, works collaboratively to provide high levels of care, access and communication, care coordination and integration, and care quality and safety [1].”*

AAFP Recommended Practices

AAFP PCMH Area	Recommended Practice	Type of Capability	Capability Count
Quality Measures	<p>Clinical Information Systems</p> <ul style="list-style-type: none"> - Registries - Referral Tracking - Lab result tracking - Medication interaction alerts - Allergy Alerts 	Static Capability (SC)	5
Health Information Technology	<p>e-prescribing</p> <ul style="list-style-type: none"> - Medication Interaction Checking - Allergy Checking - Dosing alerts by age, weight, or kidney function - Formulary Information <p>evidence-based medicine support</p> <ul style="list-style-type: none"> - Templates to guide evidence-based treatment recommendations - Condition-specific templates to collect clinical data - Alerts when parameters are out of goal range - Home monitoring <p>Registries</p> <ul style="list-style-type: none"> - Population health management - Individual health management - Proactive care - Planned care visits <p>Clinic Decision Support</p> <ul style="list-style-type: none"> - Point-of-care answers to clinical questions - Medication information - Clinical practice guidelines <p>Connected to Healthcare community</p> <ul style="list-style-type: none"> - Internet access - Quality reporting tools 	Dynamic Capability (DC)	17

Hypothesis 1:

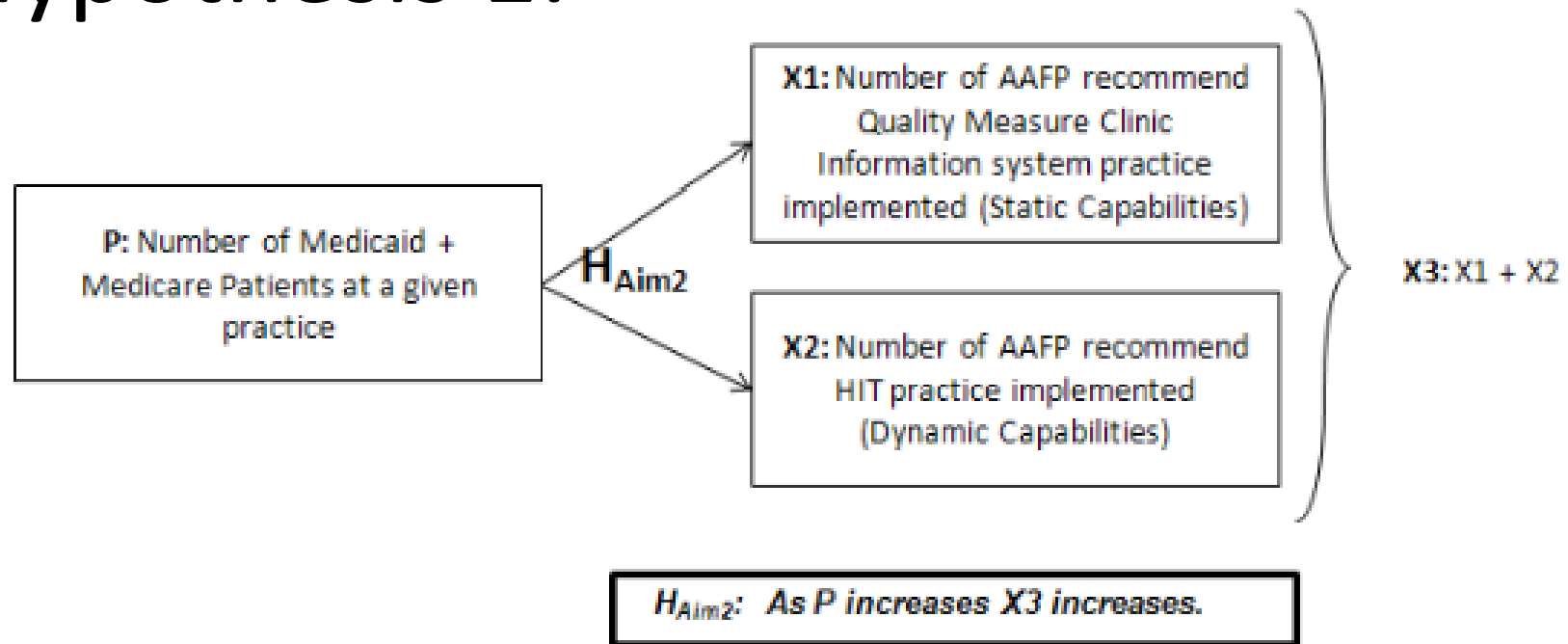


Figure 1 - H_{Aim2}

Table 4 - H_{Aim2} variables

Dependent Variable		Independent Variable	Method	Significance	Sample Size	Hypothesis	Survey Questions
H _{Aim2}	X ₃	P	Multiple Regression	p-value will be used for significance	150	As P increases X ₃ increases.	Q3,Q4, Q6-Q12

Hypothesis 2:

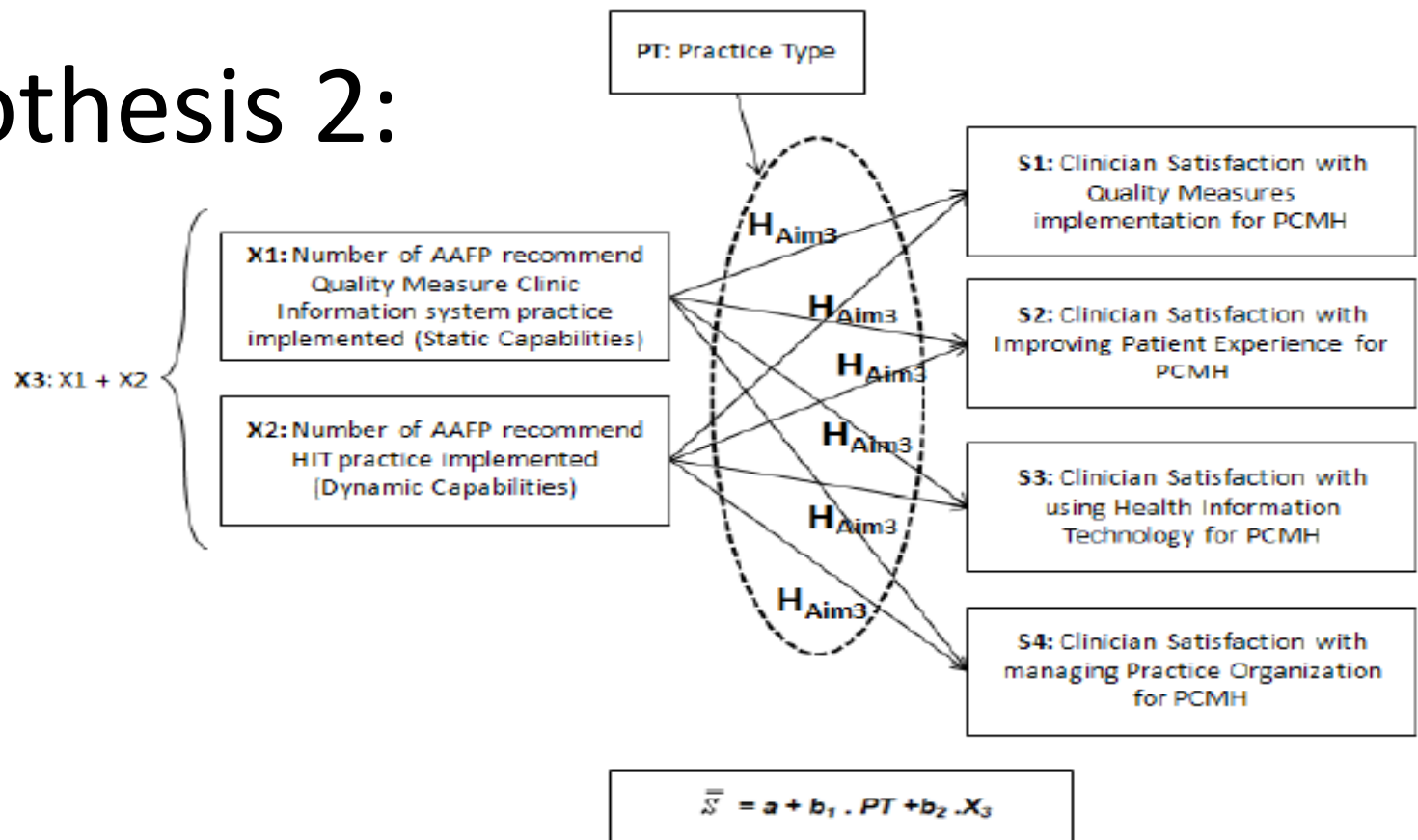
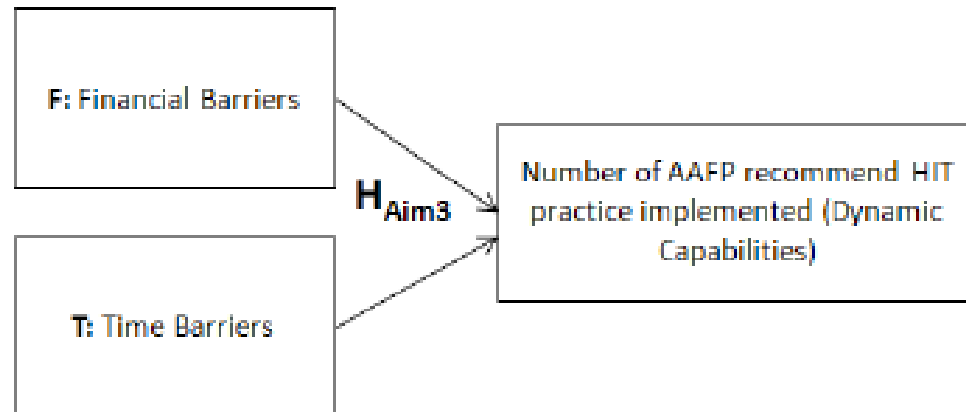


Figure 2 - H_{Aim3}

Table 5 - H_{Aim3} variables

Dependent Variable	Independent Variable	Method	Significance	Sample Size	Hypothesis	Survey Questions
H _{Aim3}	PT X ₃	Multiple Regression	p-value will be used for significance	150	$\bar{S} = a + b_1 \cdot PT + b_2 \cdot X_3$	Q1, Q2, Q5-Q12

Hyp3:



H3: X_2 is greater when \bar{F} and/or \bar{T} are lower

Figure 3 - H_{Aim3}

Table 6 - H_{Aim4} variables

Dependent Variable		Independent Variable	Method	Significance	Sample Size	Hypothesis	Survey Questions
H_{Aim4}	X_2	\bar{F} \bar{T}	Factor Analysis and Multiple Regression	<i>p-value</i> will be used for significance	150	X_2 is greater when \bar{F} and/or \bar{T} are lower	Q6-Q13

\bar{F} : Average financial investment required for capabilities

\bar{T} : Average organizational time investment required for capabilities

$$\bar{F} = \frac{\sum_{n=1}^{X_2} F_n}{X_2} \quad \bar{T} = \frac{\sum_{n=1}^{X_2} T_n}{X_2}$$

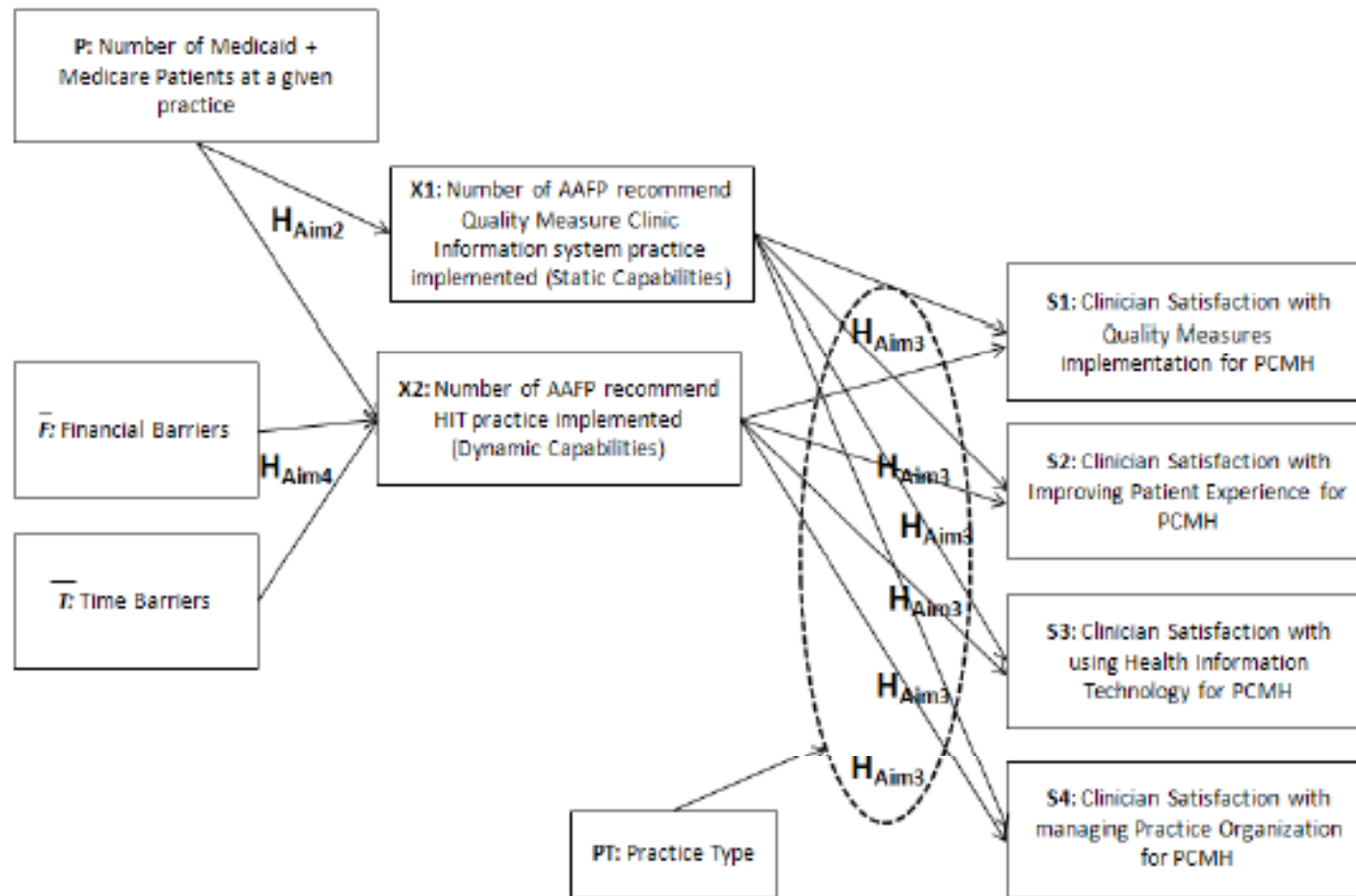


Figure 4 – Research framework

Table 7 – Hypotheses variables

	Dependent Variables	Independent Variables	Relationship
H_{Aim2}	$X_3 = X_1 + X_2$	P	Positive
H_{Aim4}	S_1, S_2, S_3, S_4	$X_3 = X_1 + X_2$	Positive
H_{Aim3}	X_2	F T	Negative

Study Sample

Name	Title	Size	Geography	Provider Type	Contact
<i>NCQA</i>	The National Committee for Quality Assurance	6182 Clinicians	National	Mix	
<i>OAHHS</i>	Oregon Association of Hospitals and Health Systems	58 hospitals, 48 other affiliates	Oregon	Small to Large	
<i>ORPRN</i>	Oregon Rural Practice-based Research Network	Serving 150,000 patients	Oregon	Small & Rural	
<i>AMIA PCIWG</i>	American Medical Informatics Association, Primary Care Informatics Working Group	Over 600 family physicians, internists, nurse practitioners, etc	National	Small to Large	
<i>Reynolds Group</i>	Donald W. Reynolds Foundation	150 physicians grantees	National	Mix	

Mailing Strategy

- Web-based survey
- Notify respondent by email and postcards
- 3 follow-ups planned

Survey Admin Costs

Table 24 – Cost of conducting survey

Method	Estimated Cost	Follow up1 (original)	Follow up2	Follow up3	Total
Email	\$0				\$0
Website Design	\$0				\$0
Website Hosting	\$100				\$100
Phone Calls	\$100				\$100
Postcard Mailings (http://mailmadesimple.com)					
- Custom Design Service	- \$200	\$200			\$200
- Post Card (4x6)	- 3000 cards for \$750	\$175	\$175	\$225	\$575
- Postage Stamp	- \$0.28 standard postcard within the US	\$600	\$600	\$600	\$1800
Total:					~\$2500