ORGANIZATIONAL SLACK RESOURCES AND QUALITY OF CARE

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Disclaimer

- The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government.
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Interaction question

- Which best describes you?
  - Researcher/Investigator
  - Programmer
  - Administration/policy maker
  - Clinical
  - Other

Objective

- Audience members will become familiar with:
  - Organizational slack: definition, theory, and measurement
  - Debate around organizational slack
  - Research on organizational slack
  - Application of concept to VA primary care
  - Considerations for extending understanding on topic and potential application to own work

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Organizational slack overview

Organizational slack resources

- Concept from organizational theory
- Represents extra organizational resources available to meet demands
- Dilemma: Managers struggle with how to balance efficient operations & extra resources to address unexpected threats/opportunities

Organizational slack resources

- Slack is a "cushion" of actual or potential resources
  - Allows adaption to internal stress; strategically reactive or proactive response to external changes
- Allows
  - a.) Internal maintenance of existing coalitions, resource for conflict resolution, workload protection
  - b. Facilitates strategic behavior of innovation, satisfying, and politics (1,2)
- Related to "efficiency" concept among performance models, like IOM six aims

Types of slack: Ease of recovery(3)

- Available – most easy to recover, liquid, resources not yet used in organization
  - Cash, underutilized employees
- Recoverable – recovered with some effort through redesign or reconfiguration
  - inventory, sales expenses, overhead expenses
- Potential – recovered over longer term from environment with great effort
  - Generate additional capital or debt

Slack measurement

- Financial and non-financial forms
  - Unused staffing, space, social capital, cash and assets(4)
  - Reputation
- Commonly used financial measures(5)
  - Debt/equity
  - Long-term debt/assets
  - R&D/sales
  - Administrative expenses/sales
  - Working capital/sales

Slack measurement

- Ratio of employees per adjusted patient day (6)
- Alberta Context Tool (7)
  - Nine-items assessing health care staff perceptions of slack in staffing; space; and time
- Slack time (single-item) (8)
- Can be an outcome, predictor, or control variable

Interaction question

- Do you consider organizational slack:
  - Good ("cushion")
  - Bad (inefficient)
  - It depends
  - Unsure

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Debate

Slack as a resource

- Slack as resource – beneficial, essential to facilitate innovation, risk taking, enhance performance (9)
  - Hiring/staffing more employees than needed to address upgrades or increasing demand
  - Expand hospital services, campuses, partnering with other agencies
  - Seeking prestigious affiliations (Magnet, Carey award)
  - Improve employee working conditions and benefits
  - Conflict resolution – allows powerful organizational groups with different or conflicting goals to resolve differences without negative impact to organization
  - Allows for "thinking time" (10), valuable in knowledge-based organizations

Slack as a resource

- Protective
  - Buffer against environmental changes
    - absorbs environmental shocks (increase in patient demand, bad publicity) and internal changes (new guidelines, performance measures) by allowing adaptive responses
  - Less worried about failure, so an innovative culture likely to develop
  - Without slack, more likely to focus on “short-term” performance at expense of “long-term” results

Slack as inefficiency

- Slack as inefficiency(11,12)
  - Too much money or resources spent to provide the product/service or the product/service quality exceeds what is needed
    - Defined as inefficient in some economic theories
    - Slack implies inefficiency because resources and demands are not in equilibria
  - Leads to bad decision making and inefficient resource allocation (satisficing, politics, or self-serving managerial behaviors) that hurts performance
    - "Selfish" management behaviors to maximize profit, pet projects about diversification, or personally preferred organizational structure

Slack as inefficiency

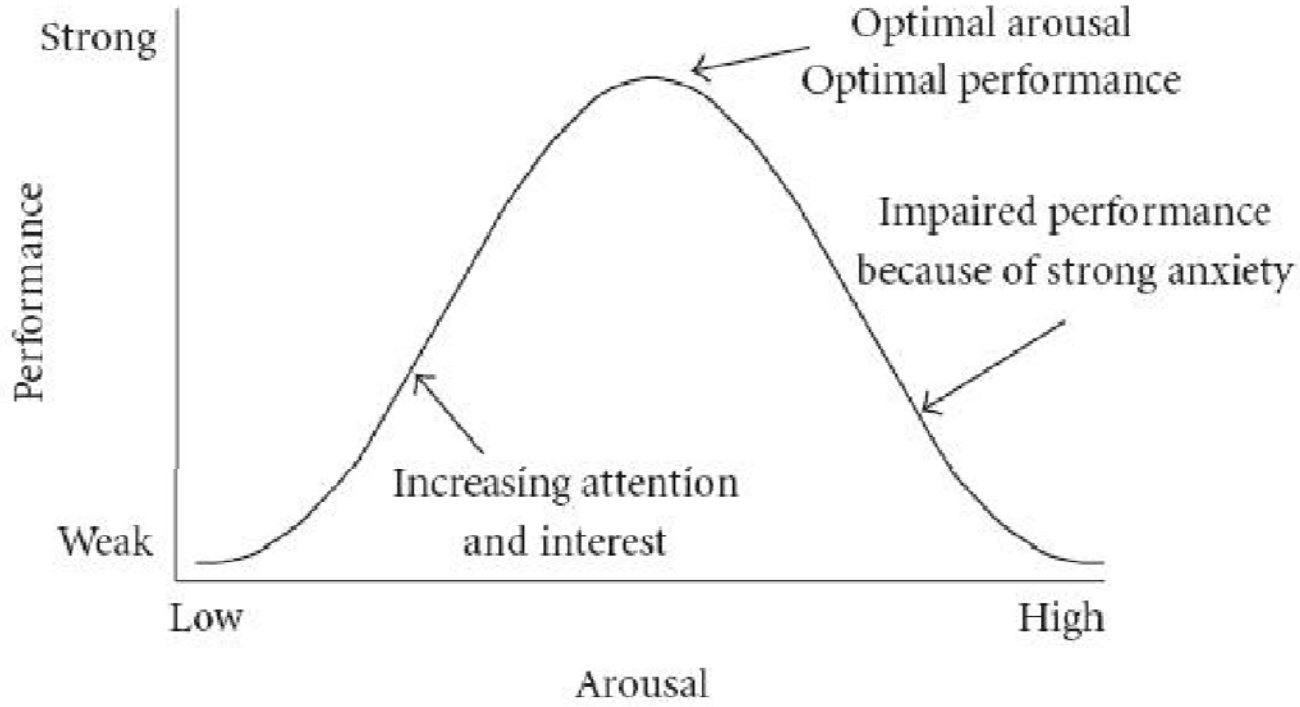
- IOM suggest reducing quality waste and administrative and production costs as they take care away from patients(13)
  - Money, time, staffing spent on other activities takes money away from patient care delivery
- Icarus paradox - success leads to over-confidence
  - Less attention paid to changing environment and lack of responsiveness hurts performance in long-run (14)
- Resource constraint theory – firms with fewer resources use them more efficiently

Compromise view

- Curvilinear relationship exists between slack and success (1)
  - Slack is good up to a point, but too much slack leads to negative outcomes
  - Some pursuit of innovation can lead to better organizational performance
  - Should have surplus of resources for unforeseen threats and opportunities, but it should be limited to prevent irresponsible behavior

Yerkes-Dodson Law

- Relationship between physiological and mental arousal and performance



Prior research

Interaction question

- How often do organizational/clinic-level variables influence your research/policy thinking or decisions?
  - Most of the time
  - Some of the time
  - Hardly ever
  - Seldom

Prior research

- Research on slack sometimes ambiguous
- Meta-analysis of 66 studies to examine slack and performance relationship (5)
- Results showed positive relationship between slack and performance (profitability)
  - Firms appear to use slack to improve performance
- Limited research in healthcare, but some emerging interest in this topic (7, 10,14,15)

Prior research

- Slack influences organizational behavior and performance
  - Innovation and adoption success (4,16)
    - Utilization of research finding in hospitals (7)
  - Learning from patient safety failure events (17)
  - Differences in care quality and efficiency may be explained due to slack (15)
    - Thus, resource allocation can lead to better results

Prior research

- Knowledge slack related to organizational learning, innovation, and performance (18)
- Financial slack related to corporate social responsibility (19)
- Hospital financial slack and 30-day Medicare mortality rates (20)
- Increases in slack may lead to more risky business decisions (21)
- Curvilinear relationship with R&D investments (22)

Primary care example

Study rationale

- Clinics with greater slack should allow for greater provider and support staff flexibility and time to see their own patients and provide appropriate preventive tests and procedures
  - Can lead to more positive patient perceptions of the overall care experience.
- To the extent there is too much organizational slack, inefficient practices may continue, leading to lower care delivery quality.

Methods

- Multi-level study with patients nested within primary care clinics (n=568) in the Veterans Health Administration
- Two independent samples of patients
  - Patient satisfaction surveys (n>62,000)
    - Overall quality of care (0/1)
    - Continuity of care (0/1)
  - Technical quality of care (n>28,000)
    - Influenza vaccination (0/1)

Methods

- Based on VA's Primary Care Management Module (23, 24, 25)
- VA has standard staffing guidelines for primary care developed after extensive review & benchmarking & internal testing
  - See also Stefos et al (26)

Methods: Organizational slack resources

- Panel size per clinic capacity
  - Measure indicated percent that the clinic was above or below VA guideline
  - (0=at guideline; .10=10% slack, -.10 = deficit in slack)
- Support staff per provider
  - Support staff per provider – number of extra support staff per provider beyond guideline

Methods: Influenza vaccination

- Providers generally accept guidelines, but not always followed in full compliance
  - Higher demand during period
  - Time pressures for all preventive guidelines
  - Patient preferences and characteristics
- Organizational change interventions associated with greatest change in vaccination(27)
- Thus, organizational slack may play a role

Methods: Patient sample inclusion

- EPRP dataset
  - Influenza vaccination measure (Sept 06 to March 07)
- Included only patients matched to SE dataset with a primary care clinic visit during Sept 06 to March 07
- Patients at least 50 years old to meet guideline
- Total of 28,059 observations final analysis

Methods: Patient experience measures

- SHEP survey
  - Administered equally to patients making specialty care visits, primary care visits – both new and established
  - Only included patients with survey results matched to primary care visits
  - 63,892 patients
  - 54% response rate nationally and average of 54% (11% SD) at clinic-level

Methods: Continuity of care

- Continuity of care
  - Patients with regular care provider more likely to receive care services (28)
  - In busy clinics, patients may not be able to get appointment with own provider, slack resources may influence availability of provider
  - Was the provider you saw during your most recent visit your regular provider--the one you usually see when you come to the VA (0/1)
  - N=49,924

Methods: Overall quality of care

- Widely used to assess quality perceptions and should be sensitive to organizational resources
- Overall, how would you rate the quality of care you received during the past 2 months? (0/1)
  - n=54,518
- Tetrachoric correlation was .28 between two survey measures
- Patients in SHEP and EPRP sample were different

Control variables: Patient-level

- Patient-level
  - Age
  - Sex
  - Marital status
  - Visit frequency during time period to primary care
  - Quality of life (PCS and MCS)
    - For SHEP measures only

Control variables: Clinic-level

- U.S. Census Regions (4 areas)
- Urban or rural clinic location
- Community-based or hospital-based
- Member of Council of Teaching Hospitals
- Operating at least five years (proxy for clinic maturity)
- Robert W. Carey award within past 3 years

Control variables: Clinic-level

- Support staff mix – RNs to total support staff
- Clinic size (Total FTEE)
- Provider type index (mix of MDs to NP/PA)
- Full-time provider index
- Group-oriented organizational culture (AES)

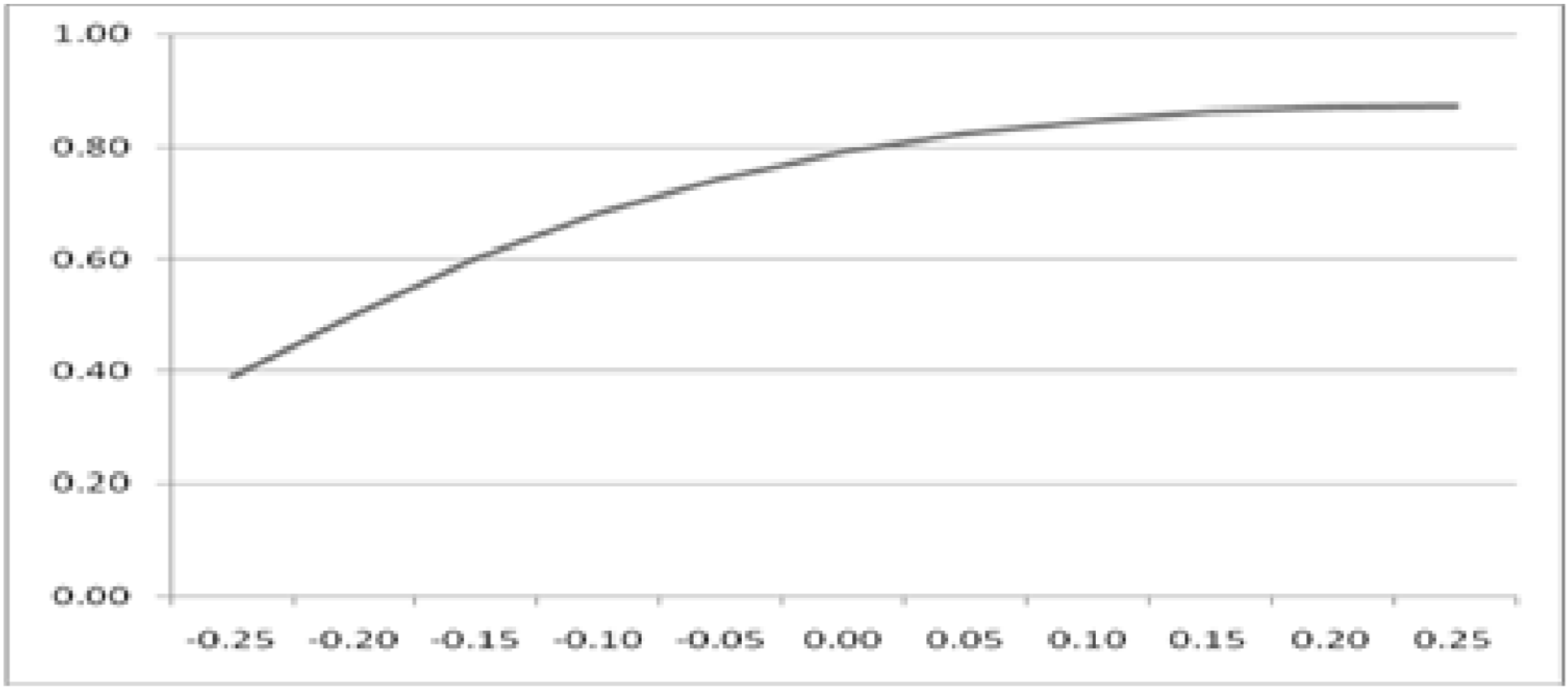
Analysis

- SAS PROC GLIMMIX
  - Adjusted odds ratios
- Patient variables entered in Level 1
- Clinic variables entered in Level 2
- Organizational slack linear & quadratic term
  - Panel size to capacity slack
  - Support staff per provider slack
  - Clinic-level covariates correlation less than ρ |.30|

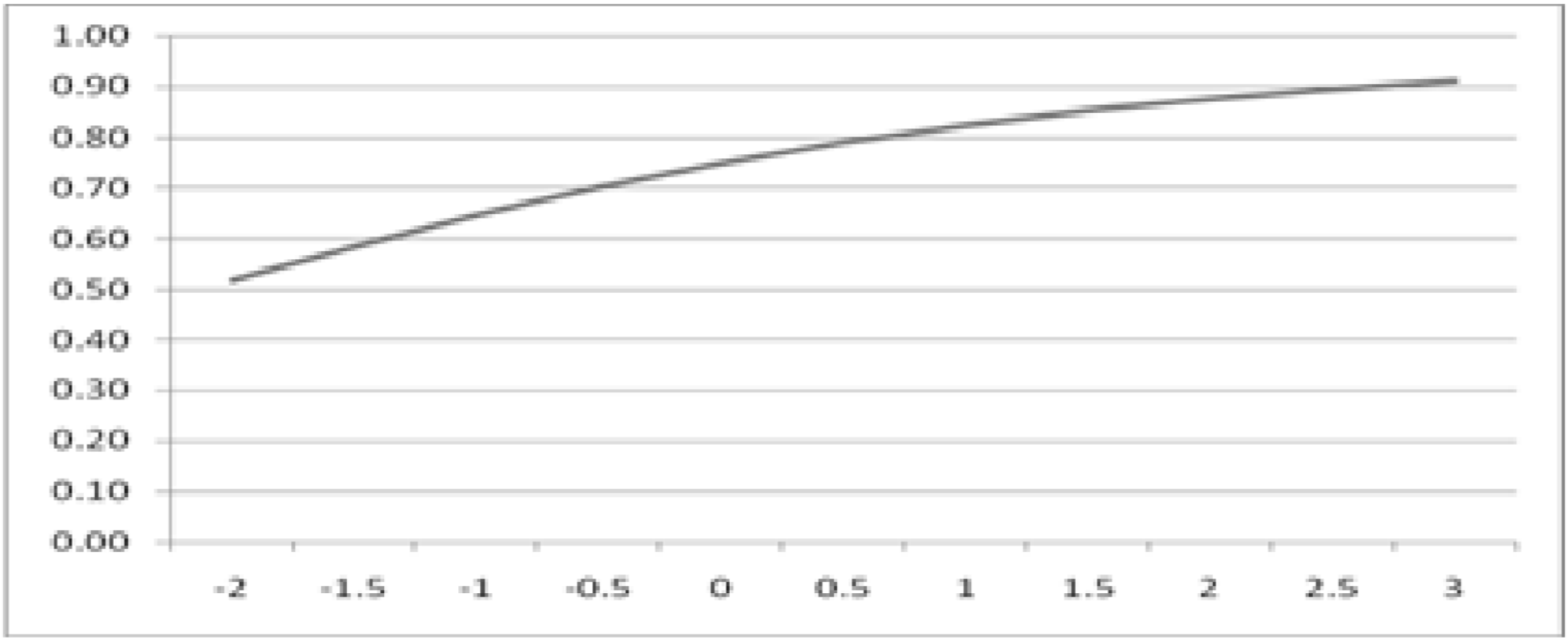
Findings: Adjusted Odds Ratios

Organizational slack	Influenza vaccination	Continuity of care	Overall quality of care
Panel size per capacity	1.32	0.94	1.08
Panel size per capacity^2	**0.11***	0.72	**0.35***
Support staff per provider	**1.07***	**1.05***	0.98
Support staff per provider^2	**0.97***	**0.97***	0.99
* Indicate $p<.05$			

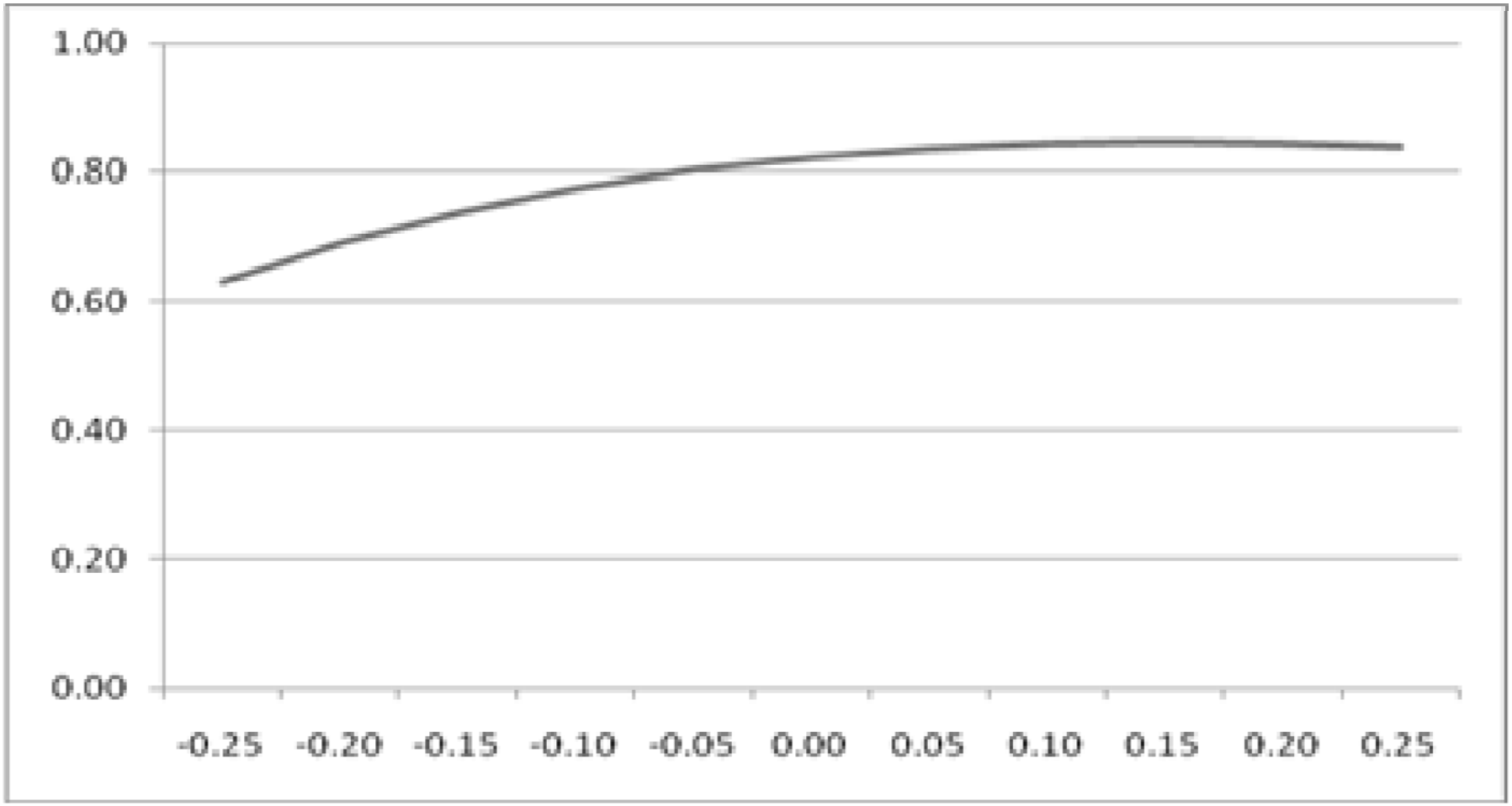
Panel size per clinic capacity slack and influenza vaccination



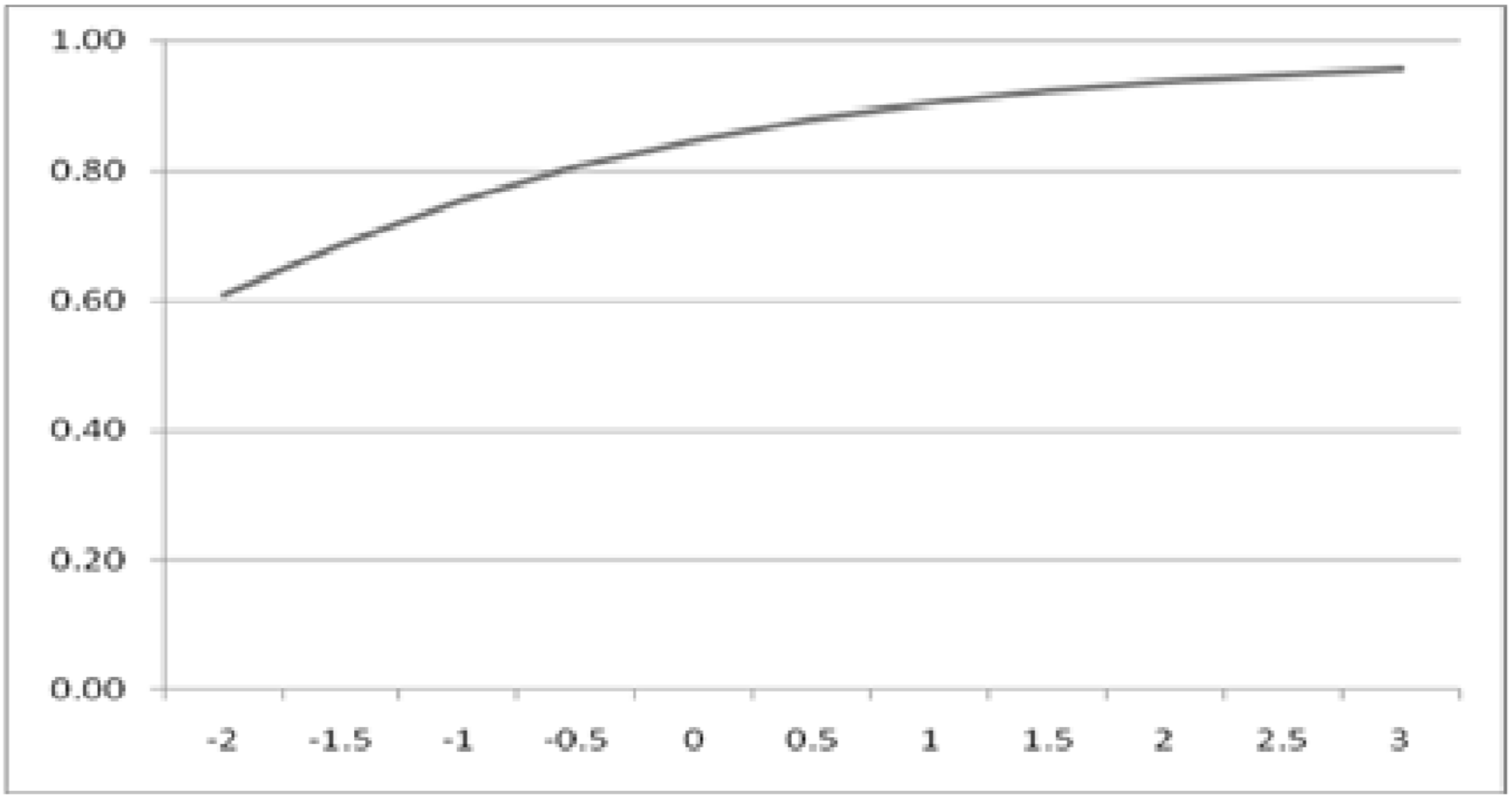
Support staff per provider slack and influenza vaccinations



Panel size per clinic capacity slack and overall quality



Support staff per provider slack and continuity of care



Other findings

- Marginal effects examined
  - Improvement for continuity and vaccination occurred for up to 1 and 1.15 FTE beyond staffing guidelines
  - For overall quality and vaccination, improvement up to 4% (n=1248) and 7% (n=1284) beyond guidelines
    - Beyond this amount – probability of a "good" patient outcome started to decline

Other findings

- Based on graphs, we also tested whether natural logarithmic function would fit data better
  - Our results would not have changed, n.s. findings
- Clinic-level covariates
  - Geographic region significant for all measures
  - Teaching affiliation, group-oriented organizational culture, clinic size, and provider type index significant in 2 out of 3 models

Summary

- Having insufficient resources is far worse than having too many in this study
- Additional staffing resources contributed to higher levels of quality, but only to a certain point;
  - at which point, more staff appeared to make only minimal contributions to quality, and may slightly decrease quality

Impact of limited resources

- Lower performance due to resources (29)
  - Barriers to capability: staff unable to perform previously successful work strategies due to limited resources
  - Barriers of will: staff less motivated because of fewer job resources

Impact of excessive resources

- Staffing above guidelines can create problems
  - Excess staff can create coordination problems
  - Can reduce collective effort / lead to social loafing (30)
    - Taking accountability for testing may decrease or requests may get sent back for more detail

Implications

- Finding the right mix of staffing resources, in a resource-constrained work environment is becoming a greater challenge
  - New models of primary and specialty care delivery
  - Having too few resources can be detrimental to performance rather than having too many
- Appear to support VA guidelines
- Consider cost of adding new staff to current models, would a .5 FTE lead to a big difference?
  - Other factors beyond quality measures to consider for personnel changes

Limitations

- Only VA was used
- Staffing measures such as turnover, job rotation, vacancy rates, scopes of practice not accounted
  - Potentially important antecedents or measures of slack
- Used clinic-level scores rather than provider-level
- Cross-sectional
- Did not distinguish among different types of slack

Other areas for consideration

- Financial performance metrics
- Assess staff perceptions of organizational slack and influence on workplace perceptions and quality of care
- Influence on implementation and quality improvement practice within VA initiatives
- Apply to settings with other developed staffing guidelines

Other areas for consideration

- Assess ease of recovering/acquiring slack among different dimensions
- Management actions to maintain/utilize slack or obtain resources
- Workplace and team design impact

Polling question

- How might you consider using the concept of organizational slack within your own work?

Open ended

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