Use of evidence-based models and factors influencing program directors of PCM programs

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PCM: Areas for Study

- Prenatal case management (PCM), community-based, non-medical case management for high risk pregnant women, as quintessential public health nursing

- Research on effectiveness exists

- Lacking is research on the variability of how PCM programs are implemented

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Background

- At least two models of PCM are effective
    - Nurse Family Partnership (Olds et al.)
        - Home visits by Nurses
    - Orem's self care theory (Marriner)
        - Educate, assist and support client in achieving self care agency
- Use of PCM model
    - May or may not be a conscious choice
    - May or may not be influenced by factors at the organization level
- No data exist on which models are actually used, if any…

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Research Questions:

This secondary data analysis sought to answer the following questions:

1) The use of evidence-based PCM models is related to which organizational factors?

2) The use of evidence-based PCM models is related to which contextual factors?

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Methods: Sample

- Queried states
  - 32 states provide Medicaid-reimbursed PCM
- Requested provider lists
  - 30 states shared lists
- Constructed population of programs frame
  - Eliminated duplicate names and addresses
  - Verified program eligibility
- Invited programs to participate (N=1029)

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Methods:
Questionnaire Construction

- **PCM Program Characteristics**
  - Catchment area, numbers of clients, financing, program policy items for summed score, and other items

- **Program Personnel Characteristics**
  - Numbers of FTEs by discipline and role, caseload size

- **Use of Evidence**
  - Barriers to use of evidence scale (McKenna, Aston & Kenney, 2004)
  - Use of theory

- **Organization Characteristics:** ownership, type

- **Program Director Characteristics:** degree, discipline, job title, time in position, and other items
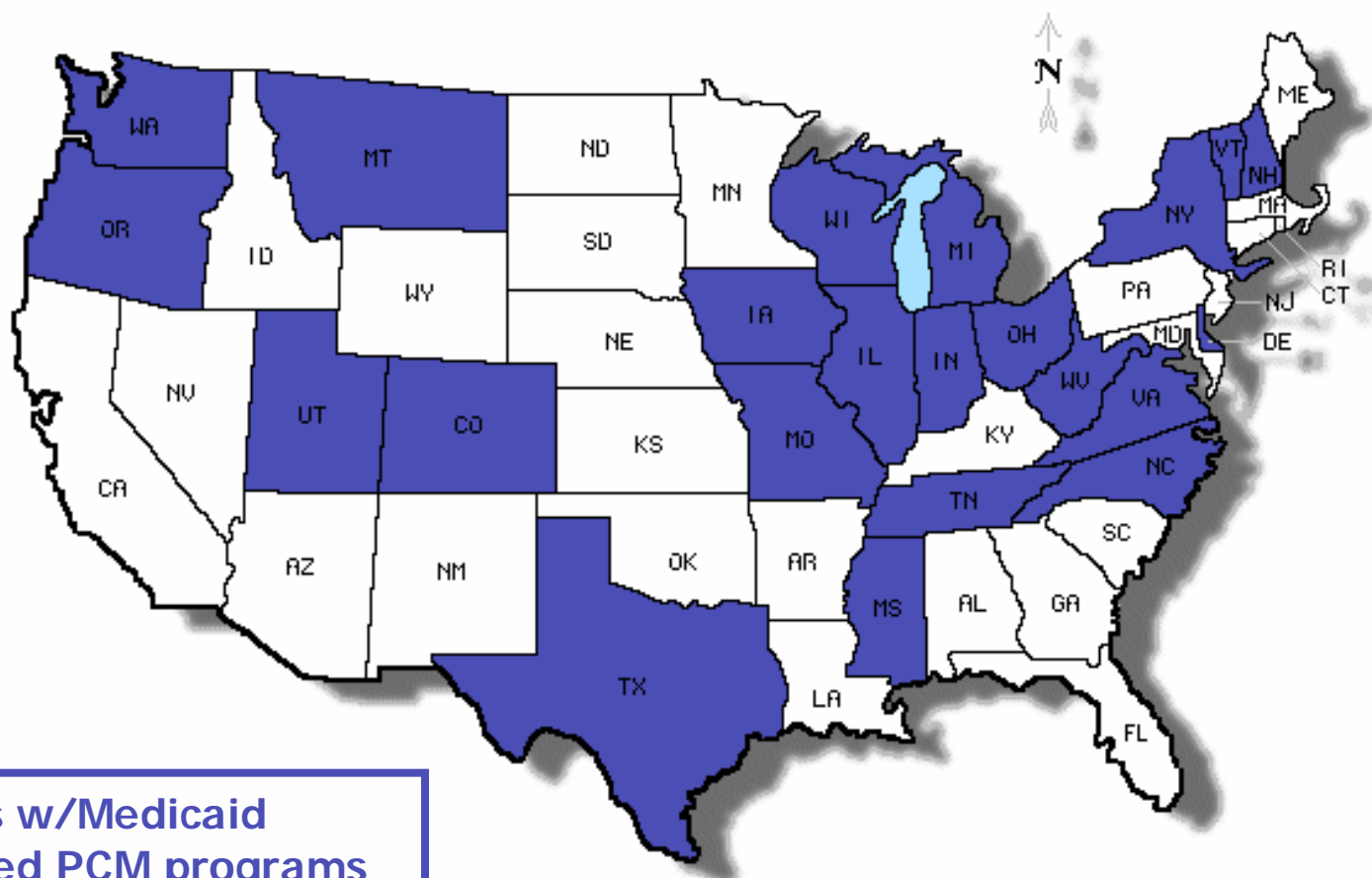
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Methods: Data Collection

- Self-administered questionnaire
  - Hard copy or Internet-based options
  - Analyses presented use data from hard copy
- Extensive follow-up at regular intervals
  - Telephone, e-mail, fax, and mail reminders, up to 6 contacts
- 114 programs completed questionnaires
- Overall response rate = 35%
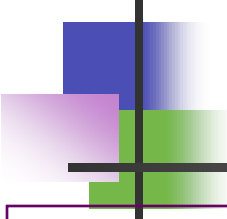 - American Association of Public Opinion Research (AAPOR) Response Rate 4 formula

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National Distribution of Participating Programs (n=114)

22 States w/Medicaid reimbursed PCM programs represented in the sample.

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Characteristics: Program Director as Respondent (n=114)

Personal Characteristics	Professional Characteristics

- 98% Female
 	
- Race/ethnicity
   - 87% White
   - 3% Hispanic
   - 9% African American
   - 1% Native American
	- Highest Degree
	   - 31% Less than Baccalaureate
	   - 49% Baccalaureate
	   - 20% Master's or higher
	
	- 73% RNs
	
	- 17% with national certification
	
	- Mean time in current position: 7.8 years

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PCM Program Characteristics
(n=114)

- **Number clients served per month**
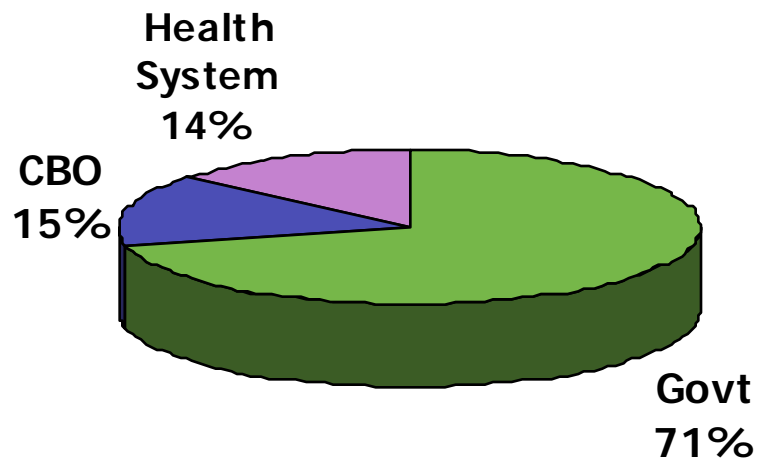 - Range: 1 to 1836
  - Mean: 118

- **Age of PCM Program**
  - Range: 3 to 27 years
  - Mean: 15.5 years

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Organization Environment
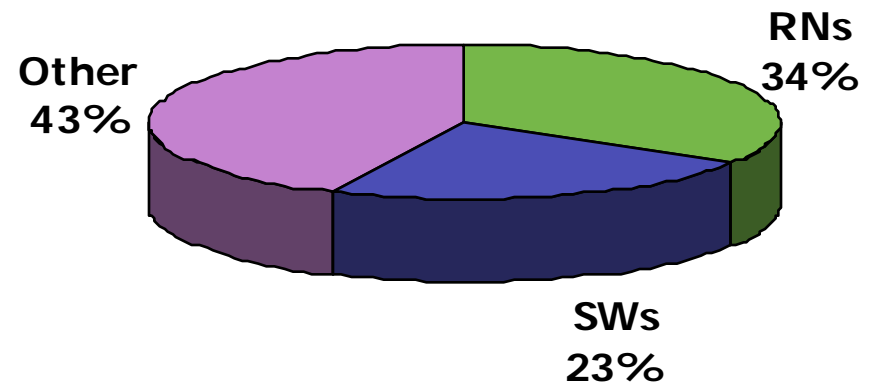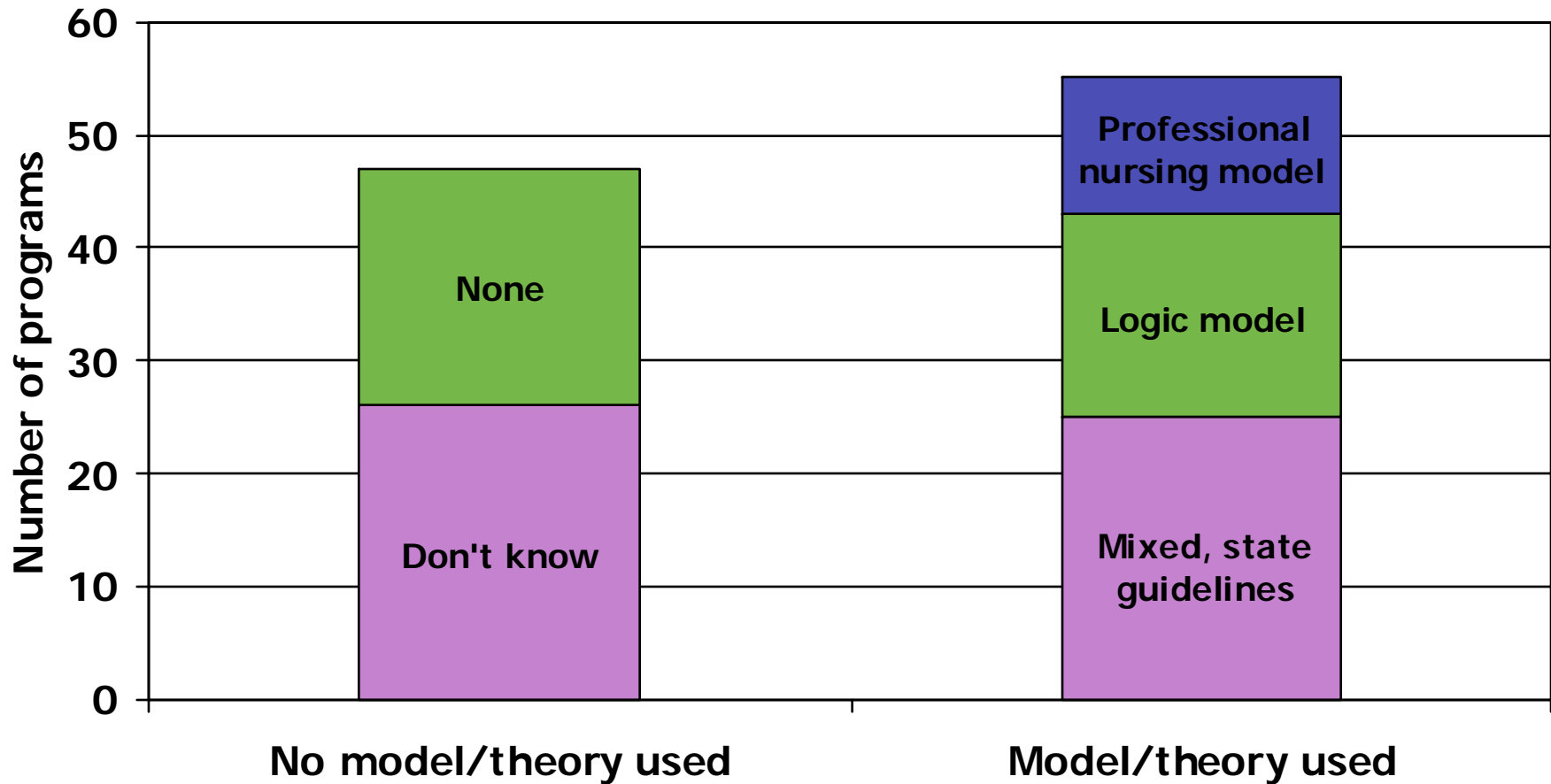(n=114)

Organization Type

Health System 14%

CBO 15%

Govt 71%

Organization Size

- Mean FTEs: ~ 4
- Range: 0 to 21

Other 43%

RNs 34%

SWs 23%

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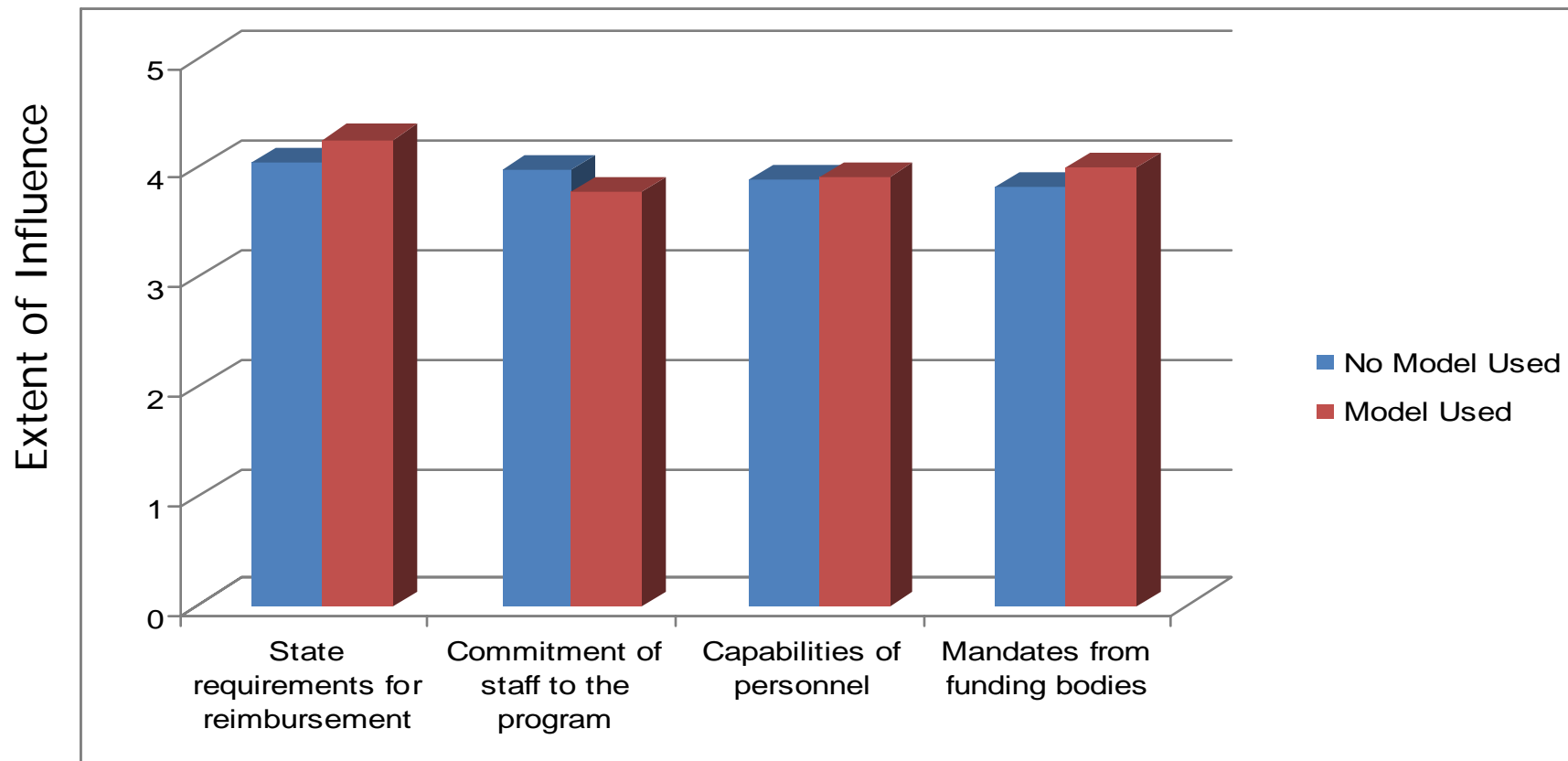# Model/Theory Use

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Analysis - Variables Description

- **Influences on PD: "...to what extent your decisions about the prenatal case management program are influenced by the following factors."**
  - 19 influential factors
  - Scale 0-5, 'No influence at all' to 'Very great influence'
- **Perception of percent of practice considered evidence based**
- **Model use: Any model used, No model used (including 'don't know')**

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Results: Mean influence of factors among program directors using a model vs not (1-4)

Extent of Influence

- No Model Used
- Model Used

Y-axis: 0, 1, 2, 3, 4, 5

X-axis categories:
- State requirements for reimbursement
- Commitment of staff to the program
- Capabilities of personnel
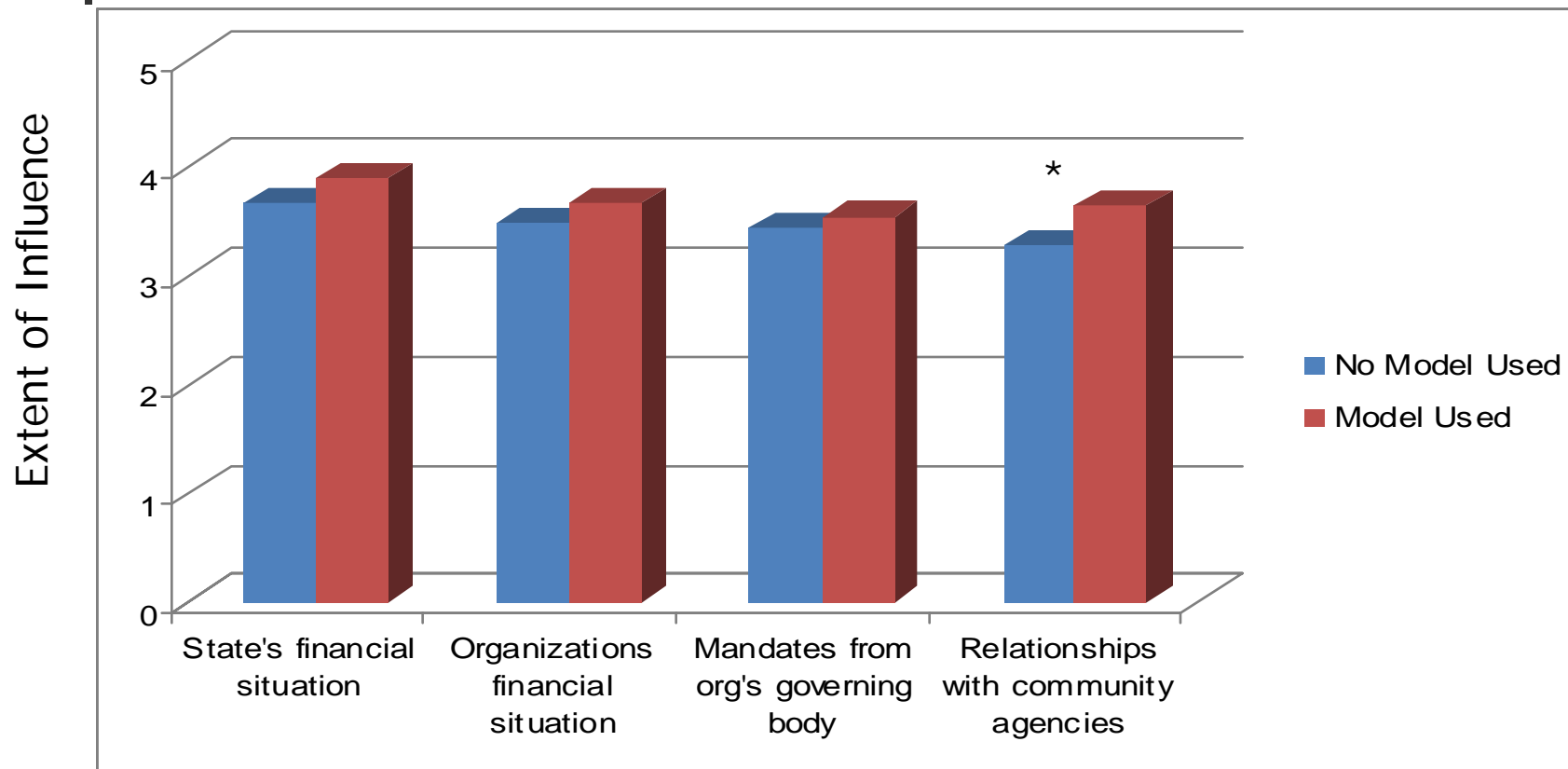- Mandates from funding bodies

Factors Influencing Program Directors

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*Significant Difference at 90%
**Significance Difference at 95%

Results: Mean influence of factors using a model vs not (5-8)

Extent of Influence

State's financial situation | Organizations financial situation | Mandates from org's governing body | Relationships with community agencies

*
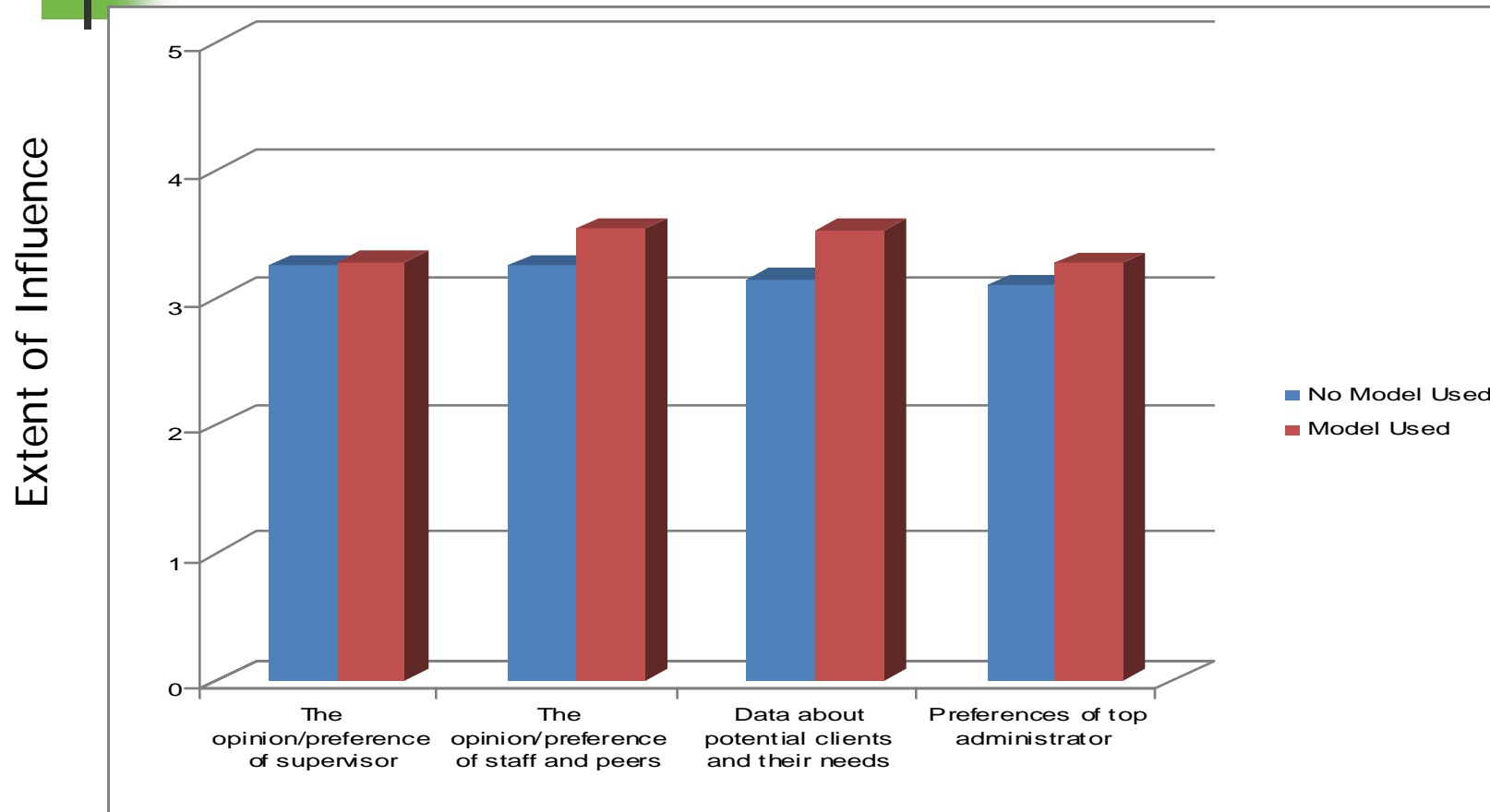
■ No Model Used
■ Model Used

Factors Influencing Program Directors

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*Significant Difference at 90%
**Significance Difference at 95%

Results: Mean influence of factors using a model vs not (9-12)

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*Significant Difference at 90%
**Significance Difference at 95%

Results: Mean influence of factors using a model vs not (13-16)

Factors Influencing Program Directors
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*Significant Difference at 90%
**Significance Difference at 95%

Results: Mean influence of factors on using a model vs not (17-19)

Factors Influencing Program Directors
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*Significant Difference at 90%
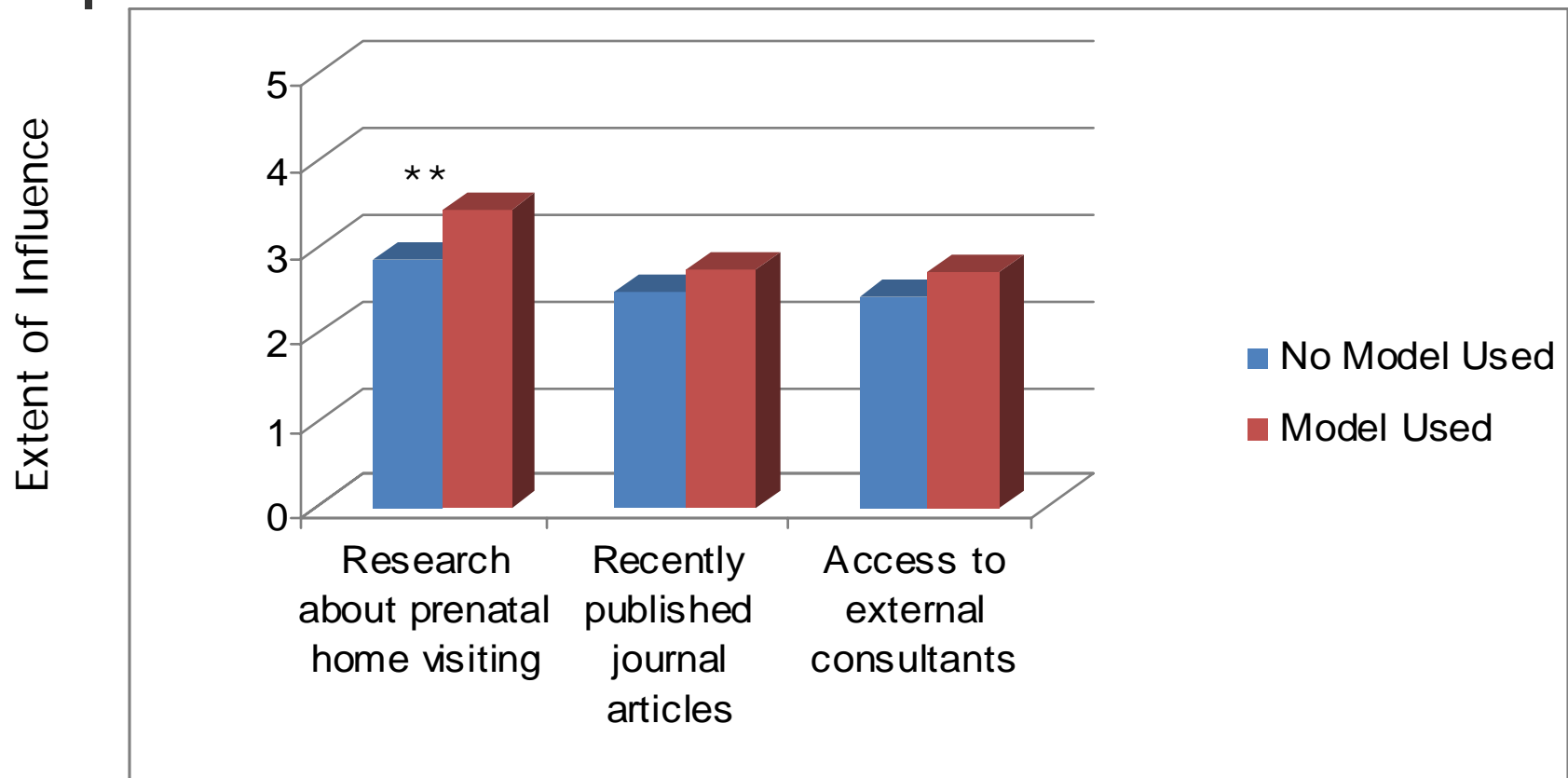**Significance Difference at 95%

Bi-Variate Correlations

Percent of practice evidence-based with factors influencing Program Directors decisions

	Research on PCM	Recently Published Articles	External Consultants	Community Standards	Professional Preferences
Perceived % practice evidence based (r-value)	.35(**)	.33(**)	.28(**)	.23(*)	.21(*)

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

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Limitations

- ## Methodology and data collection
  - Limited contact with program directors
  - New program directors
  - Long time for data collection
  - Low response rate -- potential non-response bias
  - Influences on PD decisions

- ## Sample and generalizability
  - 22 states (missing states)

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Implications

- Program, Practice Implications
  - Integrate PCM research into program planning
  - Issues of cost of EB Model must be addressed
- Policy Implications
  - Incentives to use EB model for PCM practice?
  - Professional accountability for EBP?
- Next Research Needed
  - What other factors might determine whether or not a program director implements evidence based research?
  - Specific EB model use open ended questions

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Citations and References

• Marriner, A. (1986) Nursing Theorists and Their Work. St. Louis: Mosby .

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• Olds, D.L., Kitzman, H., Hanks, C., Cole, R., Anson, E., Sidora-Arcoleo, K., Luckey, D.S., Henderson, C.R., Holmberg, J., Tutt, R.A., Stevenson, A.J., and Bondy, J. (2007) Effects of Nurse Home Visiting on Maternal and Child Functioning: Age-9 Follow-up of a Randomized Trial. *Pediatrics*. 120: 832 -845.

• Olds D.L., Kitzman H., Cole R., Robinson J., Sidora K., Luckey D.W., Henderson C.R. Jr,Hanks C, Bondy J, Holmberg J. Effects of nurse home-visiting on maternal life course and child development: age 6 follow-up results of a randomized trial. (2004) *Pediatrics.* 114(6):1550-9.

• Olds D.L., Robinson J., Pettitt L., Luckey D.W., Holmberg J., Ng R.K., Isacks K., Sheff K., Henderson C.R. Jr. Effects of home visits by paraprofessionals and by nurses: age 4 follow-up results of a randomized trial. (2004) *Pediatrics*.114(6):1560-8.

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Thank You !

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Study Website http://tigger.uic.edu/~issel/index.htm