

**SB08-188**  
**Pilot Program Implementation**  
**Study**



**THE RELATIONSHIP BETWEEN  
NURSE INVOLVEMENT AND  
OUTCOMES**

# Background



- **Governor's Nurse Workforce and Patient Care Task Force Recommendation in 2007**
- **Funded by Legislation produced by Senator Betty Boyd in 2008**
- **Pilot Program Implementation Committee appointed**
  - Broad based representation from statewide stakeholders
- **Legislation funded initiate study steps**
  - Research consultant selected
- **Design, implementation, results: 18 months**

# Purpose of the Study



- **Generate knowledge about what nurses think about their current level of involvement in decisions about patient care, the work environment, and planning for staffing.**
- **Associations between perceptions of involvement and organizational outcomes**

# Mixed Method Design



- Qualitative:
  - How nurses define involvement
  - How nurses want to be involved in decisions
  - Current perceived level of involvement
  - *Primary purpose: inform instrumentation*

# Mixed Method Design



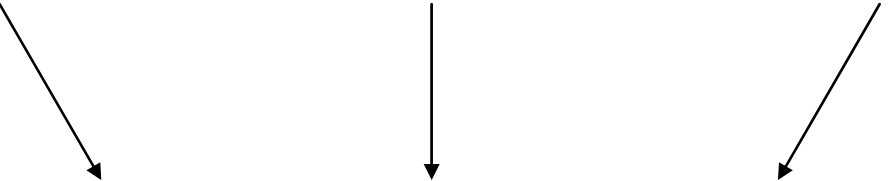
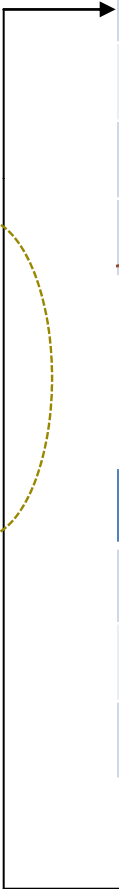
- **Quantitative**
  - Measure associations between involvement and:
    - ✦ Satisfaction
    - ✦ Unit level patient outcomes
    - ✦ Organizational outcomes

| Clinical Autonomy:<br>Involvement in<br>Decisions about<br>Nursing Practice | Work Autonomy:<br>Involvement in<br>Decisions about<br>Work Methods | Control over<br>Clinical Practice:<br>Involvement in<br>Decisions about<br>Work Environment |
|---|---|---|
| Identification  | Identification  | Identification  |
| Development   | Development   | Development   |
| Selection   | Selection   | Selection   |
| Implementation  | Implementation  | Implementation  |

Feedback

|   |                         |
|---|-------------------------|
| <b>Staff Nurses Make Decisions Independently</b>  | <b>Patient Care</b>     |
| Staff Nurses and Leadership Share Decision-Making | <b>Work Methods</b>     |
| Leadership Solicits Input and Makes Decision      | <b>Work Environment</b> |
| Leadership Makes Decision                         |                         |

**OUTCOMES**



# Methods: Phase I



- **Stratified random sample**
- **10 Identified hospitals**
  - If hospital did not agree to participate – city-based focus group
- **IRB approval received:**
  - Academic
  - Hospital-based
- **Initial contact made with CNO**
- **On-site data collection**

# Methods to Enhance Trustworthiness



- **Triangulation**
  - Focus groups
  - Interview with CNO
  - Observation of nurse involvement groups
- **Audit Trail**
- **Bracketing**
- **Testing of inter-coder reliability**
  - Set *a priori* at 85%

# Sample



- **Six of ten hospitals agreed to participate**
  - 48 nurses participated in focus groups
  - All six CNO's interviewed
  - Five involvement groups observed
- **Two team members**
  - Focus group / interview facilitator
  - Observer / field notes
- **Four city-based focus groups**

# How do nurses want to be involved?



***COLLABORATION OF IDEAS WITH OTHER DISCIPLINES WAS A KEY FINDING IN TERMS OF DESIRED INVOLVEMENT. MOST IMPORTANT WAS THE PERCEPTION THAT NURSES' INPUT WAS BEING HEARD AND VALUED BY LEADERSHIP. "GIVE NURSES A VOICE" WAS A COMMON REFRAIN.***

# Themes



- **Nurses want empowerment in a variety of ways**
  - Respect for opinions
  - Inclusive participation
  - Transparency of rationale for decisions
  - Collaboration in decision making

# Themes



- **Feedback about decisions**
  - Informal and formal communication methods are used
  - Feedback processes are not consistent
  - Frequently don't know what happens to their suggestions

# Themes



- **Nurses expect to be held accountable for their decisions**
  - Most powerful: Peers
  - Performance evaluations by managers
  - Quality improvement processes

# Built and tested 11 item specific survey



- Involved in planning for staffing
- Formal structures for involvement / functionality (2)
- Informal structures for involvement / functionality (2)
- Organization is supportive of nurse involvement
- Nurse are held accountable for decisions / efficacy (2)
- Nurses are involved in outcomes evaluation
- Formal and informal feedback systems (2)

# Instrumentation



- **Instruments possessed strong psychometric properties**
  - Houser/Graham-Dickerson alpha = .896
  - Intent to leave alpha = .907
  - Satisfaction alpha = .828

# Quantitative Phase



- Quantitative data collection ended May 31<sup>st</sup>
- Ten of 15 randomly selected hospitals participated
- IRB approval received from all ten / Regis waiver
- All data collected via internet based data repository
  - Onsite data collection also offered
- N=54 usable units of data

# Variables of Interest

- **Nurse level:**

- Involvement
- Intent to Leave
- Satisfaction

- **Unit Level**

- Turnover
- Patient satisfaction
- Patient Complaints
- Infections (3)
- Adverse events (3)

- **Descriptive Statistics:**

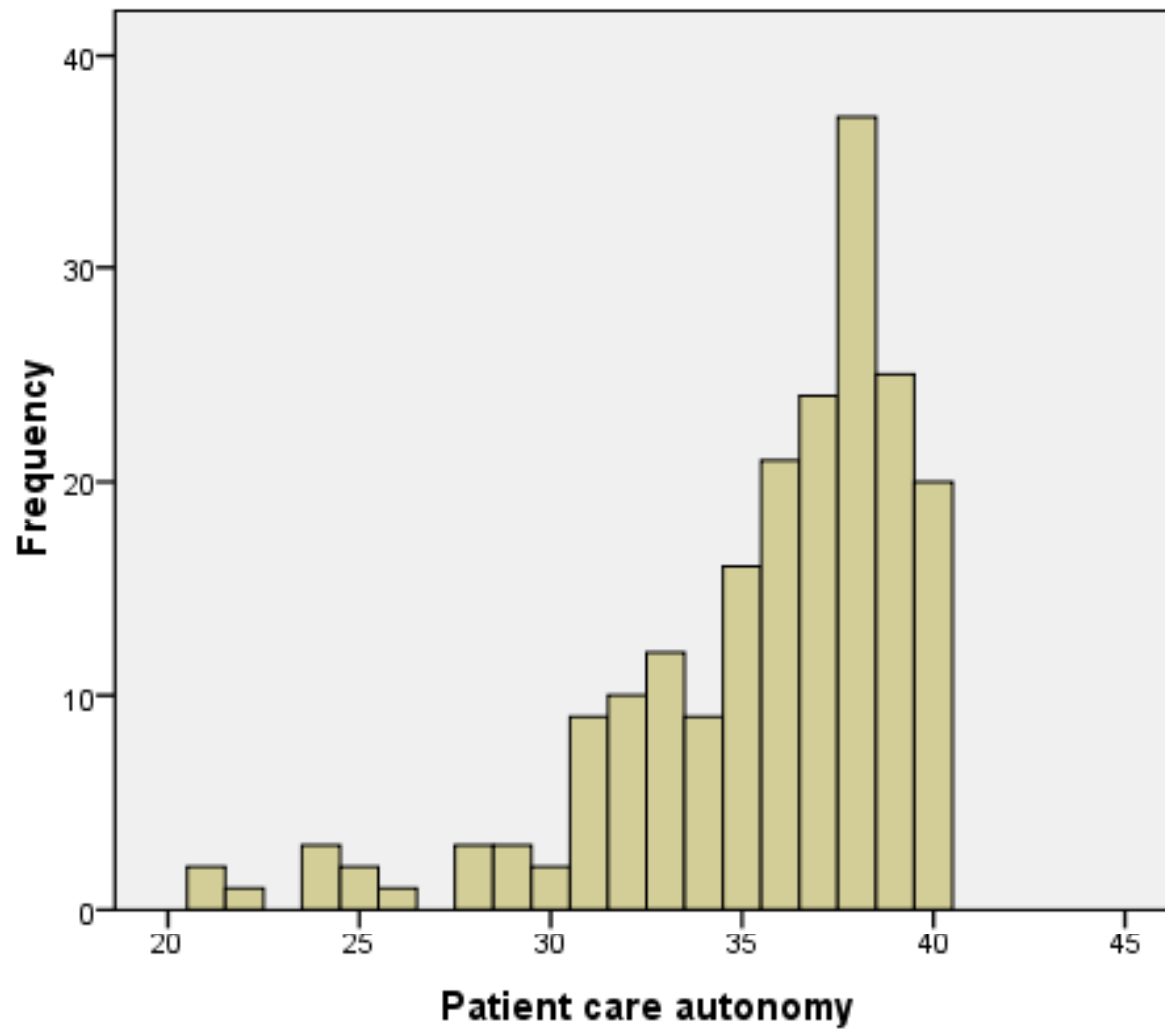
- Frequency analysis
- Correlation analysis
- Chi square analysis

# Final Phase Analytic Methods



- **Data inspection**
- **Creation of summary scores**
  - Unit involvement scores (means)
  - Sum of 11 specific items
  - Grouping variables (+/-1SD from median cutoff)
- **Imputation / normalization**
- **Descriptives**
  - **Correlation** of continuous measures
- **Multivariate analysis of variance (MANOVA)**
  - Differences in outcomes between “involvement” groups

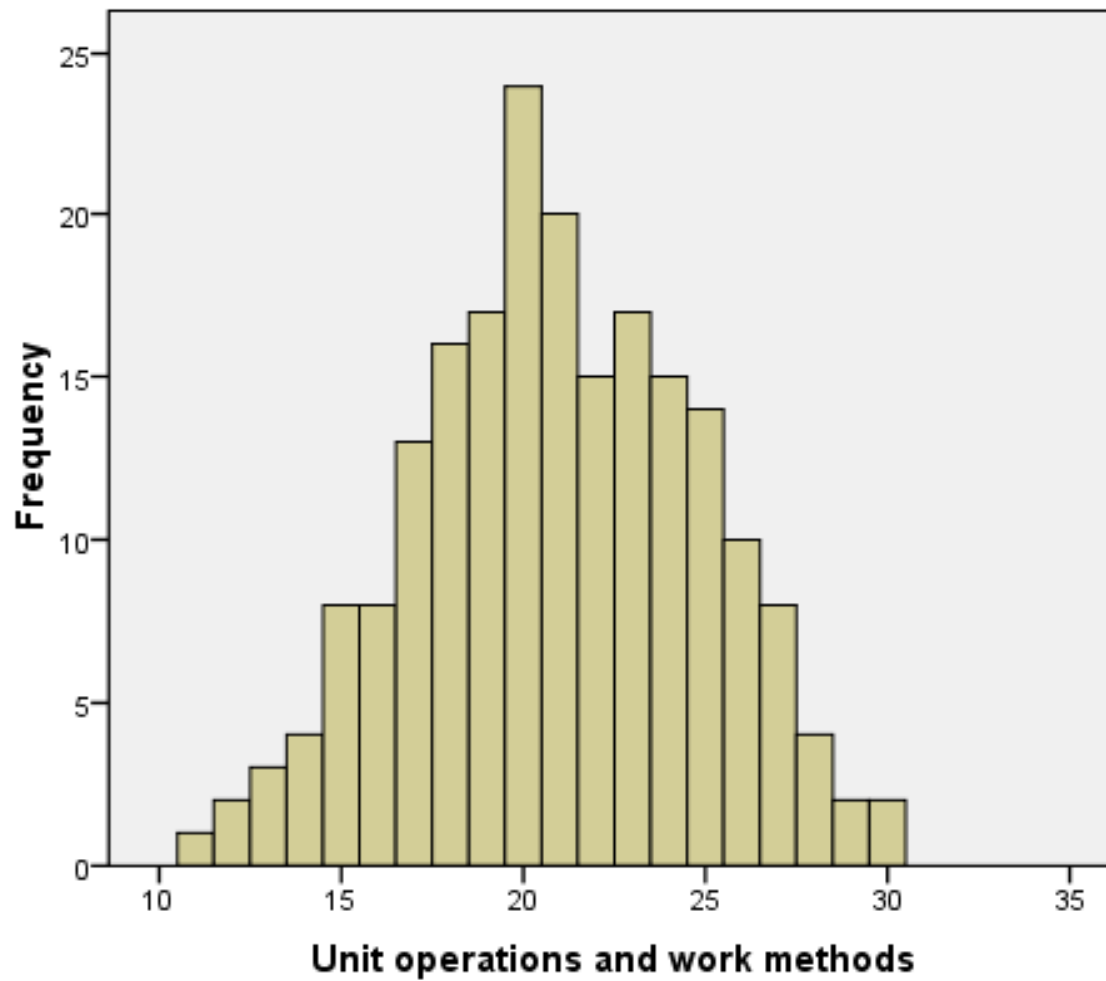
### Patient care autonomy



Mean =35.65  
Std. Dev. =3.926  
N =200

Range: 21-40

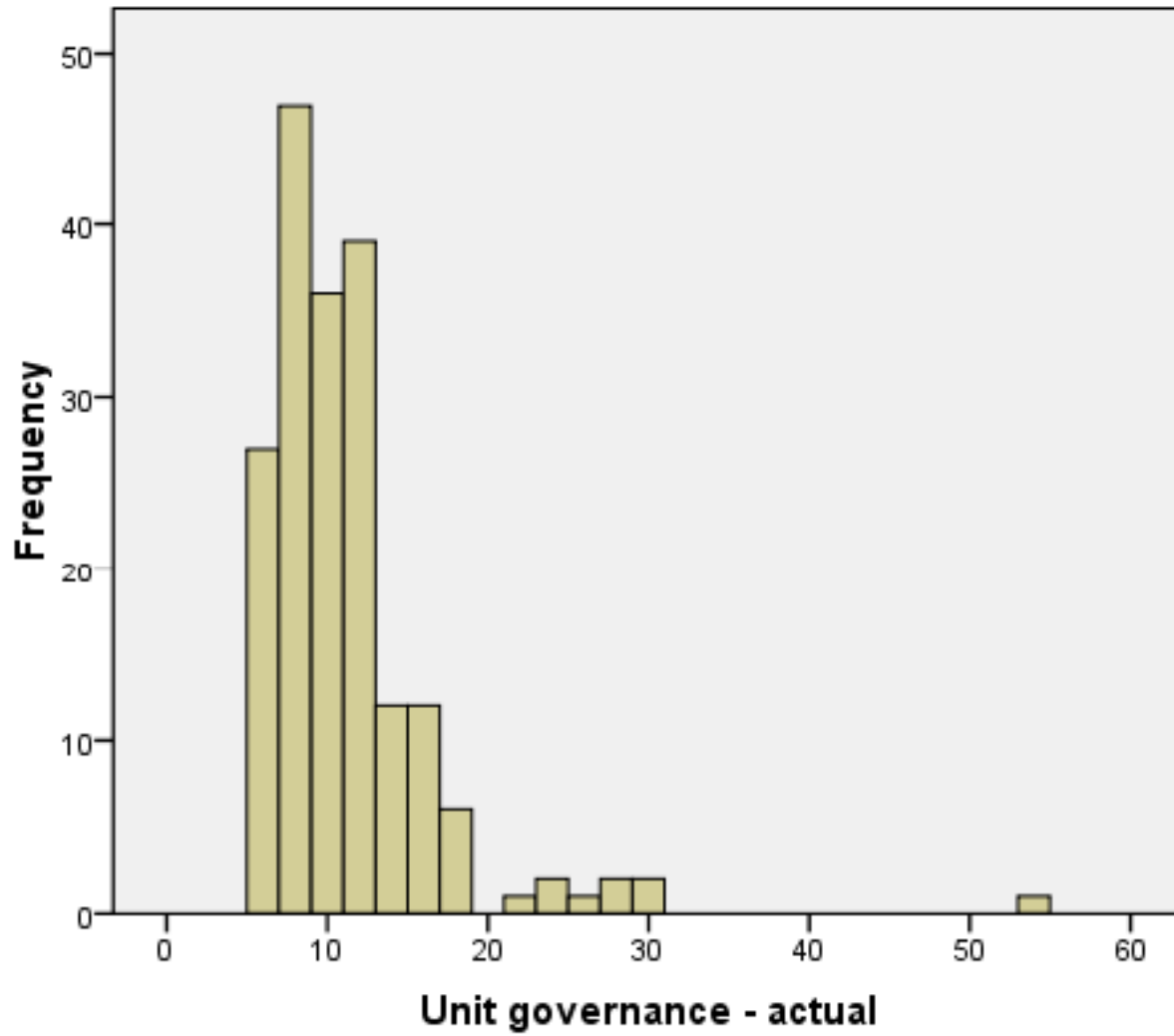
### Unit operations and work methods



Mean =20.92  
Std. Dev. =3.884  
N =203

Range: 11-30

### Unit governance - actual

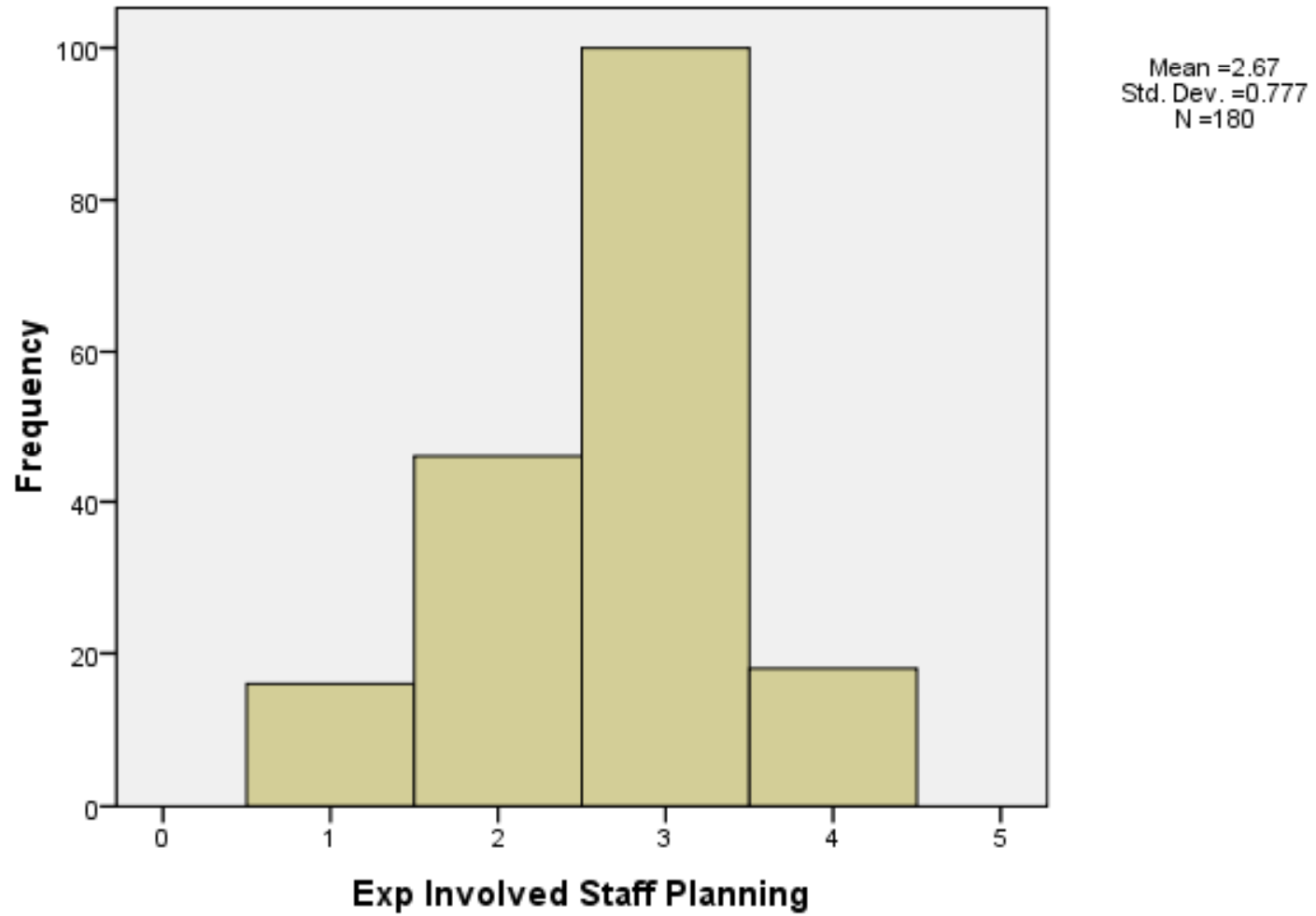


Mean =10.8  
Std. Dev. =5.532  
N =188

Range: 6-54

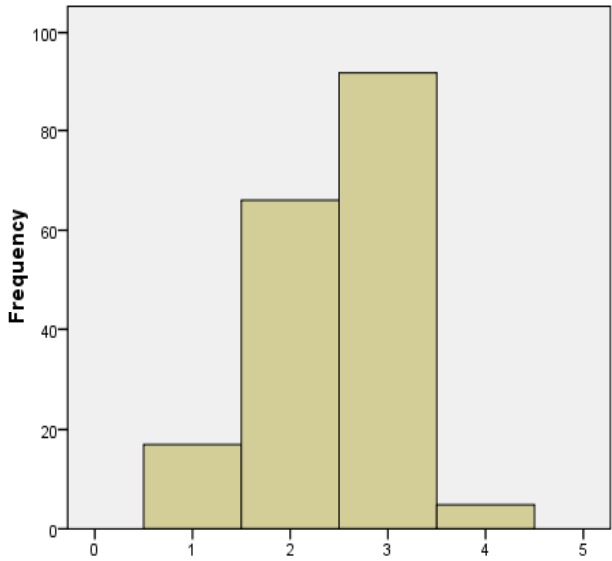
| <b>Clinical Autonomy:<br/>Involvement in<br/>Decisions about<br/>Nursing Practice</b> | <b>Work Autonomy:<br/>Involvement in<br/>Decisions about<br/>Work Methods</b> | <b>Control over<br/>Clinical Practice:<br/>Involvement in<br/>Decisions about<br/>Work Environment</b> |
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### Exp Involved Staff Planning





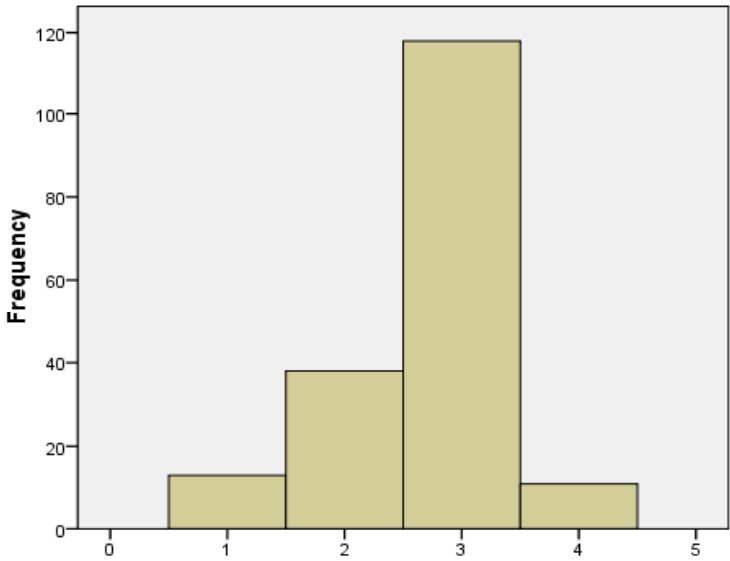
**Formal Involment staff decisions**



Mean =2.47  
Std. Dev. =0.705  
N =180

**Formal Involment staff decisions**

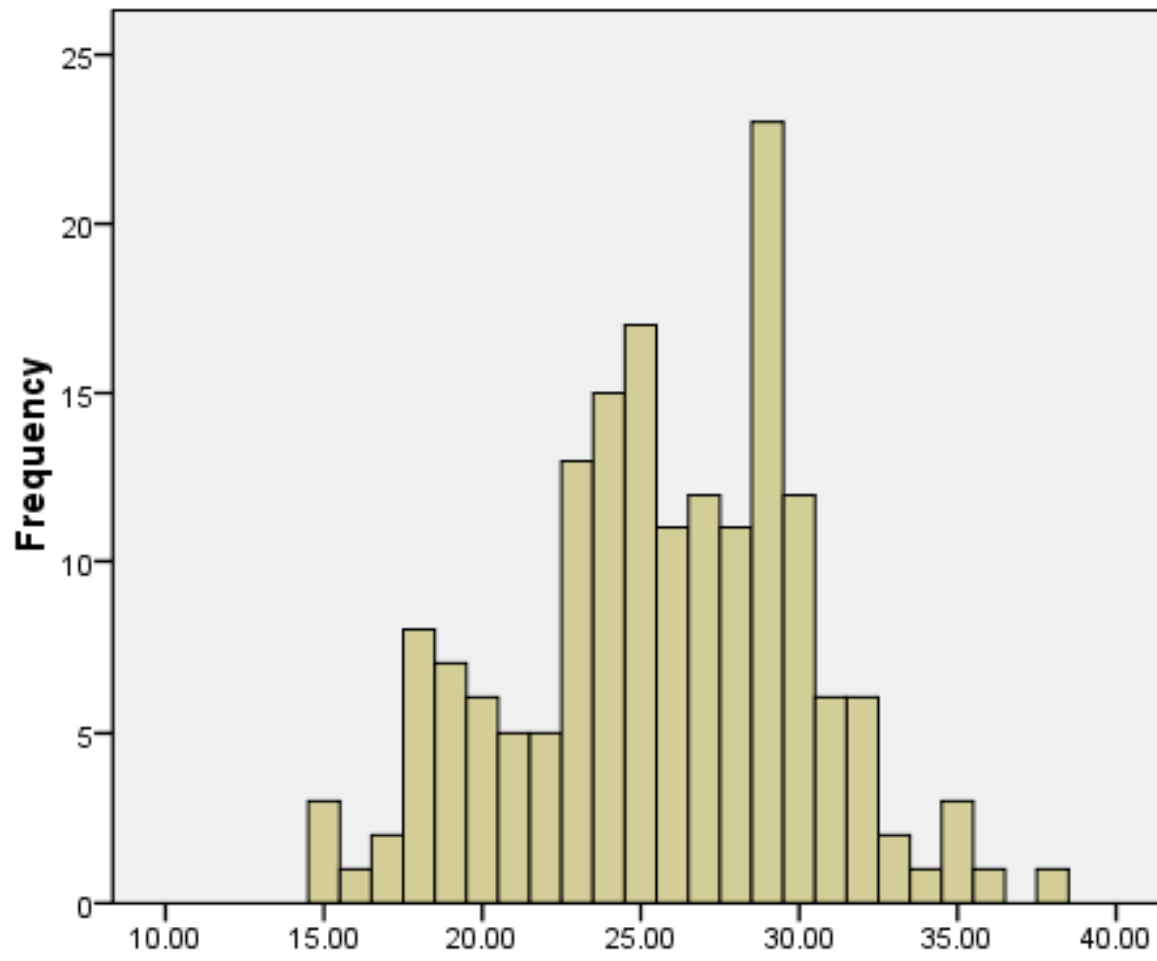
**Informal Involv staff decisions**



Mean =2.71  
Std. Dev. =0.691  
N =180

**Informal Involv staff decisions**

### Histogram



Mean =25.69  
Std. Dev. =4.569  
N =171

Range: 15-38

# Correlations



- **Involvement and Overall Satisfaction:  $\rho = .667$   
(moderately strong)**
- **Involvement and intent to leave:  $\rho = -.495$   
(moderate)**

All correlations:  $p < .001$

# Correlations



- Planning for staffing inversely correlated with infections ( $\rho = .541$ ) and satisfaction with nursing care ( $\rho = .956$ )
- Involvement correlated with patients' satisfaction with nursing care ( $\rho = .635 - .914$ )
- A reduction in infections is correlated with involvement ( $\rho = .415 - .691$ )
- Informal structures are more important for nurse satisfaction ( $\rho = .443 - .616$ )

# Associations



- **Formal Involvement / Intent to Leave**
  - Chi square = 33.645,  $p < .001$
- **Informal Involvement / Intent to Leave**
  - Chi square = 28.498,  $p < .001$
- *Functionality of involvement was not significantly associated with satisfaction or intent to leave*

# Functionality of Involvement Structures



***FORMAL STRUCTURES FOR INVOLVEMENT WERE NOT ASSOCIATED WITH EITHER PATIENT OR NURSE OUTCOMES. IT APPEARS THAT INFORMAL MECHANISMS ARE JUST AS EFFECTIVE – IF NOT MORE – THAN HIGHLY FORMALIZED SYSTEMS.***

# Associations



- Organizational support for staff nurse involvement / thinking of quitting
  - Chi square 22.456,  $p=.008$
- *Formal and informal feedback was not significantly associated with outcomes*
- *Accountability and efficacy were not associated with outcomes*

# Overall involvement and outcomes



|  |
|--|
| <b>Summary Score Groups</b><br><b>MANOVA</b> |
| $p \leq .05$                                 |
| Thinking of quitting                         |
| CLABSI                                       |
| Pressure ulcers                              |

Those patient care units with high overall involvement had fewer nurses thinking of quitting, had a lower rate of catheter associated blood infections, and had lower pressure ulcer rates

# Inferential Results



|  | MANOVA, $p \leq .05$ |                      |                  |
|--|----------------------|----------------------|------------------|
| Planning for staffing                  | raw turnover         | overall pt sat       |                  |
| Formal structures                      |                      |                      |                  |
| Informal structures                    | CAUTI                | thinking of quitting | actively looking |
| Formal structures are functional       |                      |                      |                  |
| Informal structures are functional     |                      | thinking of quitting | actively looking |
| Organizational support for involvement | Pressure ulcers      | Patient complaints   | CLABSI           |
| Nurses are held accountable            |                      |                      |                  |
| Nurses are accountable for efficacy    | Pressure ulcers      |                      |                  |
| Involved in outcomes evaluation        | Pressure ulcers      | CLABSI               |                  |
| Formal feedback systems                |                      |                      |                  |
| Informal feedback systems              |                      |                      |                  |

# Summary of Inferential Findings



- **Planning for staffing**
  - Differences in turnover / patient satisfaction with nursing
- **Formal structures and functions**
  - Not a factor
- **Informal structures and functions**
  - Differences in nurse satisfaction indicators
  - Differences in infection rates
- **Outcomes evaluation involvement**
  - Differences in pressure ulcers, some infections

# Implications



- Involving nurses in decisions that affect them is associated with a more satisfied, stable workforce
- Systems do not have to be highly structure or formalized; informal systems may be as effective
- Involving nurses in assessing the outcomes of their decisions is associated with improved outcomes
- *Critical is the perception that the nurses opinion is solicited, valued, and used in decision making*

# Acknowledgements



**THIS STUDY WAS FUNDED BY SB 88-188,  
SPONSORED BY SENATOR BETTY BOYD  
THE COLORADO TRUST  
ALPHA KAPPA CHAPTER OF SIGMA THETA  
TAU INTERNATIONAL**

**GRATITUDE TO DR. JOYCE VERRAN,  
EXTERNAL REVIEWER AND CONSULTANT**

# PPIC Membership



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Banner Health  
Regional Vice President, Clinical Services Banner Health

Carolyn Sanders - CoChair  
University of Colorado Hospital  
Chief Nursing Officer

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Fran Ricker - CoChair  
Colorado Nurses Association  
Executive Director

Eve Hoygaard  
Colorado Nurses Association

## **Service Employees International Union**

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Judy Hutchinson, SEIU  
Nurse Alliance of SEIU

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