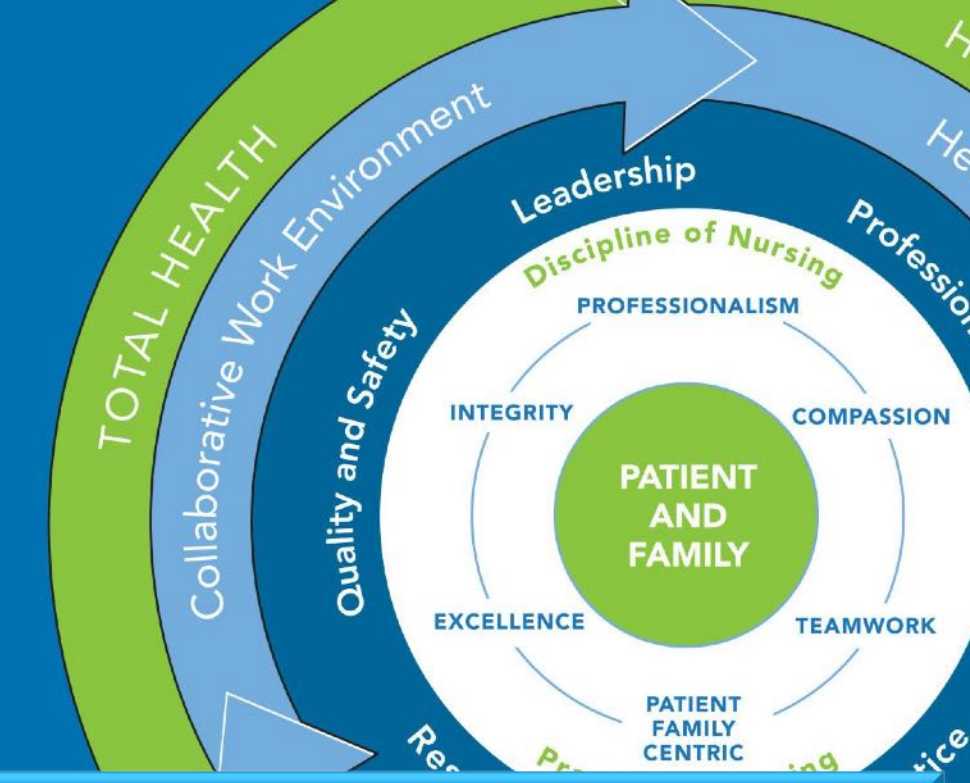


Evaluating Nurses' Perceptions of Informatics Implementations to Uncover Areas of Improvements, A Delphi Study

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INTRODUCTION

Background:

The recent federal mandate to the healthcare organizations to acquire and adopt electronic health systems and demonstrate their meaningful use has led to:

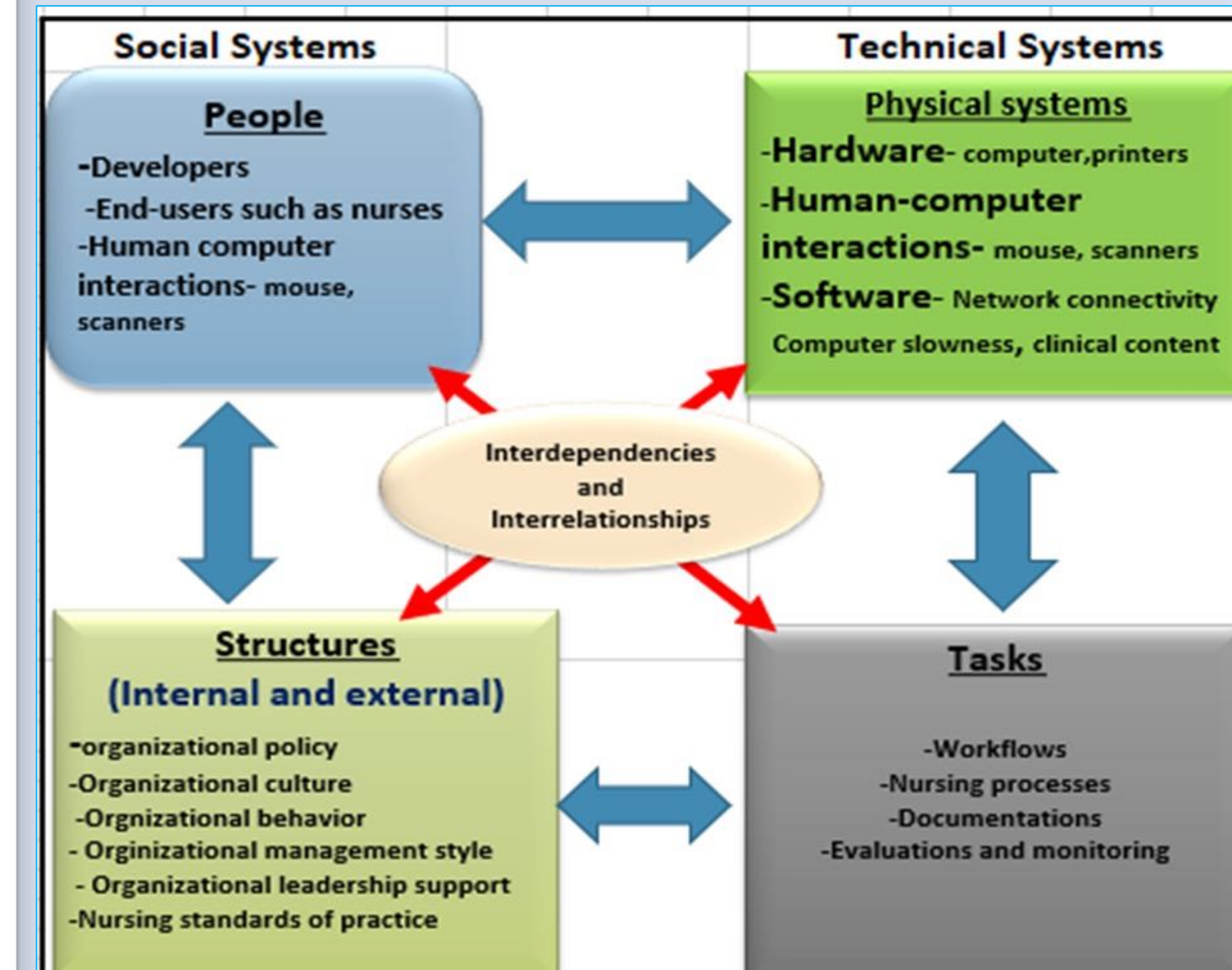
- Birth of various implementations of clinical electronic systems including Electronic Health Records (EHR).
- Increased utilization of traditional implementation processes leaving clinical nurses with unfavorable and dissatisfying experiences
- Indirectly introduced unsafe workflow practices.

Purpose

To evaluate nurses' perceptions of informatics implementations to uncover areas needing improvements.

Theoretical Framework

Healthcare Socio-Technical Framework with 8 dimensions:



METHOD

A descriptive-exploratory cross-sectional study conducted at Kaiser Permanent Medical Center, Southern California. USA.

Sample:

- A convenience study sample
- n =30 clinical nurses, N=470 clinical nurses
- >18 years of age,
- Providing 50% direct patient care in daily roles.

Data collection:

- Three phased rounds of Delphi e-surveys guided in establishing consensus agreement among the clinical nurses.
- Created new electronic questionnaire in each round
- Previous round's findings cascaded to the subsequent electronic questionnaire.
- Clinical nurses ranked 8 HSTF dimensions in priorities using a 4-points Likert scale (1=Strongly Agree-4=Strongly disagree)

8-HSTF Dimensions

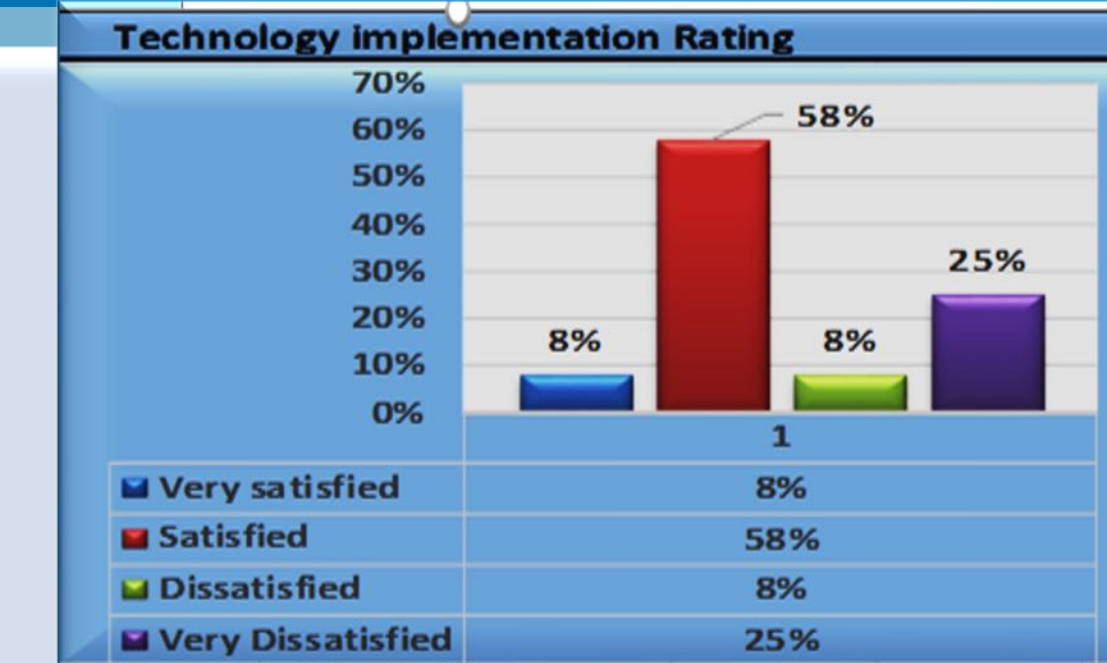
(Hardware/software, Clinical content, User-Interface, Workflow Integration, Involved people, Internal organization features, External Organization Features, and post-implementation evaluations)

Analysis:

- Descriptive analysis performed demonstrating the percentages of responses per question and elicited the top-rated dimensions.
- Level of consensus agreement =>80% participation and total score =<3 points of a 4-point scale per question.

RESULTS or CONCLUSION

- **1st round-** narratives responses elicited 7 Dimensions and nurses dissatisfaction rates



- **2nd Round:** 5 dimensions agreed upon

Top rated HSTF dimensions (Highest to lowest)	
1.	Internal Organization factors
2.	User-interface
3.	Evaluations & monitoring
4.	Workflows
5.	Clinical Content

- **3rd Round-** 2 more dimensions emerged and added to first 5 from 1st Round:

1. Internal Organization factors
2. User-Interface
3. Post Implementation Evaluations and monitoring
4. Workflow integration
5. Clinical Content
6. Hardware/software
7. People involved

Dimension NOT included
8. External Organization Features, rules, & regulations

DNP Delphi results Themes Ranked from highest to the lowest priority	
1	Internal Organization structures/factors
2	User-Interface
3	Evaluations and Monitoring
4	Workflow Integration
5	Clinical Content
6	Hardware and software
7	People involved

IMPLICATIONS FOR PRACTICE

- Informs leadership of the areas in informatics implementation processes dissatisfying end-users.
- Informs leadership of the significance of Internal Organization features to satisfying informatics implementations.
- Guide the implementation team to incorporate 8-HSTF dimensions in future processes.
- Significance of involving clinical nurses into informatic implementations as end-users.
- HSTF-dimensions do not work independently but interdependently and interrelated in a cohesive manner to produce satisfying implementations

Future research

- Larger study sample size on a multiple- facility scope.
- Further studies on the core relationships between the 8-HSTF dimensions.

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More details provided on request!!