

Development of a Web-Based Mobile Technology Application for Healthcare Providers in Transplant Care

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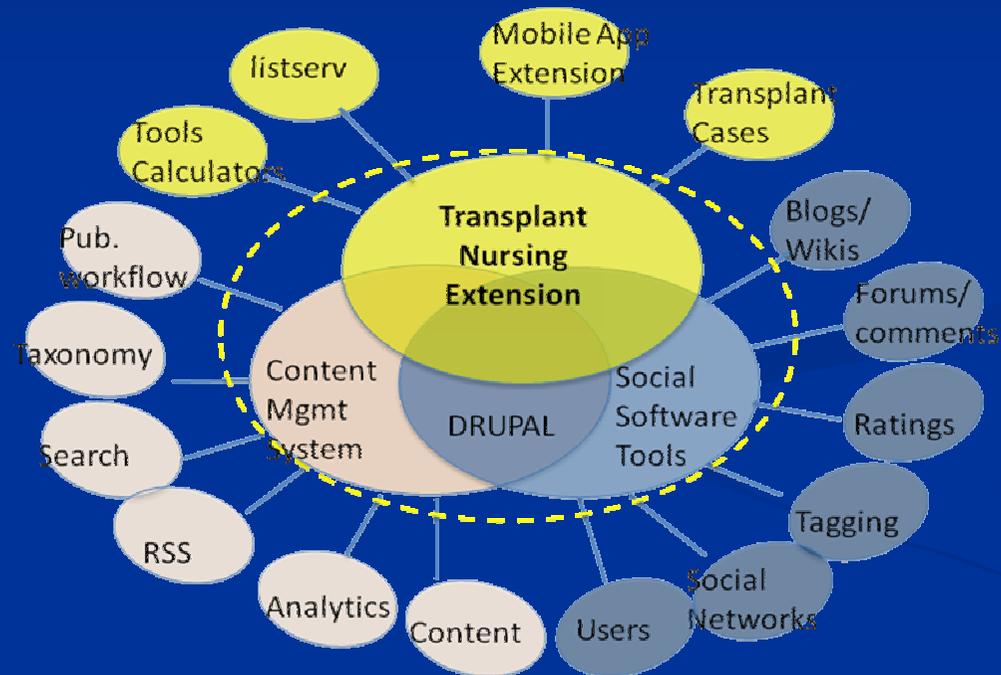
Overview

- Mobile cloud based hybrid applications in improving health outcomes
- Best practices mobile medical applications
- Use of Web-based mobile applications to reduce healthcare inefficiency

Acknowledgements

- Grant-North American Transplant Coordinators Association
- Grant-UA Huntsville-JFDR
- Grant –UAHuntsville-URII
- Research Team:
 - Susan Alexander, DNP
 - Karen Frith PhD
 - Manil Manskey, MS –IT Dept

Xmind idea mapping



Mobile App



Where did that come from?

- Clinical experience
- Education
- Opportunity
- Networking

Initial research

- Dissertation
- NATCO- Survey/pre-post—surprisingly statistically significant

Transplant Elective Curriculum

Sample Objectives:

- Discuss historical events and historical trends that impact on the status of the donation/ transplantation process.
- of the professional nurse in facilitating a successful organ tissue donation program.
- Discuss biophysical, psychological, socio-cultural, and developmental processes relevant to preoperative and postoperative nursing care of the transplant recipient and family.
- Discuss current research findings relevant to nursing care of the transplant recipient and family.

Survey-sample questions

- **4. I would like to work with organ transplant patients**

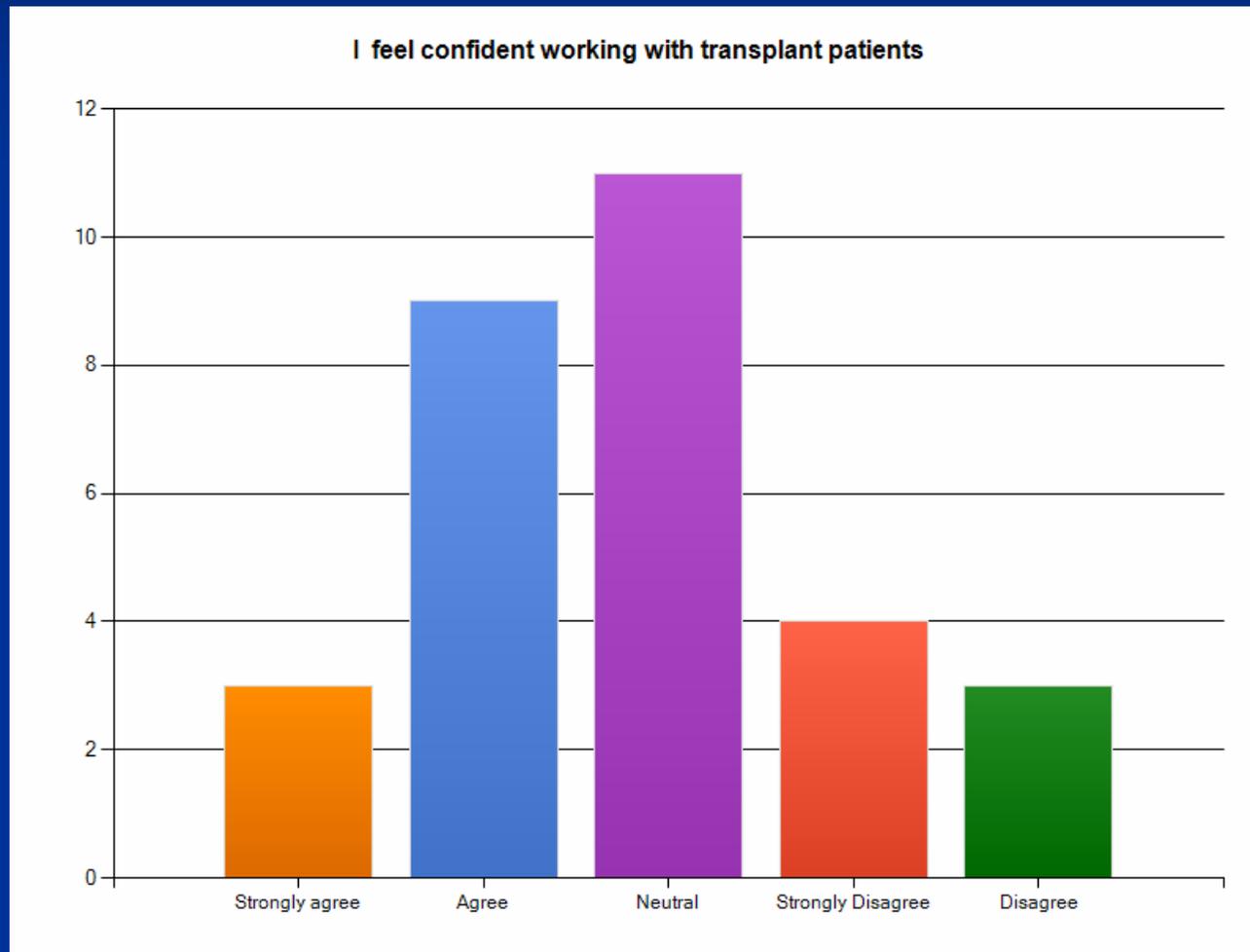
- Strongly agree
- Agree
- Neutral
- Strongly Disagree
- Disagree

- **5. I plan to consider being an organ donor**

- Strongly agree
- Agree
- Neutral
- Strongly Disagree
- Disagree



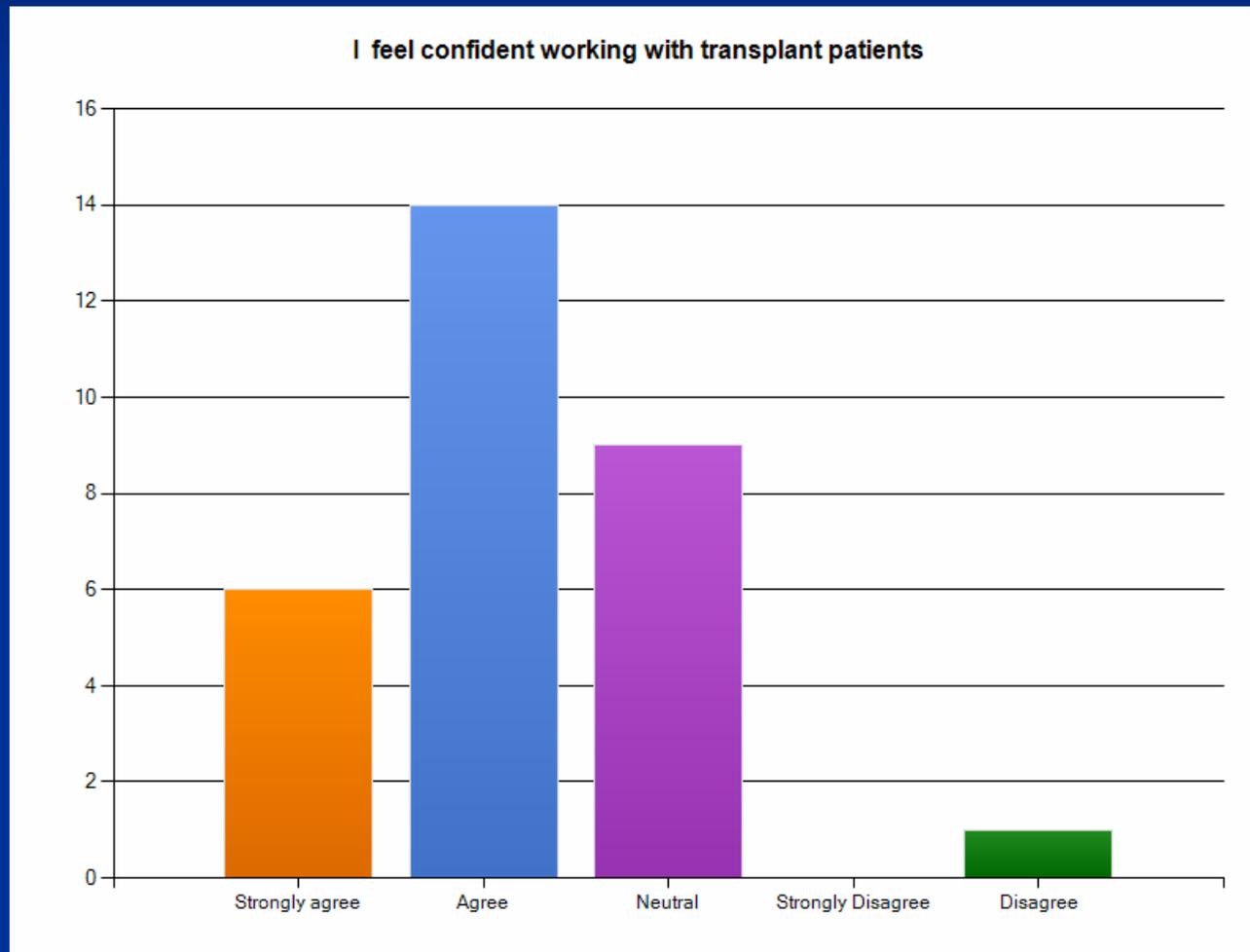
Results- Pre-test





Results- Post-Test

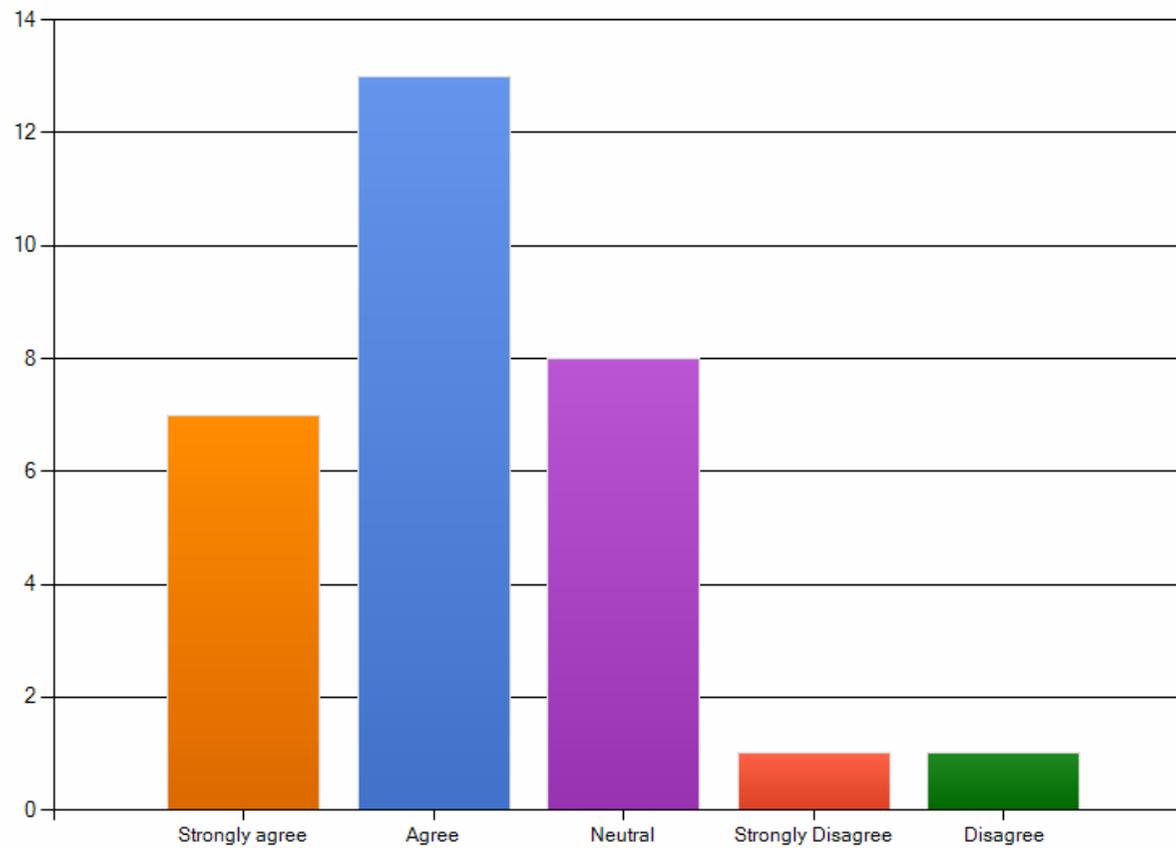
($p = 0.0045$)





Results- Pre-test

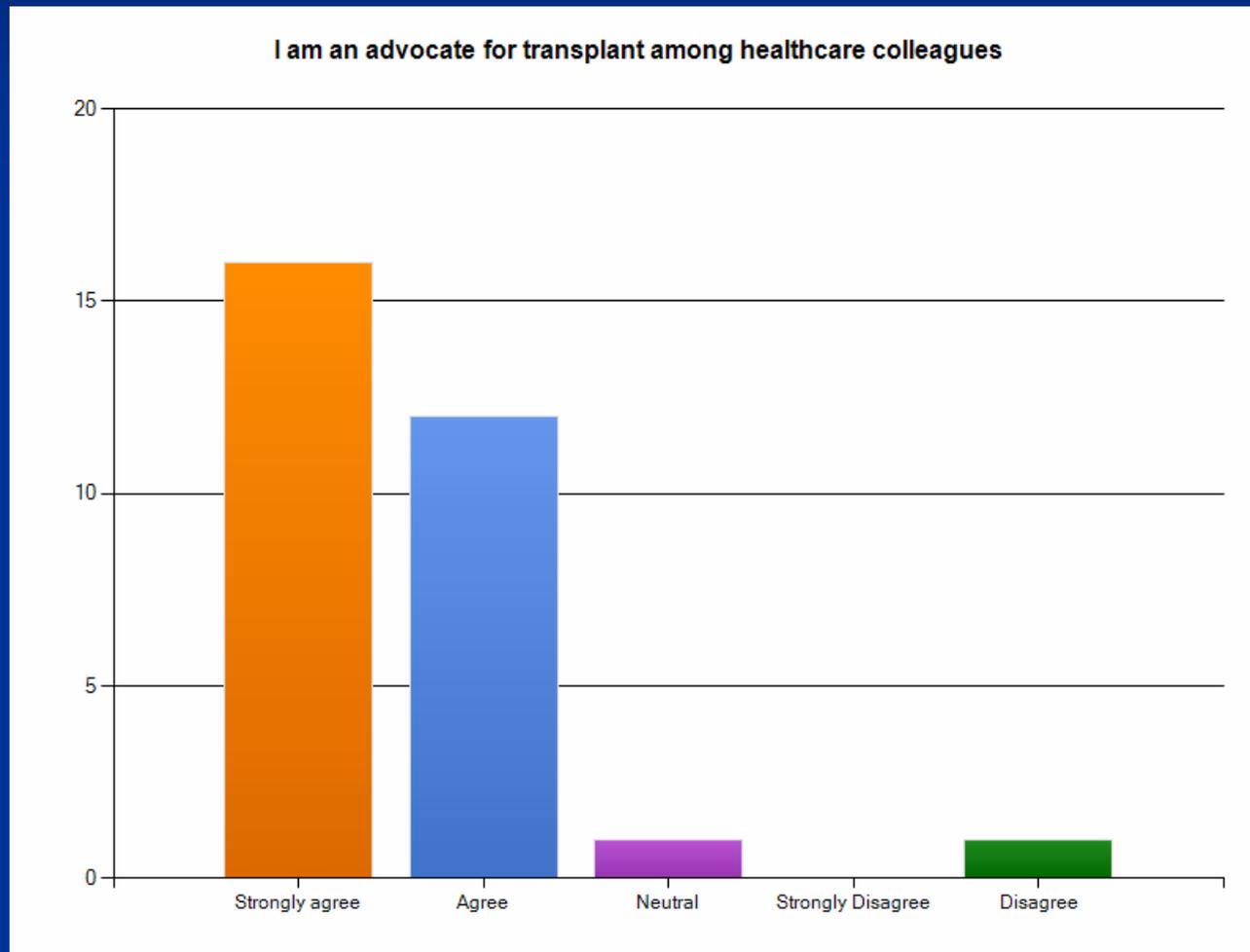
I am an advocate for transplant among healthcare colleagues





Results- Post-Test

($p = 0.0029$)

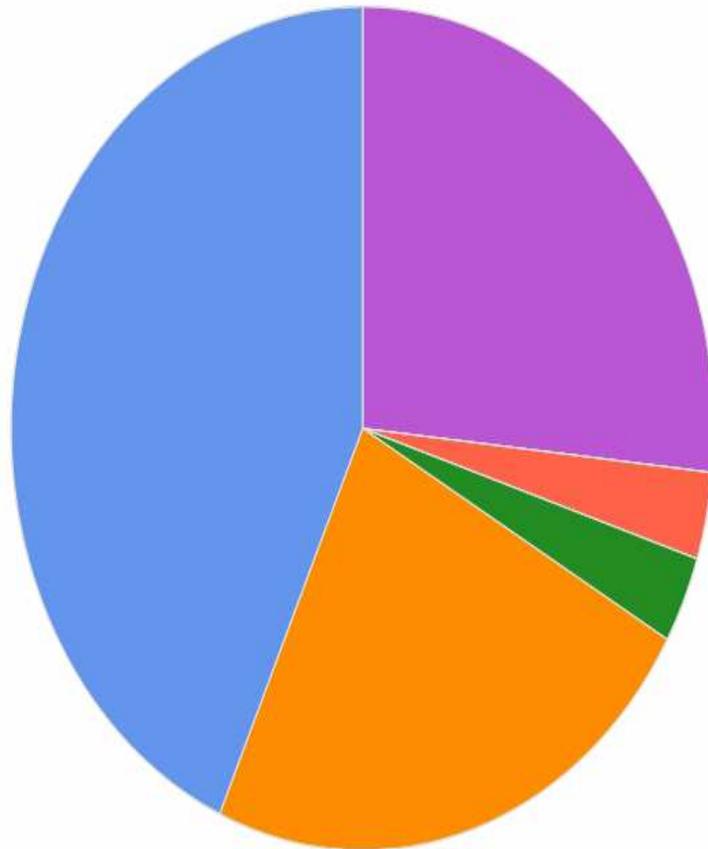




Results

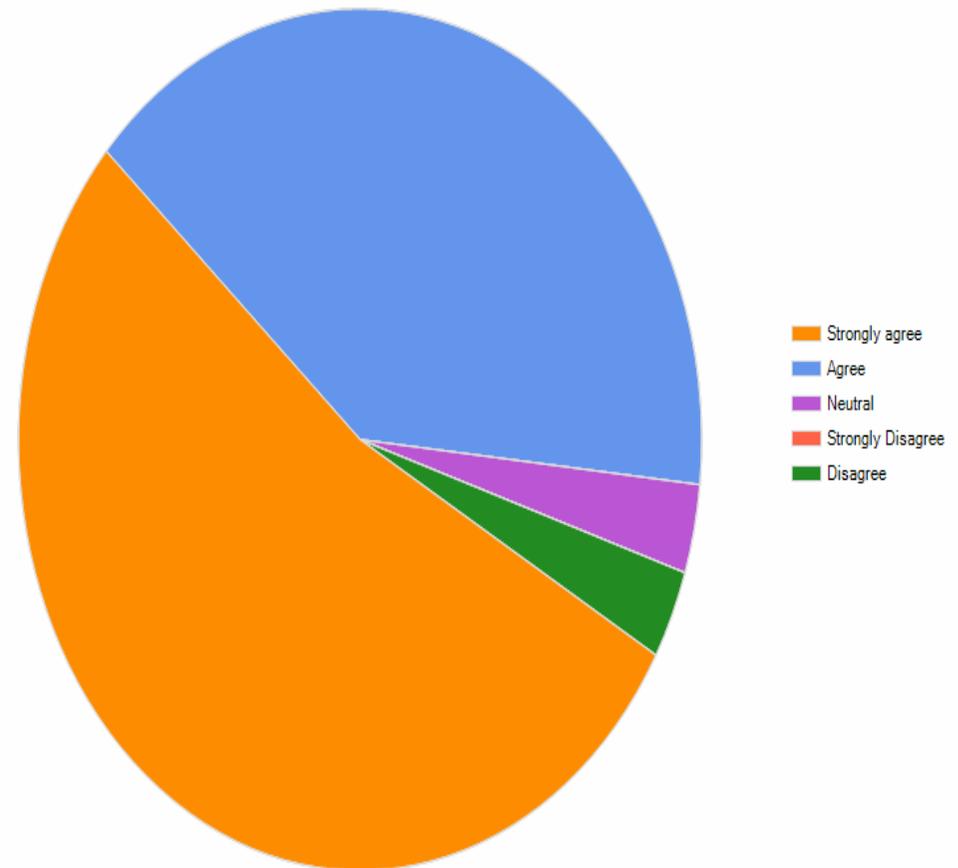
($p = 0.0029$)

I am an advocate for transplant among healthcare colleagues



Pre

I am an advocate for transplant among healthcare colleagues



post

Survey Monkey

- http://www.surveymonkey.com/MySurvey_Print.aspx?sm=oOMtVCjo8GCq9JBnw9N0L6PW70LsvRiyDXH5FGUVKRI%3d

Next Step

- Parallel
 - Instrument Development
 - FGCU
 - VUMC
 - Mobile Web based application

Instrument Development

■ Factor loadings for Maximum Likelihood Factor Analysis for the 23-item TXP-RN

Items

■ Factor 1

I would like to work with organ transplant patients

0.896

I would like to participate in transplant research

0.785

■ Factor 2

I know how to contact procurement services if organ donation is requested

0.001

0.793

I feel comfortable with the paperwork necessary for organ donation

0.046

0.849

Factor Analysis

- Exploratory factor analysis was undertaken with factor loadings >0.7 determined to be:
 - Desire to work in transplantation
 - Confidence in transplantation advocacy
 - Organ donation advocacy

- Procurement 0.6- to be developed

Revised instrument

- An alpha value of greater than 0.7 is generally considered acceptable internal consistency (Nunnally & Bernstein, 1994; Elliott, 2003).
- Alpha = 0.94

URII

- UAHuntsville Research Infrastructure Investment Grant
 - Mobile Application
 - Web Based Technology for Transplant Nurses
 - Survey will be administered on the site

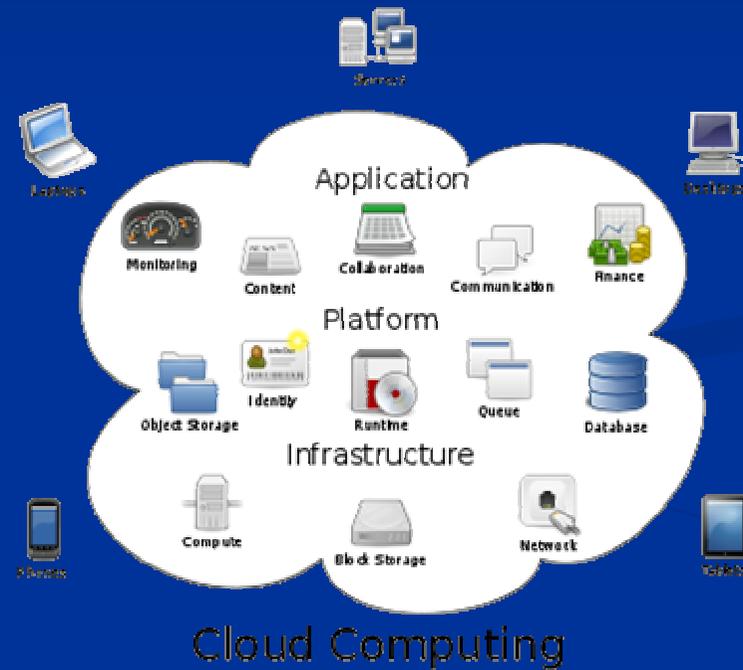
Web based portal

- In collaboration with Manil Maskey, Dr. Susan Alexander, and Helen Conover, a prototype of the web-based portal has been developed (<http://tppdev.uah.edu/>).

Mobile cloud based hybrid applications : improving health outcomes

- Cloud computing
 - marketing term
 - do not require end-user knowledge of the physical location and configuration of the system
 - a parallel to this concept can be drawn with the electricity grid, wherein end-users consume power without needing to understand the component devices or infrastructure required to provide the service.

Mobile cloud based hybrid applications : improving health outcomes



Best practices mobile medical applications

- Reach
- Compatibility
- Tech Support
- Constantly updated
- Include reliable, valid content
-TBA

Use of Web-based mobile applications to reduce healthcare inefficiency

- Real patient care and clinical benefits
- Prevent medication errors
- Prevent communication errors
- Avoid Delays/Links
-- the sky is the limit

So what?

- Importance of nursing research
- Teams
- Institutional strengths
- Next Step- HRSA--\$300, 0000

Questions

