Nursing Informatics Assessment: A critical component to improving specimen collection compliance

Craig Johnson* MSN, RN-BC, FNP; Amy Kuxwata MSN, RN-BC, CNS; Kay Burke MBA, BSN, RN, NE-BC; Kate Finch BSN, RN; Rhiannon Croci BSN, RN-BC, Joanne Foster MSHI, BSN, RN
UCSF Health Informatics, University of California, San Francisco, California

Background

Situation

Since it worked for Phlebotomy would work for nursing workflows, 2011

It assumed that wireless printer would work for nursing workflows, since it worked for Phlebotomy

Background

June 2013—IT Driven pilot in Acute Care Nursing

Implement tethered wireless phlebotomy workflow using a shared device model, deploying wireless printers to be brought to bedside for specimen labeling. September 2013—Nursing informatics assessment

Additional device for nurses to manage led to low compliance

Interruption reliability of printer resulted in low adoption

Nurses defaulted to using wired computer to print paper lab requisition at bedside rather than use wireless printer due to inefficiency of shared device model

November 2013

Based on NI assessment, Nursing wanted to connect printers to each bedside computer, but wireless printer was not compatible

Vendor suggested a "plug 'n' play" model, by adding USB cable to bedside computer to plug in wireless printer

NI advised "plug 'n' play" model would not work on high volume nurse-collect units (i.e. ICUs and Heme/BMT)

Results #1

Goal 90% bedside lab collections labeled by bedside printer

July 2016

NI reassessment confirmed results of initial NI technology assessments and surveys

Remediation of "plug 'n' play" printers completed to address label printing issues

As nursing units were remodeled, hardwired printers at every bedside were installed

Discussion

Outcome

Bedside Lab Printer Workflow Compliance Trend compared to Gartner Hype Cycle

As predicted by NI assessment, compliance plummeted as sustainability and reliability of "plug 'n' play" workflow decreased.

Enlightenment occurred when shared device model was abandoned for wired printers at every bedside.

69% bedside lab collections labeled by "plug 'n' play" printer

51% bedside lab collections labeled by "plug 'n' play" printer

61%
51%
40%
30%
20%
10%
0%
80%
90%
100%
Jun-14 Aug-14 Oct-16 Jan-17 Jan-19

Background

2011—IT driven device selection

Project team did not include nurse informaticist

Nursing technology and workflow impact assessment not done to evaluate printers

Repurposed surplus of printers from prior failed pilot

IT assumed that wireless printer would work for nursing workflows, since it worked for Phlebotomy

Interventions

February 2016

Workgroup formed to address:
Consequences from leadership for patient safety due to mislabeled labs
Compliance with using "plug 'n' play" printers between 2014 and 2016
Complaints over inefficient bedside lab specimen labelling process

Interventions

July 2016

Roll-Out #1

Roll-Out #2

Interventions

April 2018

Based on NI assessments and workgroup recommendations, Leadership approved purchase of new printers for Acute and Transitional Care Units
Installation of hardwired printers at every bedside

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Discussion

The significance and impact of a Nursing Technology Assessment using the Technology Tool for Nurses (TTFN) can help mitigate flawed thinking due to the entrenchment of technology and health care workflows.

*Corresponding Author: craig.johnson@ucsf.edu