

SCSHP Pharmacy Automation and Technology Survey[®] 2009

SCSHP Fall Pharmacy Automation Symposium
October 13, 2009
Fred Bender, PharmD



Program Objectives

- Review the current status of Pharmacy automation in South Carolina hospitals and other health care facilities based upon a 2009 state-wide survey.
- Understand trends in implementation of pharmacy automation and technology in South Carolina hospitals.
- Identify opportunities to expand and improve pharmacy automation in the hospital setting.

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Project Team

- Fred Bender, PharmD, GHS, Chairman
- Richard Capps, PharmD, GHS
- Chris Fortier, PharmD, MUSC
- Brian Nesemeier, PharmD, SRHS
- Bill Rogers, RPh, MHSA, Self Regional Healthcare
- Tim Walker, PharmD, PH

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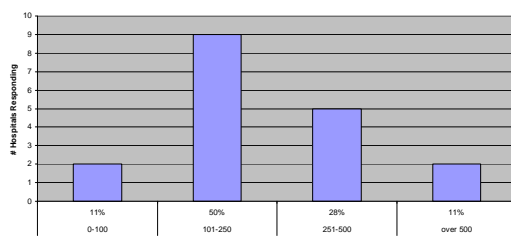
Methodology/Data Collection

- Voluntary, anonymous survey sent out to all DOPs in South Carolina (SCSHP listing)
- Contacted via email with survey web link
- Conducted August, 2009
- SurveyMonkey[®] tool used
- Total response opportunity ~ 150 hospitals
- Number of responses = 18 (~ 12%)
- Not necessarily a representative sample or statistically significant
- Prevalence/preference survey

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Results/Demographics by Number of Beds

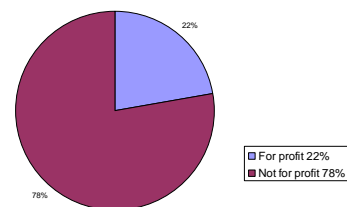
Demographics: Number of Beds



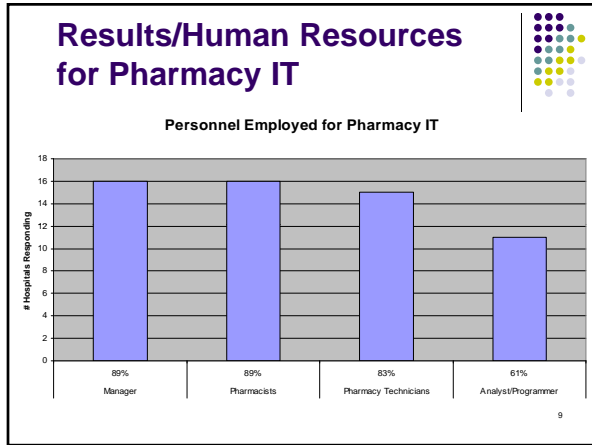
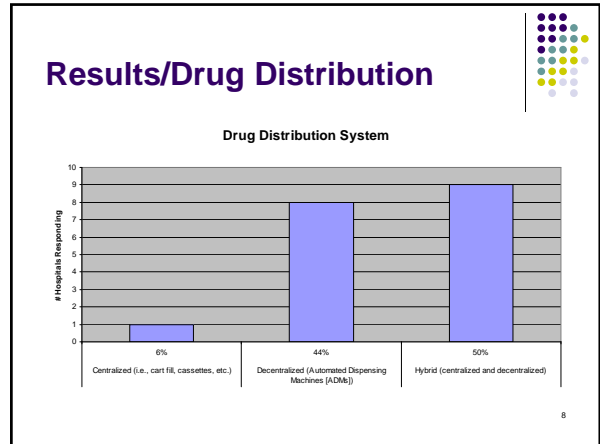
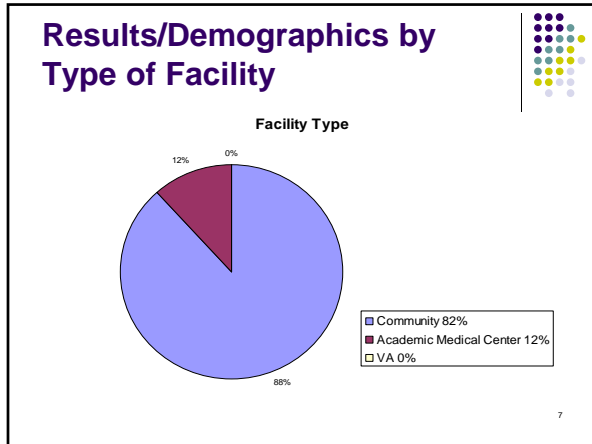
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Results/Demographics by Profit Status

For Profit vs. Not for Profit



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Results/Pharmacy IT Resource Changes Anticipated for Next Year

Resource	Increase	Decrease	No Change
Pharmacy IT Personnel	28%	0	72%
Hardware/Software	56%	0	44%
Operating Expenses	39%	6%	55%

Results/Number of Staff Needed for Rx Program Maintenance

Program	0 FTEs	<1 FTE	1-2 FTEs	>2 FTEs
ADCs	-	23%	62%	15%
Central Rx Dispensing	-	24%	38%	38%
Smart Pumps	30%	40%	30%	-
POMS	38%	24%	38%	-
CPOE	14%	-	86%	-

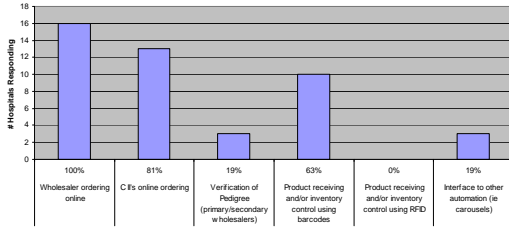
Results/Number of Staff Needed for Rx Program Maintenance

Program	0 FTEs	<1 FTE	1-2 FTEs	>2 FTEs
BCMA	-	22%	66%	11%
Info Documentation	11%	22%	55%	11%
UD Pack	-	24%	58%	18%
IV Prep	50%	-	50%	-

Results/Automation Medication Procurement



Automated Medication Procurement

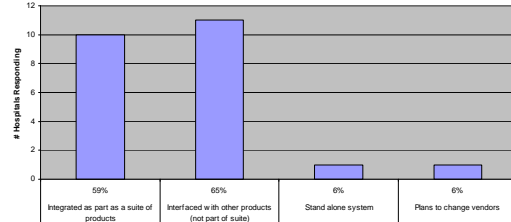


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Results/Pharmacy IS



Pharmacy Information Systems

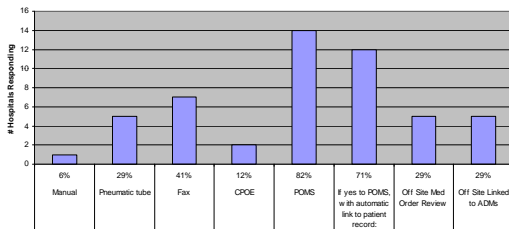


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Results/Order Processing



Medication Order Processing/Delivery Systems



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Results/CPOE In Place



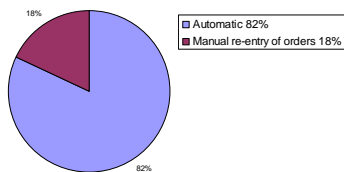
- Is CPOE in place?
 - YES = 41%
- IF NO, do you have plans to implement CPOE beginning within the next year?
 - YES = 77%

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Results/CPOE



CPOE Pharmacy/IS Interface



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Results/CPOE

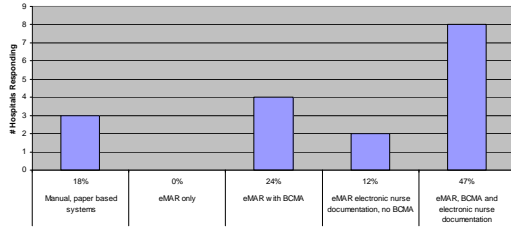


- Clinical decision support systems in CPOE:
 - Present in CPOE = 100%
 - Customized rules = 100%
 - Hard stops for allergies = 71%
 - Hard stops for weights in Peds = 50%
 - Automated links to evidence = 80%

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Results/Medication Administration Documentation

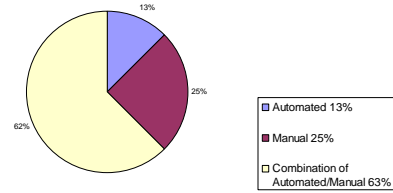
Medication Administration Documentation



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Results/Medication Reconciliation

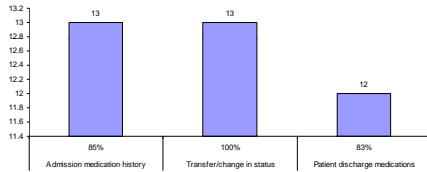
Medication Reconciliation



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Results/Medication Reconciliation

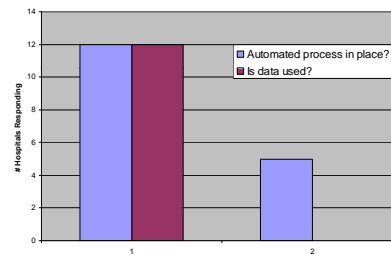
Medication Reconciliation IF Automated



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Results/Clinical Interventions

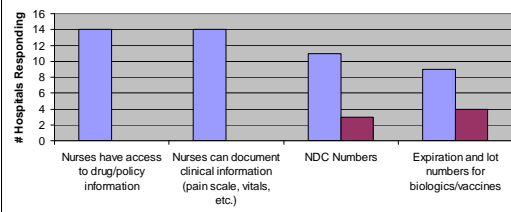
Automated Clinical Intervention Documentation



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Results/BCMA

BCMA Nursing Documentation



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Results/Purchased Bar Coded Medications

- What percent of bar coded medications are purchased:
 - 0-25% = 7%
 - 26-50% = 28%
 - 51-75% = 35%
 - 76-100% = 35%

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Results/Unit Dose Repackaging



- What percent of bar coded medication repackaging is completed in house:
 - 0-25% = 36%
 - 26-50% = 43%
 - 51-75% = 0%
 - 76-100% = 21%
- What percent of bar coded repackaging is outsourced = < 5% for all respondents

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Results/Unit Dose Repackaging



- Resources devoted to repackaging with bar codes are:
 - More than anticipated = 21%
 - Less than anticipated = 0%
 - As anticipated = 79%

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Results/Unit Dose Repackaging



- Vendors or technology used for bar coding:
 - McKesson
 - MediDose
 - IntelliDot
 - AutoMed
 - Siemens
 - Meditech
 - Omnicell
 - Pharmedium
 - Medical Packaging

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Results/Automated IV Compounding Devices



- Yes = 50%
- If yes, devices used to prepare:
 - Syringes = 12%
 - Small volume parenterals = 25%
 - Large volume parenterals = 25%
 - TPN = 100%
 - Chemotherapy = 0%
 - Flushes = 0%

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Results/Rx Automation



Rx System	Have It	Within 1 Yr	No Plans
CPOE	14%	43%	43%
Robot	19%	0	81%
Carousel	25%	12%	63%
ADMs	87%	6%	7%
BCMA	69%	25%	6%

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Results/Rx Automation



Rx System	Have It	Within 1 Yr	No Plans
Smart Pumps	81%	13%	6%
eMAR	81%	13%	6%
IV Work-path	13%	0	87%
Rx Work-path	44%	6%	50%

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Results/Automated Dispensing Cabinets



System	In Use	Pending	Considering
ABC MedSelect	5%	0	0
Cerner RxStation	0	0	0
Pyxis MedStation	30%	0	15%
McKesson AcuDoseRx	25%	0	5%
Omniceil OmniRx	15%	0	10%

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Results/Carousel Storage



System	In Use	Pending	Considering
ABC FastFind	10%	0	0
McKesson MedCarousel	10%	0	30%
Omniceil OmniRx	20%	0	10%
Swisslog	0	0	0
Talyst	0	0	20%

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Results/Pharmacy Based Robotic Automation Devices



System	In Use	Pending	Considering
Automed EXP	25%	0	0
McKesson Robot Rx	25%	0	12%
Omniceil	25%	0	0
Talyst	0	0	0
Swisslog	12%	0	0

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Results/Smart Pumps In Use



System	In Use	Pending	Considering
B Braun	0	0	6%
Baxter	18%	0	0
Carefusion/ Alaris	40%	0	12%
Hospira	12%	0	12%

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Results/Wireless Refrigerator Temperature Monitoring Equipment



System	In Use	Pending	Considering
Aegis	0	0	11%
CIM Techniques	11%	0	0
Cooper-Atkins	22%	0	33%
Rees	11%	0	11%
Veriteq	0	0	11%

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Results/Workflow Management



System	In Use	Pending	Considering
ABC WorkPath	20%	0	20%
Baxa MedBoard	0	0	0
ForHealth IntelliflowRx	0	0	0
Omniceil Workflow Rx	40%	0	20%

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Results/IV Robotics

System	In Use	Pending	Considering
Baxa/TPN	86%	0	0
Baxa/ForHealth	0	0	0
RIVA	0	0	0
Devon	0	0	14%

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Results/Prescriber Order Management Systems

System	In Use	Pending	Considering
AmerisourceBergen (InterChange)	0	0	0
Carefusion (PyxisConnect)	48%	0	0
Integrated Informatics (POMS)	0	0	0
McKesson (MedDirect)	16%	0	0
Metabolyst	0	0	16%
Omnicell (OmniLink)	8%	0	8%

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Results/CPOE Systems

System	In Use	Pending	Considering
Cerner Corp	12%	0	12%
EclipSys Corp	0	0	12%
GE Healthcare	0	0	0
McKesson Corp	12%	0	25%
Siemens Medical	25%	0	0

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Results/BCMA Systems

System	In Use	Pending	Considering
Cerner Bridge	0	0	7%
IntelliDot	7%	0	0
McKesson	14%	0	7%
Meditech	42%	0	0
Siemens	21%	0	0

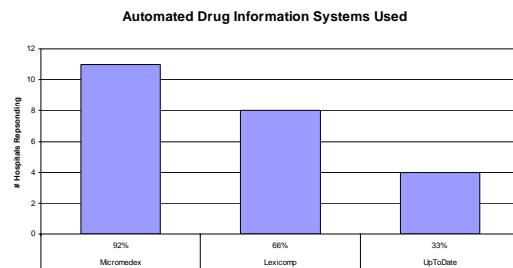
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Results/Pharmacy IS

System	In Use	Pending	Considering
Cerner	6%	0	6%
GE Healthcare	0	0	0
McKesson	25%	0	0
Meditech	50%	0	0
Mediware	0	0	0
Siemens	13%	0	0

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Results/Automated Drug Info



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Results/Clinical Intervention Documentation/Surveillance



System	In Use	Pending	Considering
Pharmacy One Source (Quantifi)	38%	0	0
Safety Surveillor	50%	12%	0
TheraDoc	0	0	0
Vigilanz	0	0	0

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Results/Automated Delivery



System	In Use	Pending	Considering
Aethon TUG	6%	0	0

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Summary/Analysis/Trends Comparison with 2008 Results



- Trends seen in comparison to last year's survey reveal:
 - Shift away from centralized distribution systems to more decentralized and hybrid systems
 - Reductions in operating expenses supporting pharmacy automation
 - Increases in staff needed and utilized for all pharmacy automation purposes, especially central pharmacy dispensing programs/packaging

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Summary/Analysis/Trends Comparison with 2008 Results



- Trends – continued:
 - Decrease in use of fax order transmittal
 - Increase in use of digitized POMS
 - Increase in off site order entry programs
 - Increase in implementation of CPOE with embedded clinical decision support systems
 - Increase in use of eMAR and BCMA programs
 - Decrease in outsourcing of bar coded repackaging programs

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Summary/Analysis/Trends Comparison with 2008 Results



- Trends – continued:
 - Increased use of automated controlled substances ordering programs (especially for C-II's) with wholesalers
 - Increased use of other automated systems:
 - Carousels
 - Workflow management (IV and Rx) technologies
 - Refrigerator/freezer temperature monitoring
 - Increase in clinical intervention documentation and surveillance technology

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For More Information Contact:



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