

# *Setting Metrics for Selecting Point of Care Documentation Devices*

**Presentation to the  
Summer Institute in Nursing Informatics  
(SINI)**

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**Presented by:**

***Jeffrey M. Adams, PhD(c), RN***

***Virginia I. Williams, MSN, RN***



# Contributors

**Jeffrey M. Adams, PhD(c), RN**

Principal - The Bogart Group, Inc.

Doctoral Fellow – Massachusetts General Hospital Yvonne Munn Center for Nursing Research

Doctoral Candidate – Boston College Connell School of Nursing

[jeff.adams@bogartgroup.com](mailto:jeff.adams@bogartgroup.com)

**Virginia I. Williams, MSN, RN**

Director of Clinical Informatics – Salinas Valley Memorial Healthcare System

[vwilliam@svmh.com](mailto:vwilliam@svmh.com)

**Leslie Schirmer, BSN, RN**

Director of Nursing Informatics – Alexian Brothers Medical Center

[schirmel@alexian.net](mailto:schirmel@alexian.net)

**Alicemary Aspell Adams, MBA, BSN, RN**

Principal – The Bogart Group, Inc.

[alicemary.adams@bogartgroup.com](mailto:alicemary.adams@bogartgroup.com)



# Experiences in Two Organizations



**ALEXIAN**  
**BROTHERS**  
Health System



Salinas Valley  
Memorial  
Healthcare System



# About the Organizations



**ALEXIAN**  
**BROTHERS**  
Health System

- Chicago, IL
- 900+ beds
- 4 care facilities
- 4 Outpatient Clinics
- 2800 Clinical Staff



Salinas Valley  
Memorial  
Healthcare System

- Monterey County, CA
- 269 bed acute care facility
- 2000+ Employees
- Union Hospital (CNA)



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**ALEXIAN**  
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Health System



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# Impetus for Mobile Devices

- ❖ **Alexian Brothers Health Care System**  
Implementing New Documentation Information System across system to include POC-BMV & eMAR
- ❖ **Salinas Valley Memorial Healthcare System**  
Redesigning existing Documentation System to include POC-BMV & eMAR





# Starting Point, Timeline & Pressure Points

- ❖ **Alexian Brothers Health Care System**
  - Initially didn't define mobile requirements
  - Time constraints (3 months)
  - Board requested more detail
  
- ❖ **Salinas Valley Memorial Healthcare System**
  - Had benefit of ABMC experiences
  - Much more time to assess (18 months)
  - Many departments wanted to “participate”



# Organizational Commitment

- Board and Executive Team (Quarterly updates)
- Administrative Sponsor (Direct team involvement)
- Project Leadership (Daily involvement)
- Clinical Staff (Ad Hoc participation)



# Device Assessment Teams

- Clinical Informatics Director
- Clinical Informatics Consultant
- Clinical Informatics Education
- Engineering
- Clinical Informatics Pharmacy
- IT Security
- IT Network Design
- IT Technical Services
- Biomedical Services
- Ad Hoc members





# Sought to answer...

- What type of devices?
- Configuration of devices?
- Who needs them and how many?



# Sought to answer...

- How are these maintained and supported?
- How can we make this change in practice successful?
- Do we have the physical room for these?
- Estimated budget?



# What type of devices? (Handheld, WOW, Tablet, etc.)

- Staff Surveys
- Site Visits and Conference Calls
- Work Flow & Role Documentation Assessments
- Vendor Fairs
- Physical Space Assessments



# Configuration of devices? (drawers & workflow)

- Largely depends on medication delivery process
- BMV plans (Do you need a scanner)?
- How do we expect staff to use these?



# Who needs them & how many?

- Assessment Matrix
- Care Areas & Roles
- Other IT/IS plans





# Who needs them & how many?

	Issue/ Item Assessed	Re- sponse	Comments
Unit De mog rap hics	Site		
	Unit Name		
	Unit Type		
	Department Manager		
	Unit Device Champion		
	# Beds		
	# Rooms		
	Max Number RNs on Unit		
	Max Number MDs on Unit		
	Max Number Ancillary on Unit		
Ex- istin g De- vice s	Max # CNAs on Unit on Unit		
	Max # Unit Assistants on Unit		
	Documentation would like to be done... (results from survey)		
	# Desktop PCs currently on unit		
	# Dedicated MD PCs		
	# existing WOW		
	Avg Age of WOW		
	# Existing handheld devices		
	Avg Age of handheld		
	# Wall mount PC / P2+ or P3		
Ne w De- vice s Ne ed ed	# LAN Drops		
	# Available power outlets		
	# Bar Code Scanners		
	# Laser Printers		
	# Label Printers		
	# Dedicated MD PCs		
	# Existing WOW		
	Avg Age of WOW		
	# Existing handheld devices		
	Avg Age of handheld		
Spa ce and Con nect ivity	# Wall mount PC / P2+ or P3		
	# LAN Drops		
	# Available power outlets		
	Wireless Dead Spots Assessed		
	Device Storage Solution Assessed		



# Who needs them & how many?

UNIT DEMOGRAPHICS											
Date Assessed	3-Nov	3-Nov	8-Nov	9-Nov	3-Nov	8-Nov	9-Nov	9-Nov	9-Nov	10-Nov	10-Nov
Hospital/Entity Name	ABM C	ABM C	ABM C	ABM C	ABM C	ABM C	ABM C	ABM C	ABM C	ABM C	ABM C
Dept./Unit Name	RAD	PHA	VOL	NUT	LAB	4E	PC	6E	6W	3W	SAF
Contact Name	Joe	Joan	Gail	Cara	Lisa	Jean	Beth	Edie	Nan	Deb	Tom
Contact Phone		3609	4675	2656	4549	2637	3233	4579	4429	4498	5162
# of Beds	0	0	0	0	0	30	0	28	28	26	0
# of Rooms	0	0	0	0	0	0	0	0	0	15	0
Max # of RTs, OTs, PTs or Rad Techs	0	0	0	0	0	0	0	0	0	0	0
Peak # of RNs	0	0	0	0	0	7	0	6	6	7	0
Peak # of PCTs or Mental Health Counselor	0	0	0	0	0	4	0	4	4	4	0
Max # of Physicians	0	0	0	0	0	0	0	8	7	7	0



# Who needs them & how many?

SPACE AND WORKFLOW ASSESSMENT QUESTIONS											
Does eMAR apply to this unit?	y	y	y	y	y	y	y	y	y		y
Will the clinicians chart at the bedside on this unit?	y	y	y	y	y	y	y	y	y		y
Will Bedside Med verification apply to this unit?	y	y	y	y	y	y	y	y	y		y
Is there a Unit Assistant in this unit?		1	1.5	1	1	1	1	1	2	1	1
Are physicians documenting on this unit?	y	y	y	y	y	y	y	y	y		y
Will CNAs require a mobile device (handheld) on this unit?	y	y	y	y	y	y	y	y	y		y
Does unit have storage space for WOWs?	y	y	y	y	y	y	y	y	n		n
Number of Med Carts on Unit that could be replaced?		6	3	4	1	0	0	0	0	2	0
Does unit have adequate wall space for Handheld docking?	over near nurses station alcove	nurses station	nurses station	Near Pyxi	y	y	y	y	n		y
Does unit have adequate power supply for WOW charging?	y	y	y	y	y	y	y	y	n		n
Does unit have adequate space in rooms for WOWs	y	y	y	y	y	y	y	y	n		y
Number of positive pressure room?		0	0	0	0	0	1	2	0	0	0

# Who needs them & how many?

DEVICE CURRENT STATUS											
Existing Total PC's (includes physician PCs)	12	13	15	4	2	11	9	21	6		8
Existing Nursing Station PCs	8	9	11	0	2	5	6	10	5		5
Existing Hallway PCs	4	4	4	0	0	6	3	11	1	0	3
Existing WOW Count (to be removed)	1	0	1	2	0	0	0	0	1		2
Existing Network Laser Printers (single drawer)	3	3	3	2	1	3	3	5	2		2
Existing Two-Drawer Network Laser Printers	0	0	0	0	0	0	0	0	0		0
Existing Three-Drawer Network Laser Printers	0	0	0	0	0	0	0	0	0		0
Existing Dot Matrix Printers	0	0	0	0	0	0	0	0	0	0	0



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# Who needs them & how many?

DEVICE IDENTIFIED NEED (IN ADDITION TO IDENTIFIED CURRENT STATUS)											
Total PC Needed to be added to Nurses Station (including Physicians)	0	2	-3	3	-2	3	2	-2	3	0	3
Needed to IDENTIFY Dedicated Physician PCs	2	3	2	1	0	2	2	2	2	0	2
Needed WOWs	7	7	9	9	2	5	5	12	4	0	6
Needed Hand Held for CNA POC	10	10	12	8	2	4	4	10	6	0	4
Needed Hand Held for non-CNA PCS (RT, etc with SCANNER))	0	0	0	0	0	0	0	0	0	0	0
Needed 1 drawer Network Laser Printer											
Needed 2 drawer Network Laser Printer											
Needed Bar Code Scanner/ Reader (RN can attach to WOW)	0	0	0	0	0	0	0	0	0	0	0
Needed LAN Drops on unit	0	0	0	0	0	0	0	0	0	0	0
Needed Power Outlets	0	0	0	0	0	0	0	0	0	0	0
Needed Individual POC Handheld Chargers (block of 4)	3	3	3	2	1	1	1	3	2	0	1
Needed Spare Battery Handheld (1/4) Round Up	3	3	3	2	1	1	1	3	2	0	1
Needed Spare Hand Held Device (1/7) Round Up	2	2	2	2	1	1	1	2	1	0	1
Needed Spare Bar Code Scanner (1/10) Round Up	0	0	0	0	0	0	0	0	0	0	0
Needed Spare WOW (1/10) Round Up	1	1	1	1	1	1	1	2	1	0	1



# Who needs them & how many?

Device Type	Spare Ratio (spares to production devices)	Total Back-Ups	Back-Up Cost
COW	1:10	20	\$100,000
Laptop	1:7	33	\$56,000
Handhelds	1 per Unit	45	\$60,000
Handheld Printers	1 per Unit	36	\$37,000
Bar Code Scanners	10 Per Facility	70	\$16,000



# How are these maintained & supported?

- Policies and procedures
- Cleaning
- Maintenance
- Battery Life
- Life Expectancy



# How can we make this change in practice successful?

- Transparent process
- Staff education
- Assured there were enough power outlets
- Network upgrades
- Survey
- Trial helped immensely in gaining acceptance
- Worked with pharmacy
- Executive site visits



# How can we make this change in practice successful?

## MESSAGE FROM CIDR COORDINATOR

Here is an update of what the CIDR Teams have been up to for the last few months.

### Auditing & Testing

More audits and re-audits have been completed by this team. We are looking at how successful the On Demand Nurse Printed Medication Administration Record (MAR) project has been. The project has been house wide for several months.

### Device

The selection of devices for point of care or bedside documentation has not been easy. We are still evaluating mobile carts with computers. A proposal for a trial on each unit has been approved. There will be more information coming. The anticipated trial will be early 2007.

### Documentation

The Patient Care Record and the Admission History will be taking on new looks. The shift Assessment is currently being reviewed and there are a few proposed changes as well. The task of Care Plans is being added to the process. We will start with on or two and will have eight to ten very soon.

### Education and Communication

There have been a few more computer changes coming forth. The Influenza vaccine Intervention has been changed to better meet our organization's needs. Thanks to Tracey in ICU/CCU for the suggestion to have the intervention added automatically.

### Reporting

This team will begin to meet again in 2007. As an organization we are looking at standardizing our computer medical language.

### Clinical System Integration

This team is putting into computer format the requests coming out of Documentation as well as the Interdisciplinary Clinical Informatics Committee (ICIC).

Ginny Williams RN, MSN

### DEVICE USE ANALYSIS

At the request of the Device Team, the Auditing and Testing Team analyzed data related to the location of devices in the inpatient areas on 4T and 5T, and the job classification of the individuals using each device. The results indicated that nursing personnel used the devices 92.92% of the time. However, it was noted after the analysis was completed that some of the users with a mnemonic "NU", although they were nurses, were actually filling non-clinical positions away from bedside nursing. Other job classification users in descending order are: Physicians, Housekeeping, Respiratory Care, Case Management, Nutrition Services, Physical Therapy, Occupation Therapy, Laboratory, Materials Management, non-staff (i.e. nursing students), and Speech Pathology.

### ACTIVE ORDER SURVEY

The survey asked RNs and LVNs which of four actions they would take if there were no MD order for patient activity. 58%: "Call MD for order." 18%: "Keep patient on bed rest." 17%: "Allow activity as tolerated." 6%: "Other."

SVMH currently does not have a policy regarding written orders for patient activity.

### LINKS

[tsobars@svmh.com](mailto:tsobars@svmh.com)  
[www.aina.com](http://www.aina.com): American Informatics Nurses Association  
[www.himms.org](http://www.himms.org): Health Informatics and Management Systems Society



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# Do we have the physical room for these?

- Major part of assessment
- Worked with engineering
- Included in future architectural plans
- Nothing met handheld needs





# Do we have the physical room for these?



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# Do we have the physical room for these?

*Insert pictures of patent pending handheld cabinet*



# Estimated budget?

Alexian Brothers Health System Point of Care Device Assessment	Alexian Brothers Medical Center	Alexian Brothers Behavioral Health Hospital	Training Facility	Isolation Rooms	Outpatient, Urgent Care & Diagnostic Centers	Saint Alexius Medical Center	TOTAL NUMBER OF DEVICES IDENTIFIED	DEVICES REDEPLOYED	DEVICES IDENTIFIED FOR PURCHASE	PRICE PER ITEM	SUBTOTAL DEVICE COST	EXTENDED WARRANTY	EXTENDED WARRANTY	TOTAL EXPENSE
IDENTIFIED NEED (IN ADDITION TO IDENTIFIED CURRENT STATUS)										COST	COST	PRICE (per unit)	COST	COST
General Use Desktop PC	39	0	121	0	0	1	161	91	70	\$1,500	\$105,375	\$0	\$0	\$105,375
HARD DRIVE ONLY (SKINNY MACHINE Includes alternative battery source)	17	0	0	0	0	0	17	0	17	\$2,500	\$42,500	\$0	\$0	\$42,500
Tablet/ Laptop (Priced at FUJITSU)	74	50	0	75	0	59	258	0	258	\$1,900	\$490,200	\$250	\$64,500	\$554,700
Tablet Charger (single port)	74	0	0	0	0	0	74	0	74	\$500	\$37,000	\$0	\$0	\$37,000
COW (Priced at Stinger)	92	0	0	0	4	54	150	0	150	\$5,500	\$825,000	\$0	\$0	\$825,000
Wall-Mounted, Desk Docking Station or PC Arm	55	0	0	0	0	35	90	0	90	\$2,600	\$234,000	\$0	\$0	\$234,000
Thermal Printers	44	0	0	0	0	3	47	0	47	\$1,000	\$47,000	\$0	\$0	\$47,000
1 drawer Network Laser Printer	2	0	8	0	0	0	10	0	10	\$1,500	\$15,000	\$0	\$0	\$15,000
2 drawer Network Laser Printer	1	0	0	0	0	0	1	0	1	\$1,600	\$1,600	\$0	\$0	\$1,600
3 drawer Network Laser Printer	1	0	0	0	0	0	1	0	1	\$1,700	\$1,700	\$0	\$0	\$1,700
Dot Matrix Printer	1	0	0	0	0	0	1	0	1	\$500	\$500	\$0	\$0	\$500
ELF Chips	7	5	0	0	0	5	17	0	17	\$1,000	\$17,000	\$0	\$0	\$17,000
Bar Code Scanner/ Reader (Attach to COW)	280	46	8	75	17	207	633	0	633	\$225	\$142,425	\$0	\$0	\$142,425
Glucose monitors	10	0	0	0	1	1	12	0	12	\$700	\$8,400	\$0	\$0	\$8,400
Glucose monitoring/docking stations	24	0	0	0	1	12	37	0	37	\$300	\$11,100	\$0	\$0	\$11,100
LAN Drops	24	0	0	0	0	0	24	0	24	\$150	\$3,600	\$0	\$0	\$3,600
Power Outlets	55	0	0	0	0	26	81	0	81	\$750	\$60,750	\$0	\$0	\$60,750
Hand Held for POC & Phlebotomy With Scanner	106	0	121	75	12	51	365	91	274	\$1,200	\$328,800	\$190	\$69,350	\$398,150
Lab Label Printers Wireless ZEBRA for PCT	89	0	8	75	12	44	228	0	228	\$1,000	\$228,000	\$250	\$57,000	\$285,000
4 Port Phlebotomy Printer Chargers	28	0	2	0	4	21	55	0	55	\$325	\$17,875	\$0	\$0	\$17,875
Individual POC & Phlebotomy Handheld Chargers	104	0	121	0	11	79	315	91	225	\$100	\$22,500	\$0	\$0	\$22,500
Spare Battery Handheld (1/4)	32	0	0	0	3	25	60	0	60	\$75	\$4,500	\$0	\$0	\$4,500
Spare Battery Printers (1/4)	30	0	0	0	3	18	51	0	51	\$65	\$3,299	\$0	\$0	\$3,299
Spare Hand Held Device (1/7)	28	0	0	0	3	14	45	0	45	\$1,300	\$59,057	\$190	\$8,631	\$67,689
Spare Label Printer (mobile) (1/7)	23	0	0	0	3	10	36	0	36	\$1,000	\$36,429	\$250	\$9,107	\$45,536
Spare Bar Code Scanner (1/10)	34	11	0	0	3	22	70	0	70	\$225	\$15,683	\$0	\$0	\$15,683
Spare COW (1/10)	13	0	0	0	0	6	20	0	20	\$5,100	\$99,669	\$0	\$0	\$99,669
Spare Laptop/ Tablet (1/7)	11	13	0	0	0	9	33	0	33	\$1,700	\$56,100	\$250	\$8,250	\$64,350
Server (Terminal Services for Handhelds)	4	0	0	3	1	2	10	0	10	\$50,000	\$500,000	\$0	\$0	\$500,000
Terminal Services Client	134	0	121	75	15	65	410	0	410	\$25	\$10,261	\$0	\$0	\$10,261
<b>TOTAL</b>	<b>1436</b>	<b>125</b>	<b>510</b>	<b>378</b>	<b>93</b>	<b>770</b>	<b>3313</b>	<b>273</b>	<b>3040</b>		<b>\$3,425,321</b>		<b>\$216,839</b>	<b>\$3,642,160</b>



# No “Right” way?

- Administration Involvement
- Define Care Delivery Processes
- Dedicated Team Resources
- Persistence
- Transparency/Staff inclusion

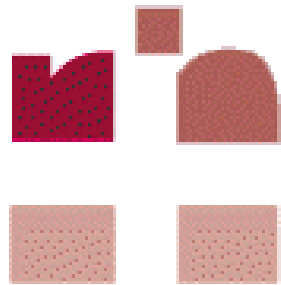




# Special Thanks to...

Sandie Cortes

&



navin, haffty  
& associates, LLC





# Questions and Comments?

*Please don't hesitate to contact us with any questions, thoughts, and comments.*

*We'd love to hear from you.*

*Jeffrey M. Adams, PhD(c) RN*  
[jeff.adams@bogartgroup.com](mailto:jeff.adams@bogartgroup.com)  
207.749.2680

*Ginny Williams, MSN, RN*  
[vwilliam@svmh.com](mailto:vwilliam@svmh.com)  
831.757.4333 X2472

