



Creating and Testing an Electronic Nursing Documentation System (ENDS) – A Pilot Research Project

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HIMSS 2008 Annual Conference

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Investigators

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Learning Objectives for Creating & Testing an ENDS

- Importance Of Standardized Languages
- Key Components
- Outcomes
- Key Computer Requirements

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	History of Pilot Project
	<ul style="list-style-type: none"> ■ Presented method to capture Nurse workload using Nursing Standardized Classifications at conference ■ Army Nursing Corps Chief wanted brief <ul style="list-style-type: none"> – Requested Pilot to be conducted <ul style="list-style-type: none"> ■ Inpatient Unit ■ 1 year timeframe ■ Two military branches ■ Relevant Dx- Related to Safety – Surgeon General \$100,000.00 – Army Nursing Corps Chief \$125,000.00 + \$30,000

	Purpose of Pilot Project
	<ul style="list-style-type: none"> ■ Develop Electronic Nursing Documentation System (ENDS) using SOP based on: <ul style="list-style-type: none"> – North American Nursing Diagnosis (NANDA) – Nursing Intervention Classification (NIC) – Nursing Outcome Classification (NOC) ■ Beta-Test ENDS <ul style="list-style-type: none"> – Effectiveness – Nurse Satisfaction with ENDS

	Pilot Project
	<ul style="list-style-type: none"> ■ Determined similar sites in different military branches <ul style="list-style-type: none"> – Type of nurse – Type of unit – Type of platform for documentation ■ Interest in participation ■ Two branches Army & Navy ■ ICU units ■ CIS Platform

	Goals of ENDS
	<ul style="list-style-type: none"> ■ Capture diagnosis identified and validated by RF/DC ■ Linked relevant interventions & captured ■ Linked outcome for pre-post intervention determination & captured ■ Intervention activities available when intervention clicked and can be selected

	Goals of ENDS (con't)
	<ul style="list-style-type: none"> ■ Intervention time and ABC codes accumulated ■ Outcome indicants available at sign-off ■ Change in pre-post intervention outcome immediately available to the nurse

	Development of ENDS
	<ul style="list-style-type: none"> ■ Hired/trained note configuration specialist <ul style="list-style-type: none"> - Nurse with ICU experience who had some computer configuration experience ■ CIS system was inadequate to allow for the linkages, information availability, flow & inputting <ul style="list-style-type: none"> - Allowed for only 999 prompts per note - Modified version was developed - MG wanted intervention activities to be identified- very difficult within the capabilities

	Modified Version Of Ends
	<ul style="list-style-type: none"> ■ Could <ul style="list-style-type: none"> – Capture Nursing DX – Capture Risk Factors to define DX – Link interventions with DX – Capture ABC Code and time per intervention – Display and capture pre-post intervention outcome

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	Modified Version Of Ends Con't
	<ul style="list-style-type: none"> ■ Could NOT: <ul style="list-style-type: none"> – Have pre-intervention outcome assessment appear before intervention selection – Have intervention activities available when intervention was selected – Have ability for selection by click box of activities for each intervention – Have pre-populated outcome identified

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	Screen Shots of Risk for Impaired Skin Integrity Study Note
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Participants

- IRB reviewed & approved
- Consent signed
- 50 nurses consented
- 23 nurses completed

Age group	%
20 – 30	43.5%
31 - 45	56.6%

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Participant Demographics

Education Level	%
Diploma	13.0%
Associate degree	21.7%
Bachelor's degree	60.9%
Master's degree	4.3%

Employment Status	%
Military nurse	39.1%
GS	17.4%
Contractor	43.5%

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Participant Experience in Nursing/ICU

Experience	Nursing	ICU
Less than 5 years	30.4%	56.6%
5 – 10 years	39.2%	30.4%
More than 10 years	30.4%	13.1%

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Participant Experience with Computers/CIS		
Experience	Computers	With CIS
Less than 5 years	13.0%	65.2%
5 – 10 years	39.2%	26.1%
More than 10 years	47.8%	8.7%

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Beta Test Findings	
<ul style="list-style-type: none"> ■ Effectiveness <ul style="list-style-type: none"> – Nursing diagnosis & RF, interventions and outcomes identified – Actual workload of the nurse by hours – Potential acuity of patient – Actual codes for each intervention identified – Percent change of patient outcomes – Intervention activities identified 	23

Beta Test Findings (Con't)	
<ul style="list-style-type: none"> ■ Nurse Satisfaction - Over 50% of the nurses believed that the ENDS: <ul style="list-style-type: none"> – increased their knowledge related to care – allowed for comprehensive documentation – enhanced relevance of documentation – was valuable to their practice – enhanced professional growth – was very helpful to their practice with outcome data readily available 	24

	<h2 style="margin: 0;">Conclusion</h2>
	<ul style="list-style-type: none"> ■ ENDS based on NNN can be used successfully to capture: <ul style="list-style-type: none"> – What it is that nurses do – Plan of care – Workload of the nurse – Outcomes of nursing care – ABC codes ■ Computer Platforms need to be further developed for requirements of ENDS

	<h2 style="margin: 0;">Requirements for ENDS</h2>
	<ul style="list-style-type: none"> ■ Clinical Decision Support ■ Clinical Workflow Support ■ Clinical Workflow – System Integration ■ Continuity of Care ■ Further Assessment - Clinical Workflow ■ General System Requirements

	<h2 style="margin: 0;">Requirements for ENDS (Con't)</h2>
	<ul style="list-style-type: none"> ■ Initial & Nursing Diagnosis Phase - Clinical Workflow ■ Intervention and Delegation - Clinical Workflow ■ Medications Management ■ Outcome Assessment - Pre Intervention - Clinical Workflow ■ Outcome Assessment – Post Intervention - Clinical Workflow

	<h3>Requirements for ENDS (Con't)</h3>
	<ul style="list-style-type: none"> ■ Outcomes Capture & Reporting ■ Patient Acuity/Resource Planning ■ Policy Configuration ■ Quality of Care ■ Reference [procedures, medications, health care literature, etc.]
	<small>28</small>

	<h3>Requirements for ENDS (Con't)</h3>
	<ul style="list-style-type: none"> ■ Risk Management ■ Shift Management- Clinical Workflow ■ Teaching ■ User Interface / Usability / Navigation ■ Work Capture
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	<h3>Requirements for ENDS to Enhance User-Friendliness</h3>
	<ul style="list-style-type: none"> ■ Housing ability ■ Fluid linkages & Navigation ■ Web linkages ■ Bar code linkages ■ Handheld/voice device capabilities ■ Decision support capabilities ■ V/S, Lab, Pharmacy linkages
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	Summary
	<ul style="list-style-type: none"> ■ Importance of Standardized Languages <ul style="list-style-type: none"> - Evidence Based - All professionals on same page - Aggregate Data ■ Key Components of ENDS <ul style="list-style-type: none"> - Nursing Diagnoses - Nursing Interventions - Nursing Sensitive Patient Outcomes - ABC codes - Time

	Summary (Con't)
	<ul style="list-style-type: none"> ■ Outcomes of ENDS <ul style="list-style-type: none"> - What it is that nurses do - Plan of care - Workload of the nurse - Outcomes of nursing care - Patient Acuity - ABC codes ■ Computer Requirements for ENDS <ul style="list-style-type: none"> - 21 Dimensions should be addressed


