From Dream to Reality....
Transforming Nursing Practices with Smart Technology

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CNIA
Canadian Nursing Informatics Association

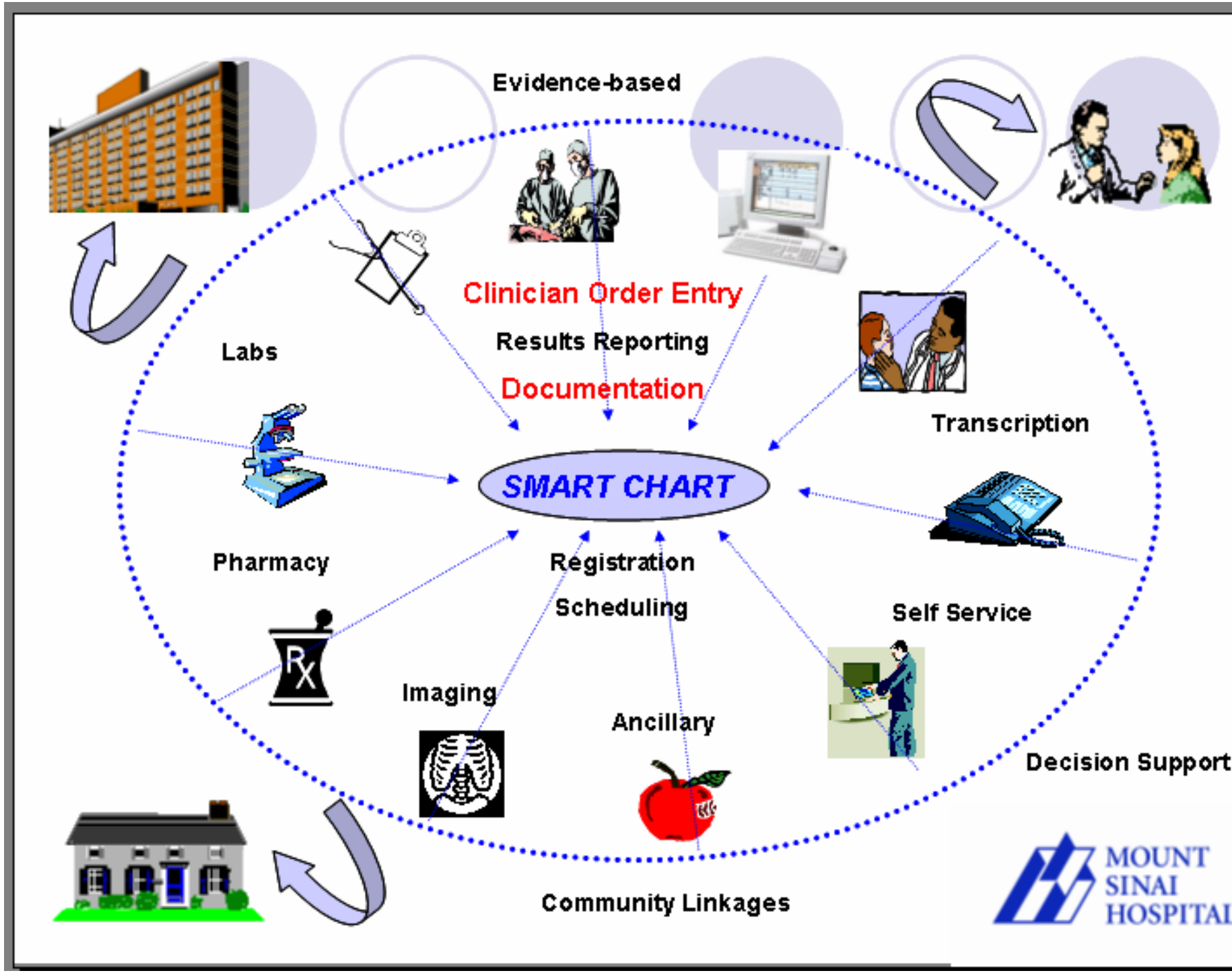
Current Clinical Environment

multi-sited

- 600 University Ave
- 700 University Ave
- 60 Murray St.
- Community Mental Health Programs

425 Acute care beds

- 25,000 admissions/year
- 35,000 ER visits/year
- 500,000 Ambulatory visits/year


Evidence-based
Clinician Order Entry
Results Reporting
Documentation
Labs
Transcription
SMART CHART
Pharmacy
Registration
Scheduling
Self Service
Imaging
Ancillary
Decision Support
Community Linkages
MOUNT SINAI HOSPITAL

From Dream to Reality… Transforming Nursing Practices with Smart Technology

- Nurses dream of an Integrated and Interdisciplinary system
- We dream of a patient focused system
- We dream of a healing system
- Yet we work in a system where 24,000 Canadians die annually from adverse events or medical errors.

So transform, we must? But who cares?

- Nurses spend 40-45% of their time completing documentation…often redundant
- Physicians spend 38% of their time foraging for information
- We all spend tooooooo much time focused on the *care and feeding of the paper record*
- Most importantly our patients say, they expect safe, empathic care and more time with their Nurses!

How are we making our transformative dreams come true at Toronto's Mount Sinai??

- We focus on **care and feeding of cultural readiness**
- We engage in the human process of change
- From distrust
- Power struggles
- Resistance
- ***To Engagement and commitment***

How to Transverse The gap?

Traversing for a Successful Transformation….

- From
- Silos of distrust
- Controlling Hierarchy, using power-over communication

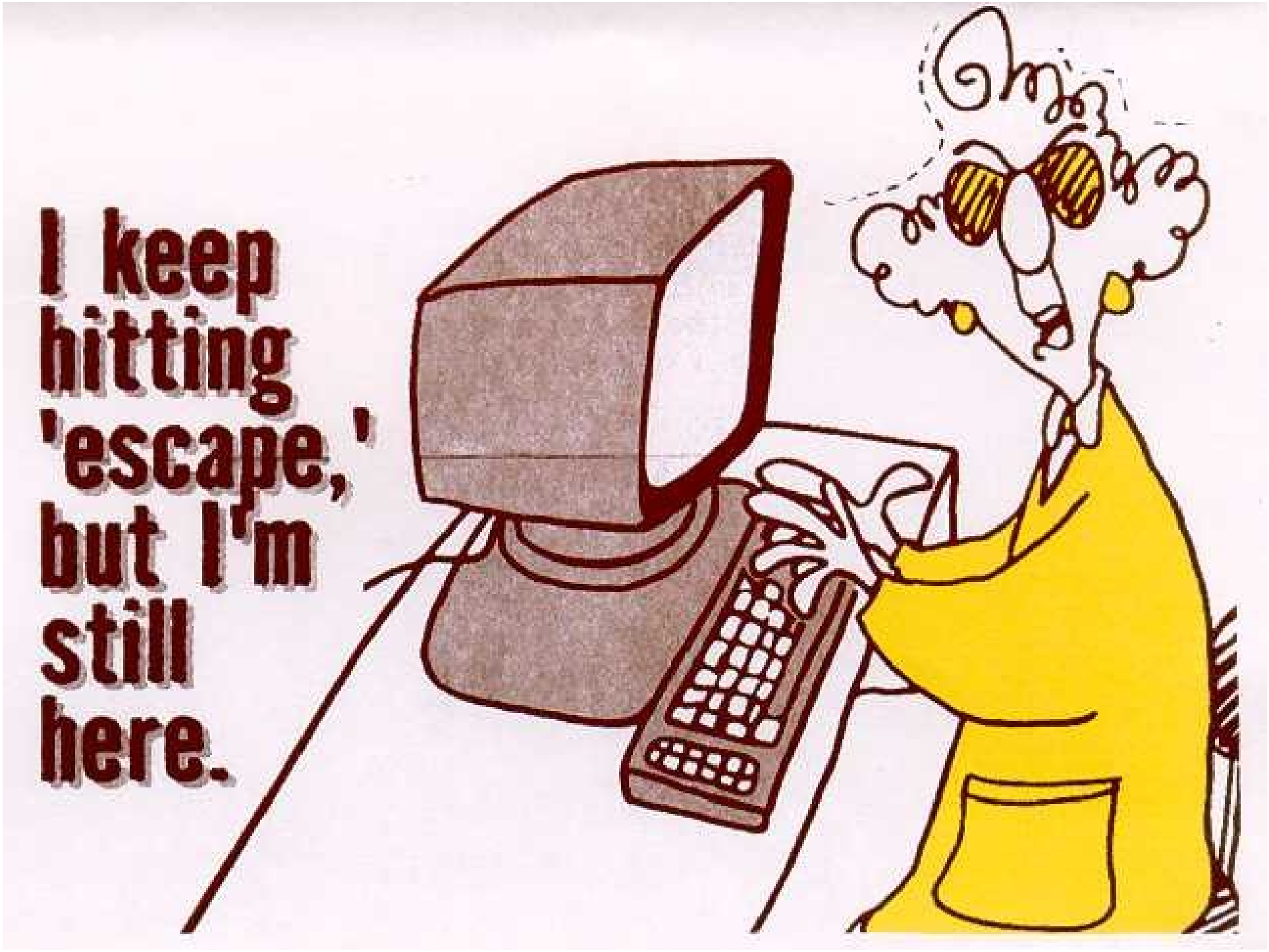
- Information controlled

- Mechanistic Medical model
- Obsession with technology

- To
- Creative experimentation
- Information sharing, power-sharing communication

- Interdisciplinary – Human Science model

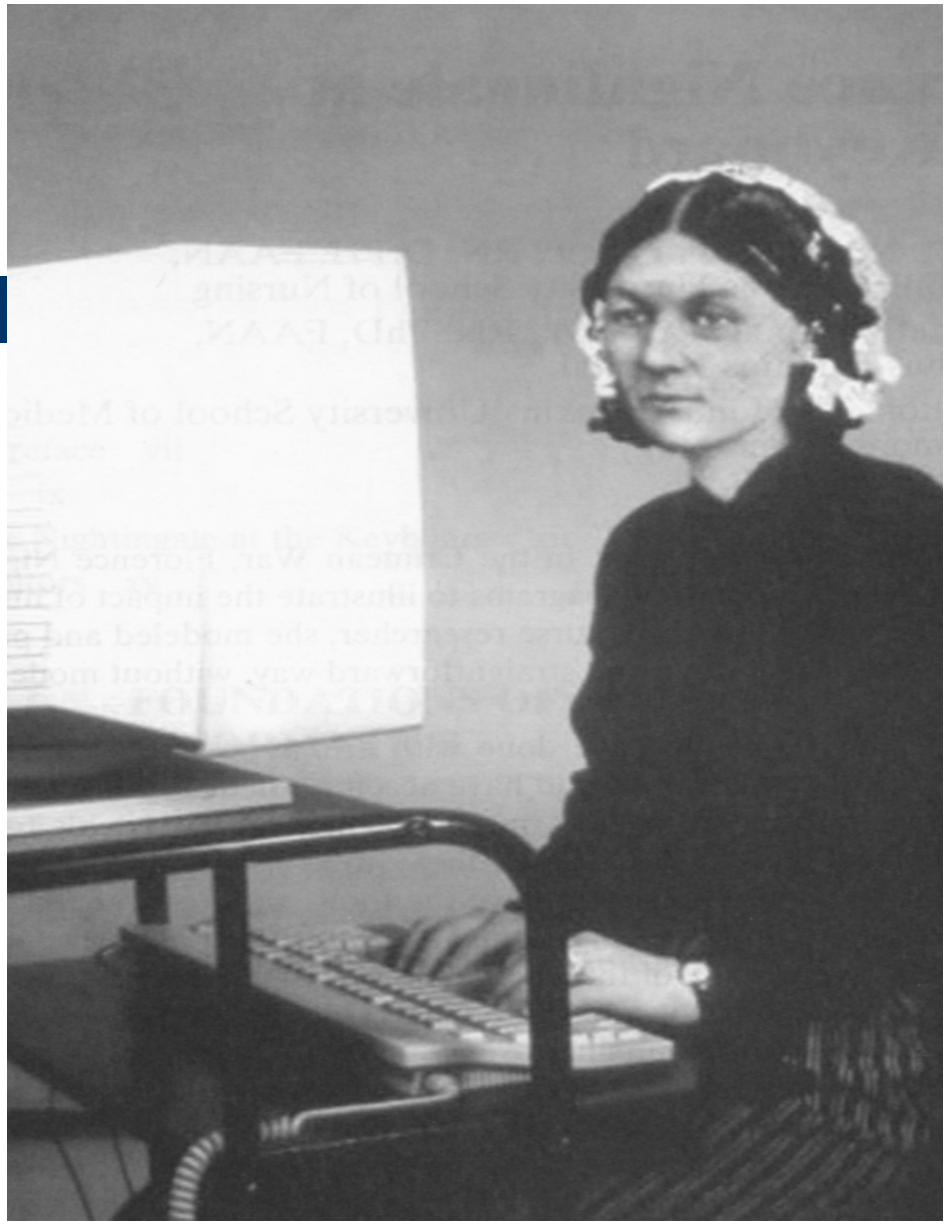
- Technology as a tool used to support best practices


I keep hitting 'escape,' but I'm still here.

But Just **Imagine**…….

We do imagine
Miss Florence…
Shifting the
environment
From our patriarchy
Of Silo's….

And we attend to the
Cultural Readiness
For Transformation
Of our health care



Our Attending to Cultural Readiness & Making our Dreams come true…

1. We harness the power of Smart Technology in through cultural readiness strategies!!

- The Smart Technology = integrated customized patient focused Cerner data base
- automates the patient care processes from patient assessments to best evidence ordering processes used at Mount Sinai

Pivotal to Cultural Readiness….

Mediating the Change Management….it is the **human interface with technology** that is the challenge

We are asking expert clinicians to change their every day practice
RESISTENT BEHAVIOUR TO THE TREAT OF FEELING OUT OF CONTROL!!

Need Empathy and understanding of the meaning of their behaviour

Understanding…the changes

Example, with changes in the ordering process

=changes to communication between providers

=changes to process and policies and everyday practices

Interdisciplinary Changes to communication….for a safer environment

- Automating cognitive functions

1. Allergy checking
2. Duplicate order checking
3. Dose range checking
4. Adverse drug event rules

Automating the cognitive functions

- Nurse no longer writes physicians' orders as routine practice
- Nurse no longer needs to inform allied health of service requests
- Nurse no longer needs to transcribe to MAR or Kardex
- Expert Nurse no longer routinely suggest what, how much, and how often
- Nurse no longer needs to inform team of patient's allergies or duplicate ordering of diagnostic tests

Specific Methods Used for our transformation

1. **Iterative process** for co-creating the system design – teams of clinicians worked with us
   - Co-creation leads to co-ownership
   - Decreases resistance and sabotage
2. **Focus Groups** pre technology and post implementation, as an evaluation strategy
3. **<u>We change designs based on our findings</u>**
4. **I-Champions** from Nursing, Physicians, RT's

Are key resources to peers, pre, during and post implementation

Operationalizing our Methods For Transformation….

- Recreating our Clinical E-Documentation

With Julie Judd….

Clinical Documentation - Current State

- Today's health care environment does not share information well among clinicians or facilities.
- This results partly from the complexity of health care language, the fragmentation of clinical data, and limited data reporting.
- The application of information technology in health care has the potential to transform the delivery of care, as well as the health care work environment, by streamlining processes, making processes more accurate and efficient, and reducing the risk of human error.

The Healthcare Paradigm

- For the past 50 years the healthcare paradigm has been a provider-focused, mechanistic model.
- In essence, patients are thought of in divisions, and the provider's focus has been on the bio-psycho-social problems that experts define and manage through professional interventions.

Clinical Documentation Model

- So how does clinical documentation begin to solve problems that up to this point in time it has only aggravated?
- The solution lies in reinventing both the process and content of clinical documentation.
- Patient-centred and clinician-centred documentation model.

The Clinical Documentation Culture

- Clinical documentation has long been the dark side of clinical practice.
- The prospect of automating this “necessary evil” does not make clinical documentation any more appealing to clinicians.
- However, clinical documentation – automated and reinvented – offers considerable opportunities for improving the work environment and methods of clinical practice.

Guiding Principles of Electronic Clinical Documentation

- Clinical documentation re-invented from the voices of clinicians, from our focus groups and I Champions, adopts the following guiding principles:
  - Build and present a coherent patient story
  - Empower interdisciplinary care
  - Support integrated scopes of practice for all clinicians
  - Provide evidence-based information at the point of care
  - Enable clinicians to capture concise patient data at the point of care
  - Prevent duplication and errors in patient care

Clinical Documentation - Pilot

- Began in November 2004 as a pilot project in the General Medicine in-patient units (3) and involved nursing, respiratory therapy and pharmacy.
- We have used an iterative process both prior to going live throughout the implementations.
- Second iteration completed in March of 2005.
- Moving into the Surgical units in November 2005.

Shift Assessment - SIXDAY, PATIENT

*Performed on: 2005/09/13 2206 By: Moffat Judd, Julie

- Neurological
- Respiratory
- Respiratory Deta
- Airway/Trach/La
- Oral
- Cardiovascular
- Cardiovascular D
- Pacemaker
- Telemetry
- Gastrointestinal
- Endocrine
- Genitourinary
- Musculoskeletal
- Integumentary
- Incision & Woun
- Foot Assessment
- General Pain Ass
- Subjective
- Vascular Access
- Morse Fall Risk S
- Education

Foot Assessment

General Assessment

- [ ] Non-diabetic
- [ ] Diabetic
- [ ] Peripheral vascular disease
- [ ] Presence of edema
- [ ] Absence of edema
- [ ] Other:

History of Foot Ulcer?

- ○ No
- ○ Yes
- ○ Unknown
- ○ Other:

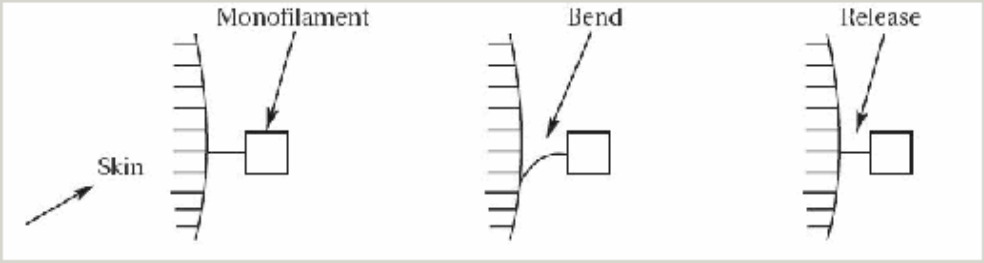
Date of First Foot Ulcer (Historical)

Foot Assessment

Wound measu

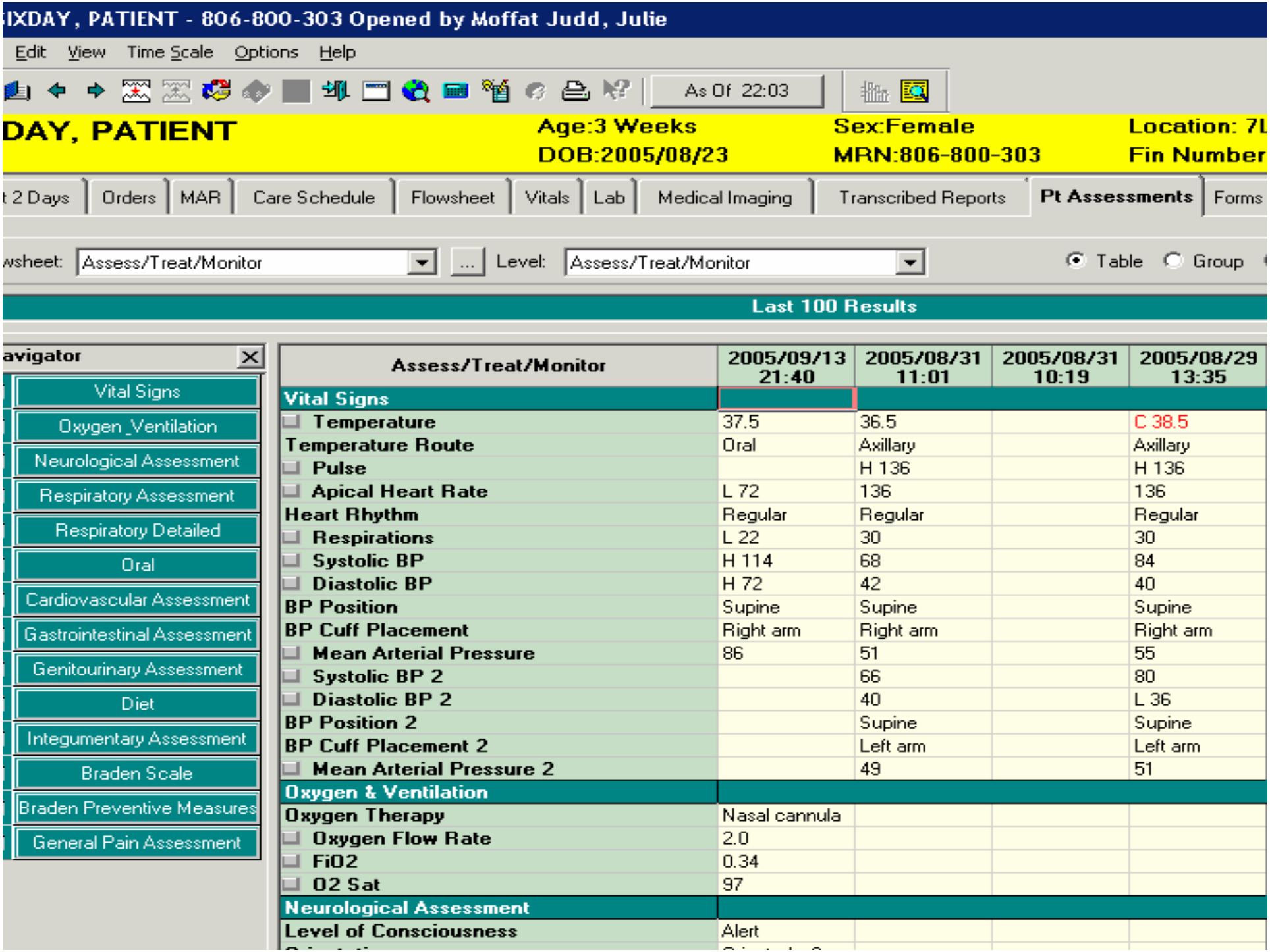
Foot Assessed	Nail Condition	Condition of Skin - Feet	Foot Sores	Semmes-Weinstein Monofilament	Foot Circulation	Structural Deformities - Feet	Description of Structural Deformities	Foot Infection/Ulcers	Date of Current Foot Ulcer	Fo Lo
<Alpha>	<MultiAlpha>	<MultiAlpha>	<MultiAlpha>	<MultiAlpha>	<Alpha>	<MultiAlpha>	<MultiAlpha>	<MultiAlpha>		
<Alpha>	<MultiAlpha>	<MultiAlpha>	<MultiAlpha>	<MultiAlpha>	<Alpha>	<MultiAlpha>	<MultiAlpha>	<MultiAlpha>		

Semmes-Weinstein Monofilament Testing

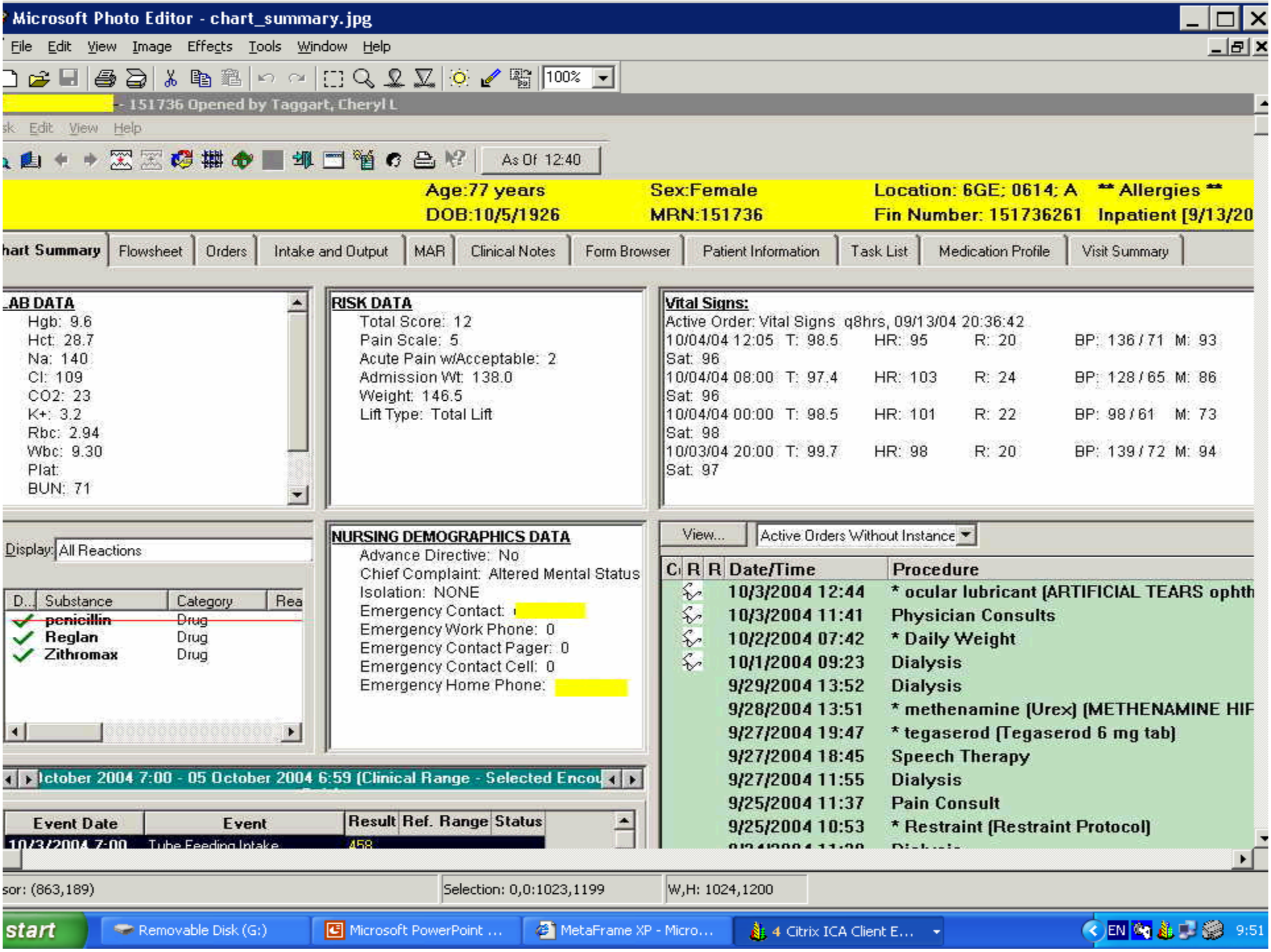


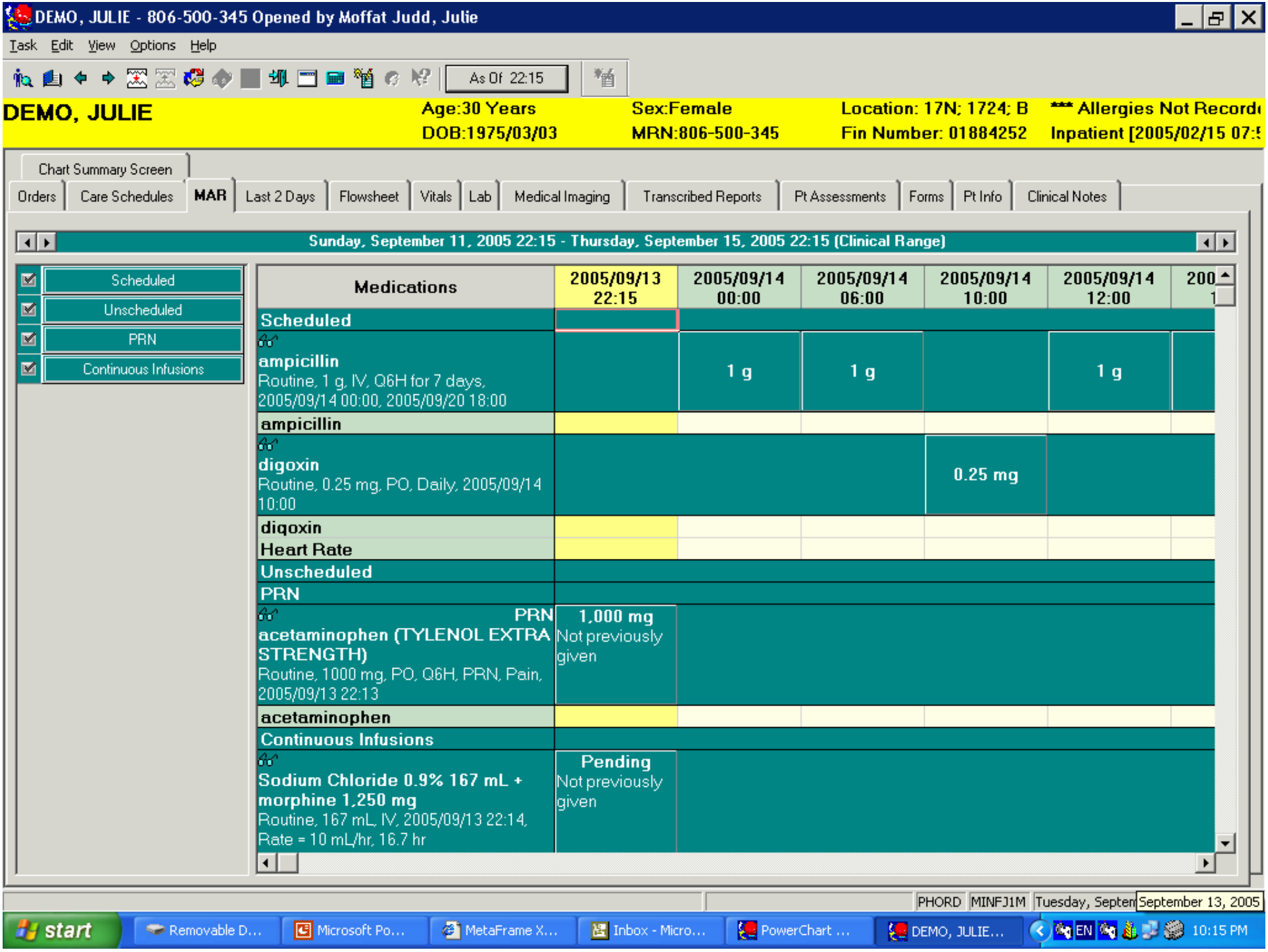
Preliminary

CERT MINFJIM September 13, 2005 22:

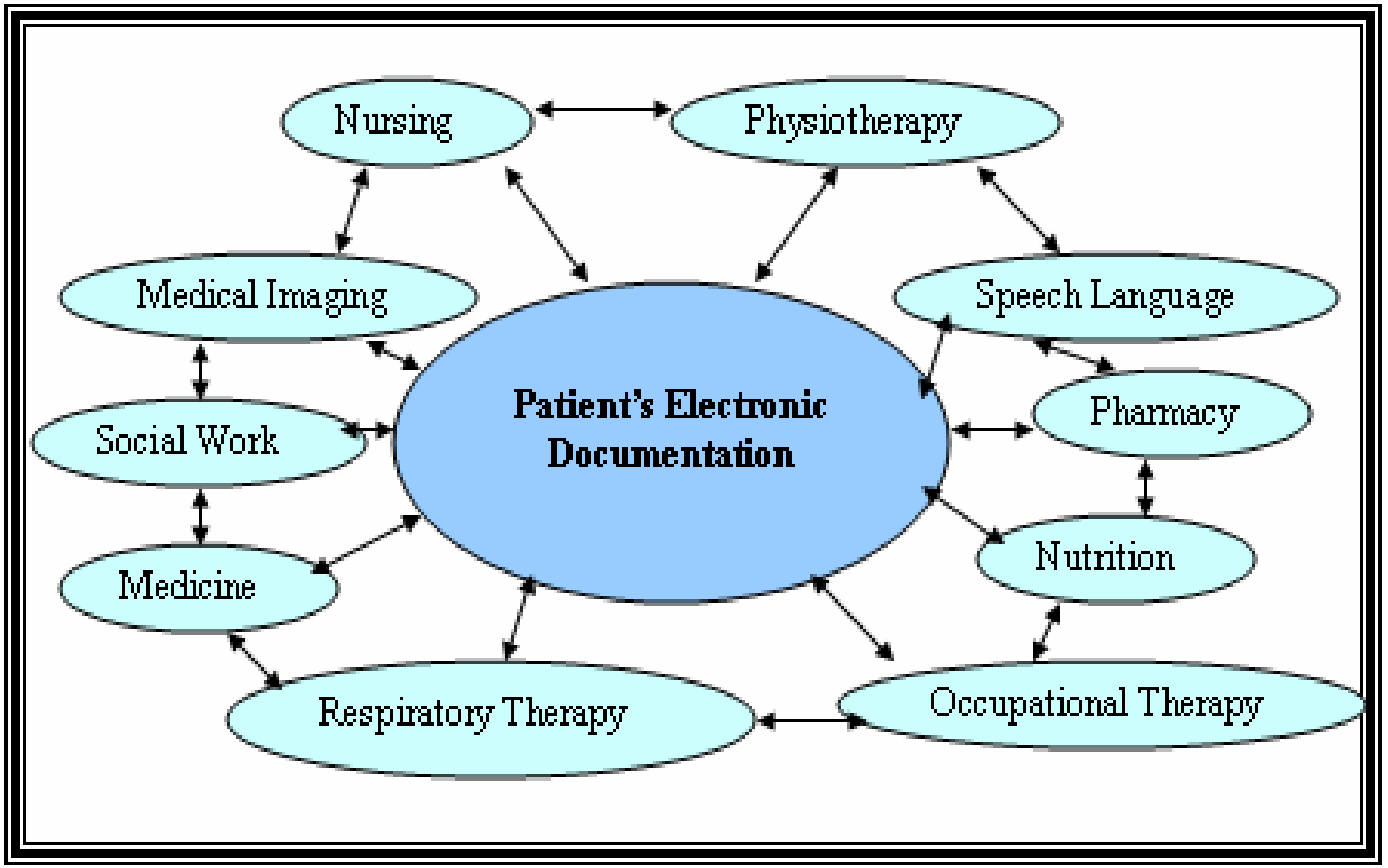


Assess/Treat/Monitor	2005/09/13 21:40	2005/08/31 11:01	2005/08/31 10:19	2005/08/29 13:35
Vital Signs				
Temperature	37.5	36.5		C 38.5
Temperature Route	Oral	Axillary		Axillary
Pulse		H 136		H 136
Apical Heart Rate	L 72	136		136
Heart Rhythm	Regular	Regular		Regular
Respirations	L 22	30		30
Systolic BP	H 114	68		84
Diastolic BP	H 72	42		40
BP Position	Supine	Supine		Supine
BP Cuff Placement	Right arm	Right arm		Right arm
Mean Arterial Pressure	86	51		55
Systolic BP 2		66		80
Diastolic BP 2		40		L 36
BP Position 2		Supine		Supine
BP Cuff Placement 2		Left arm		Left arm
Mean Arterial Pressure 2		49		51
Oxygen & Ventilation				
Oxygen Therapy	Nasal cannula			
Oxygen Flow Rate	2.0			
FiO2	0.34			
O2 Sat	97			
Neurological Assessment				
Level of Consciousness	Alert			


Microsoft Photo Editor - chart_summary.jpg
File Edit View Image Effects Tools Window Help
100%
- 151736 Opened by Taggart, Cheryl L
Edit View Help
As Of 12:40
Age:77 years
Sex:Female
Location: 6GE; 0614; A
** Allergies **
DOB:10/5/1926
MRN:151736
Fin Number: 151736261
Inpatient [9/13/20
hart Summary
Flowsheet
Orders
Intake and Output
MAR
Clinical Notes
Form Browser
Patient Information
Task List
Medication Profile
Visit Summary
AB DATA
Hgb: 9.6
Hct: 28.7
Na: 140
Cl: 109
CO2: 23
K+: 3.2
Rbc: 2.94
Wbc: 9.30
Plat:
BUN: 71
RISK DATA
Total Score: 12
Pain Scale: 5
Acute Pain w/Acceptable: 2
Admission Wt: 138.0
Weight: 146.5
Lift Type: Total Lift
Vital Signs:
Active Order: Vital Signs q8hrs, 09/13/04 20:36:42
10/04/04 12:05 T: 98.5 HR: 95 R: 20 BP: 136 / 71 M: 93
Sat: 96
10/04/04 08:00 T: 97.4 HR: 103 R: 24 BP: 128 / 65 M: 86
Sat: 96
10/04/04 00:00 T: 98.5 HR: 101 R: 22 BP: 98 / 61 M: 73
Sat: 98
10/03/04 20:00 T: 99.7 HR: 98 R: 20 BP: 139 / 72 M: 94
Sat: 97
Display: All Reactions
D.. Substance Category Rea
penicillin Drug
Reglan Drug
Zithromax Drug
NURSING DEMOGRAPHICS DATA
Advance Directive: No
Chief Complaint: Altered Mental Status
Isolation: NONE
Emergency Contact:
Emergency Work Phone: 0
Emergency Contact Pager: 0
Emergency Contact Cell: 0
Emergency Home Phone:
View...
Active Orders Without Instance
C R R Date/Time Procedure
10/3/2004 12:44 * ocular lubricant (ARTIFICIAL TEARS ophth
10/3/2004 11:41 Physician Consults
10/2/2004 07:42 * Daily Weight
10/1/2004 09:23 Dialysis
9/29/2004 13:52 Dialysis
9/28/2004 13:51 * methenamine (Urex) (METHENAMINE HIP
9/27/2004 19:47 * tegaserod (Tegaserod 6 mg tab)
9/27/2004 18:45 Speech Therapy
9/27/2004 11:55 Dialysis
9/25/2004 11:37 Pain Consult
9/25/2004 10:53 * Restraint (Restraint Protocol)
October 2004 7:00 - 05 October 2004 6:59 (Clinical Range - Selected Encou
Event Date Event Result Ref. Range Status
10/3/2004 7:00 Tube Feeding Intake 458
sor: (863,189)
Selection: 0,0:1023,1199
W,H: 1024,1200
start
Removable Disk (G:)
Microsoft PowerPoint ...
MetaFrame XP - Micro...
4 Citrix ICA Client E...
EN
9:51


DEMO, JULIE - 806-500-345 Opened by Moffat Judd, Julie
Task Edit View Options Help
As Of 22:15
DEMO, JULIE
Age:30 Years
DOB:1975/03/03
Sex:Female
MRN:806-500-345
Location: 17N; 1724; B
Fin Number: 01884252
*** Allergies Not Record
Inpatient [2005/02/15 07:5
Chart Summary Screen
Orders
Care Schedules
MAR
Last 2 Days
Flowsheet
Vitals
Lab
Medical Imaging
Transcribed Reports
Pt Assessments
Forms
Pt Info
Clinical Notes
Sunday, September 11, 2005 22:15 - Thursday, September 15, 2005 22:15 (Clinical Range)
Scheduled
Unscheduled
PRN
Continuous Infusions
Medications
2005/09/13 22:15
2005/09/14 00:00
2005/09/14 06:00
2005/09/14 10:00
2005/09/14 12:00
Scheduled
ampicillin
Routine, 1 g, IV, Q6H for 7 days, 2005/09/14 00:00, 2005/09/20 18:00
1 g
1 g
1 g
ampicillin
digoxin
Routine, 0.25 mg, PO, Daily, 2005/09/14 10:00
0.25 mg
digoxin
Heart Rate
Unscheduled
PRN
PRN
acetaminophen (TYLENOL EXTRA STRENGTH)
Routine, 1000 mg, PO, Q6H, PRN, Pain, 2005/09/13 22:13
1,000 mg
Not previously given
acetaminophen
Continuous Infusions
Sodium Chloride 0.9% 167 mL + morphine 1,250 mg
Routine, 167 mL, IV, 2005/09/13 22:14, Rate = 10 mL/hr, 16.7 hr
Pending
Not previously given
PHORD
MINFJ1M
Tuesday, Septen
September 13, 2005
start
Removable D...
Microsoft Po...
MetaFrame X...
Inbox - Micro...
PowerChart ...
DEMO, JULIE...
EN
10:15 PM

A Living Document:



Benefits of Automation

- We have an opportunity to shape professional practice by standardizing documentation within the organization.
- The goal is to enhance patient safety along the continuum of care, driving out variances and standardizing care using best practice guidelines.
- Refocusing nurses' work on direct patient care and away from being a conduit of information and communication among departments.

Future Direction

- Include all professional disciplines.
- Patient-centred: better capture the patient's story.
- Formally adopt an interdisciplinary framework that supports clinical documentation.
- This framework will facilitate and improve health services by complementing medical science with human science.

A Framework

- Nursing and allied health have a history with medical practice. We study and use the body of biomedical knowledge to guide our assessments and treatments.
- Healthcare must include the context of the patient's story before we can attend to the bio-medical management of illness.

Human Science Framework

- The medical principles – assess, name (diagnose), and manage – were used to guide not only physiological care but relationships of patients and family members who were also in these situations as recipients of medical expertise.
- To assume responsibility for ensuring that the patient's story is given voice, the interdisciplinary team must be guided by a human science framework.

Changing Paradigms Using Cultural Readiness Strategies

- Changing paradigms in a large organization takes time and it takes the expressed commitment of people from board members to direct care providers.
- For example, team members in the Clinical Informatics Department are working with clinicians and leaders in nursing, allied health and medicine to achieve consensus in the adoption of an interdisciplinary, patient-centred paradigm.

Outcomes

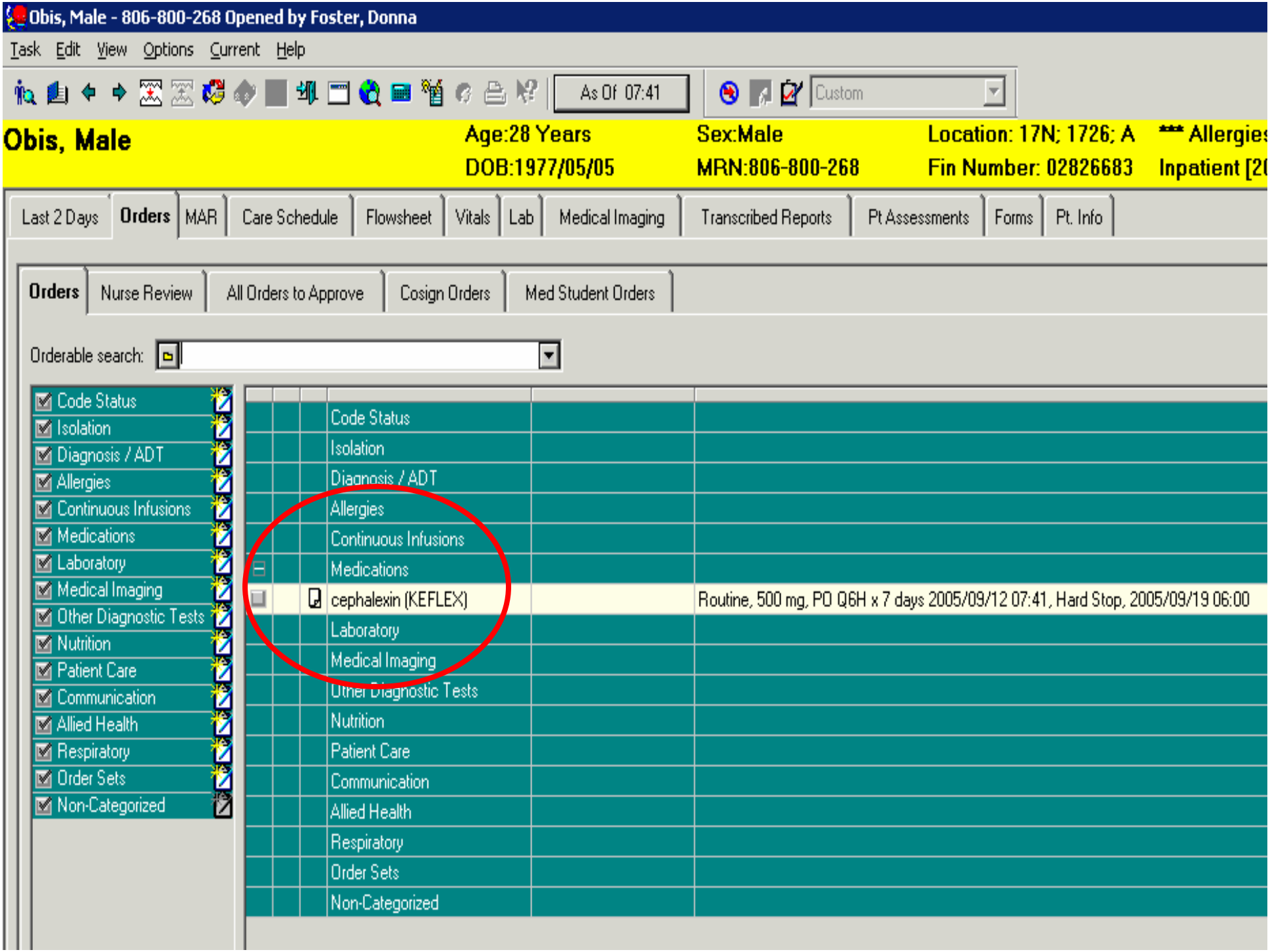
- Improve continuity and quality of information.
- Improve continuity of care delivered between clinicians.
- Deliver safe and informed patient care.
- Capture clinical outcomes longitudinally.
- Patient-centred and clinician-centred.
- Making **Nursing visible** as a healing profession.

Additional Methods for Transformation

- The creation of order sets with Donna Foster.

How our dreams are coming true…..

- The creation of order sets
  - Standardizes care
  - Standardizes language
  - Acts as a teaching tool for both clinical staff and patients
  - Saves time, allowing more time with our patients


Obis, Male - 806-800-268 Opened by Foster, Donna
Task Edit View Options Current Help
As Of 07:41
Custom
Obis, Male
Age:28 Years
Sex:Male
Location: 17N; 1726; A
*** Allergies
DOB:1977/05/05
MRN:806-800-268
Fin Number: 02826683
Inpatient [2
Last 2 Days
Orders
MAR
Care Schedule
Flowsheet
Vitals
Lab
Medical Imaging
Transcribed Reports
Pt Assessments
Forms
Pt. Info
Orders
Nurse Review
All Orders to Approve
Cosign Orders
Med Student Orders
Orderable search:
Code Status
Isolation
Diagnosis / ADT
Allergies
Continuous Infusions
Medications
Laboratory
Medical Imaging
Other Diagnostic Tests
Nutrition
Patient Care
Communication
Allied Health
Respiratory
Order Sets
Non-Categorized
Code Status
Isolation
Diagnosis / ADT
Allergies
Continuous Infusions
Medications
cephalexin (KEFLEX)
Routine, 500 mg, PO Q6H x 7 days 2005/09/12 07:41, Hard Stop, 2005/09/19 06:00
Laboratory
Medical Imaging
Other Diagnostic Tests
Nutrition
Patient Care
Communication
Allied Health
Respiratory
Order Sets
Non-Categorized

t Education

APPLIANCE CHANGE

The patient is able to independently change the appliance

The following steps are generic and applicable for a two-piece system.

1. **Assemble the necessary supplies**
   - Flange and pouch, measuring guide, scissors, pen, strip paste or tube paste (optional), wet/dry cloth, and plastic bag.

2. **Remove flange and pouch**
   - Gently remove the pouching system. Keep one finger against the skin and always remove in the direction of hair growth. Dispose of flange and pouch.

3. **Care for the skin and stoma**
   - Remove any excess stool or mucous with dry gauze. Gently cleanse the stoma and surrounding skin with wet, warm gauze. A mild soap may be used as long as all residue is removed. Pat skin dry. Washing the stoma and skin can be done in the shower.
   - Use a mirror and observe both the stoma and surrounding skin. The skin should always be healthy with no signs of redness or irritation. The stoma should always be pinkish red, moist and smooth.

4. **Measure the stoma**

Obtaining Cultural Readiness for buy in by our Clinicians

- Create best practice order sets
- Create interdisciplinary order sets
  - Common admission diagnosis
  - Common & emergency procedures
  - Pre and post op procedures
  - Infection control
  - Nursing care and clinical monitoring
  - Protocols for lab work, radiology tests and medications

Model Used for Approval Process

- Orders sets once created, follow a 14 step iterative approval process
  - Department head
  - Clinical Informatics team
  - Department interdisciplinary team
  - Infection control
  - Nursing ***Smart Chart*** Committee
  - Practice leaders

Approval process continued

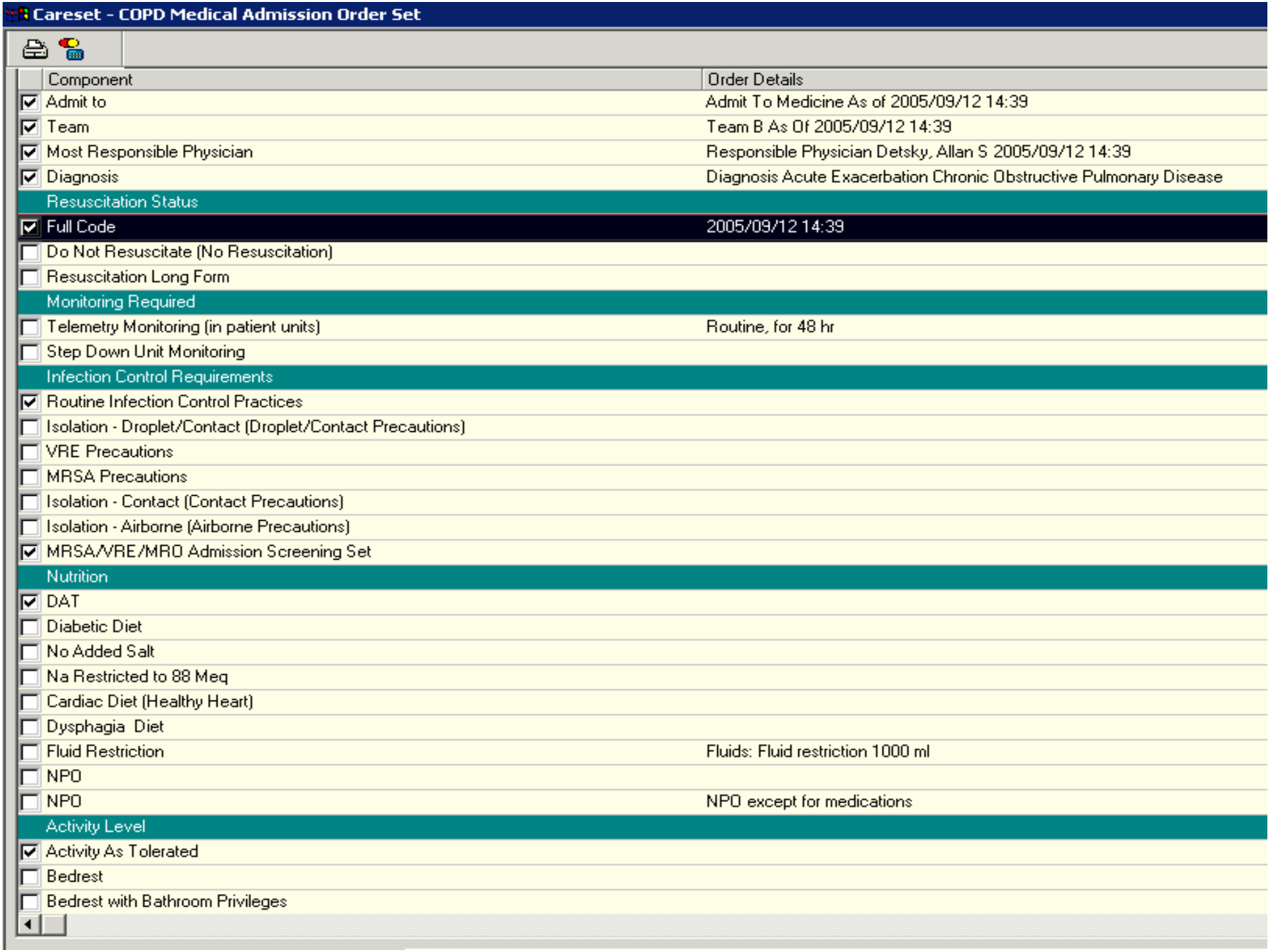
- Diagnosis leader
- Antibiotic subcommittee
- Clinical practice committee
- Pharmacy and therapeutics committee
- Medical Advisory committee!

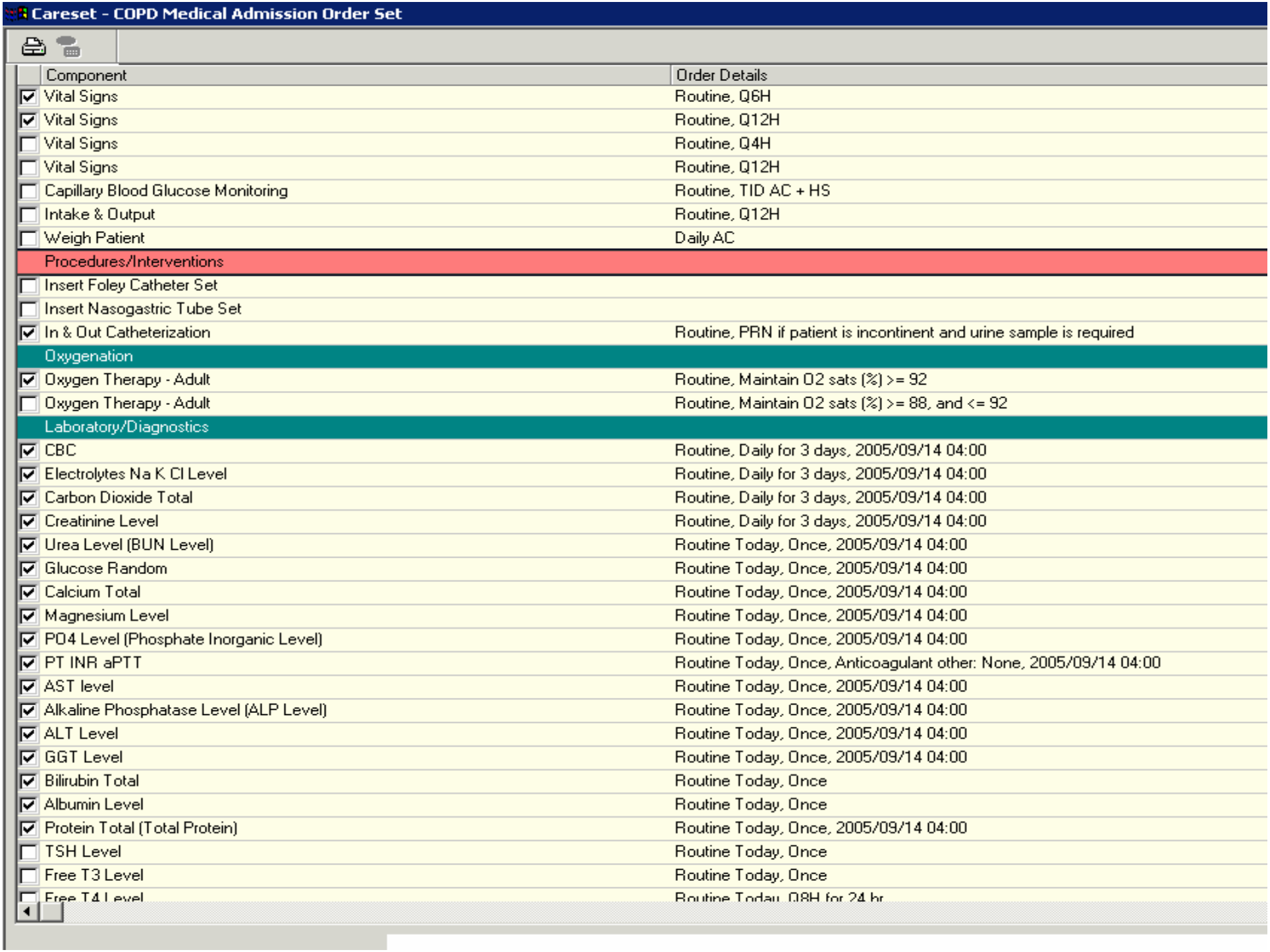
Admission order sets

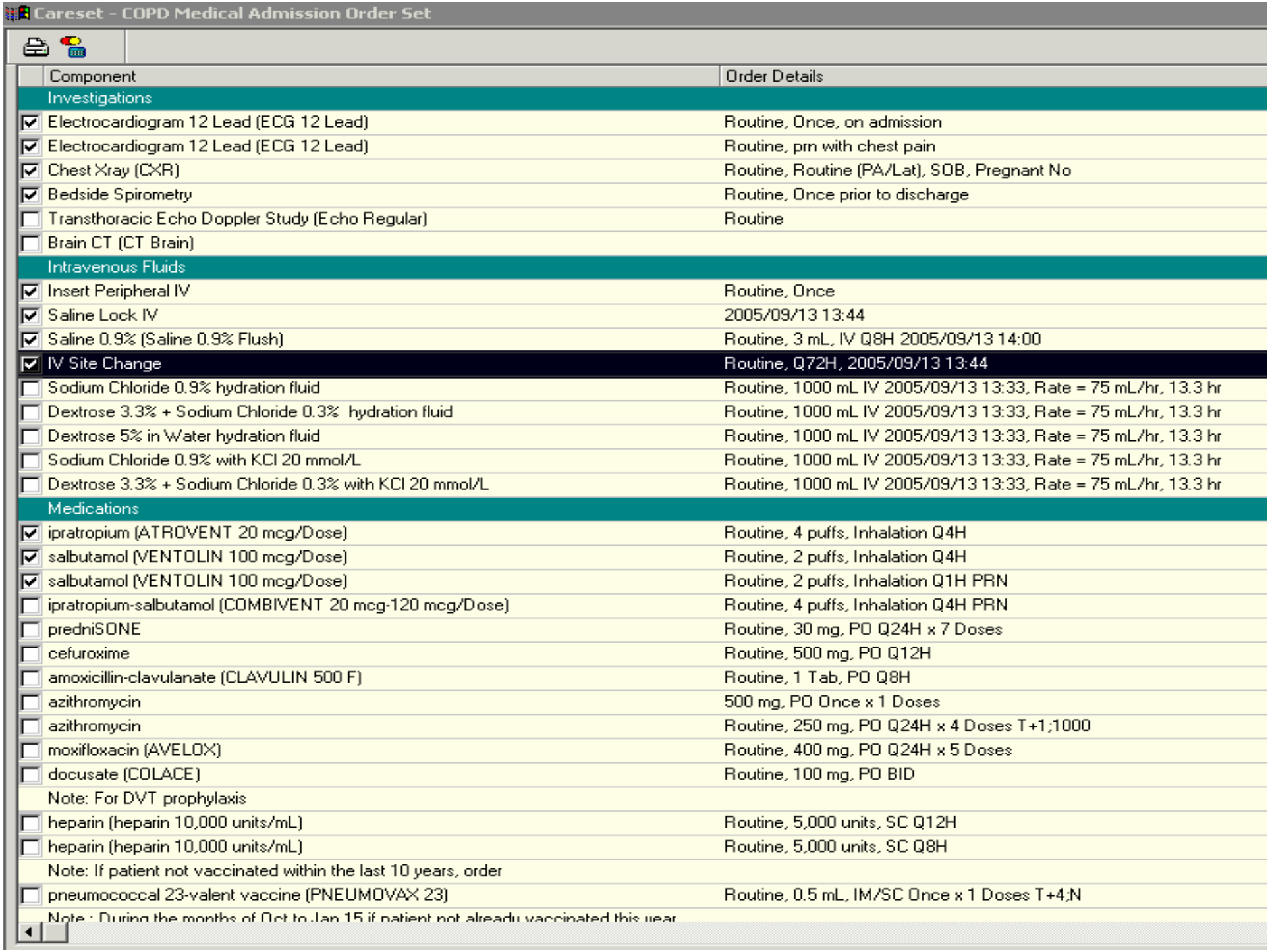
- Based on the 15 most common diagnosis per department
- Lit search for practice guidelines and best practice done
- Include a variety of frequently used orders on patients admitted with a certain diagnosis.
- Include all disciplines

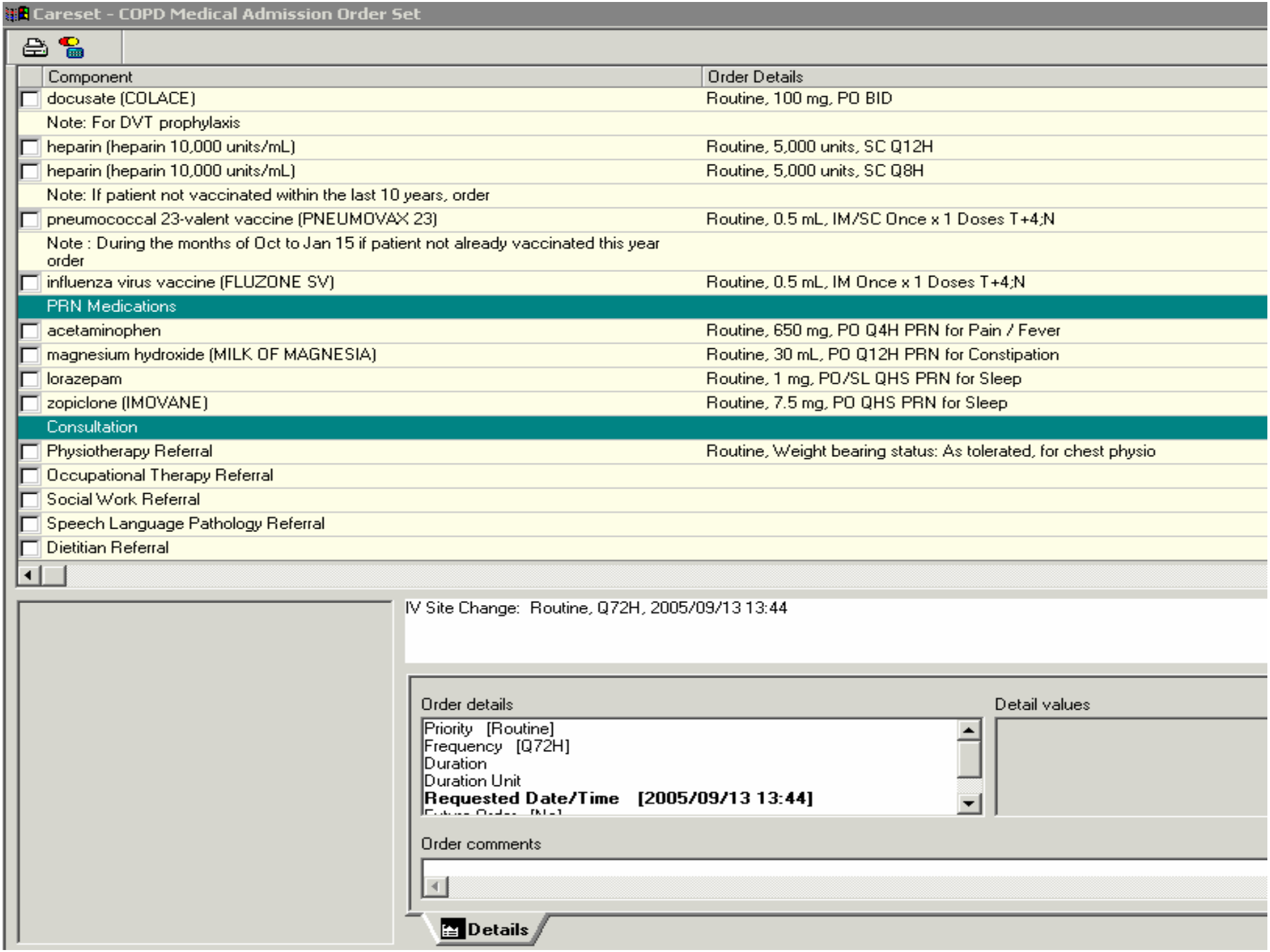
Best Practice

- As MSH order sets are based on best practice, paper copies of the orders sets are being developed
- Promotes early adoption of the order sets prior to the electronic version


Careset - COPD Medical Admission Order Set
Component
Order Details
Admit to
Admit To Medicine As of 2005/09/12 14:39
Team
Team B As Of 2005/09/12 14:39
Most Responsible Physician
Responsible Physician Detsky, Allan S 2005/09/12 14:39
Diagnosis
Diagnosis Acute Exacerbation Chronic Obstructive Pulmonary Disease
Resuscitation Status
Full Code
2005/09/12 14:39
Do Not Resuscitate (No Resuscitation)
Resuscitation Long Form
Monitoring Required
Telemetry Monitoring (in patient units)
Routine, for 48 hr
Step Down Unit Monitoring
Infection Control Requirements
Routine Infection Control Practices
Isolation - Droplet/Contact (Droplet/Contact Precautions)
VRE Precautions
MRSA Precautions
Isolation - Contact (Contact Precautions)
Isolation - Airborne (Airborne Precautions)
MRSA/VRE/MRO Admission Screening Set
Nutrition
DAT
Diabetic Diet
No Added Salt
Na Restricted to 88 Meq
Cardiac Diet (Healthy Heart)
Dysphagia Diet
Fluid Restriction
Fluids: Fluid restriction 1000 ml
NPO
NPO
NPO except for medications
Activity Level
Activity As Tolerated
Bedrest
Bedrest with Bathroom Privileges


Careset - COPD Medical Admission Order Set
Component
Order Details
Vital Signs
Routine, Q6H
Vital Signs
Routine, Q12H
Vital Signs
Routine, Q4H
Vital Signs
Routine, Q12H
Capillary Blood Glucose Monitoring
Routine, TID AC + HS
Intake & Output
Routine, Q12H
Weigh Patient
Daily AC
Procedures/Interventions
Insert Foley Catheter Set
Insert Nasogastric Tube Set
In & Out Catheterization
Routine, PRN if patient is incontinent and urine sample is required
Oxygenation
Oxygen Therapy - Adult
Routine, Maintain O2 sats (%) >= 92
Oxygen Therapy - Adult
Routine, Maintain O2 sats (%) >= 88, and <= 92
Laboratory/Diagnostics
CBC
Routine, Daily for 3 days, 2005/09/14 04:00
Electrolytes Na K Cl Level
Routine, Daily for 3 days, 2005/09/14 04:00
Carbon Dioxide Total
Routine, Daily for 3 days, 2005/09/14 04:00
Creatinine Level
Routine, Daily for 3 days, 2005/09/14 04:00
Urea Level (BUN Level)
Routine Today, Once, 2005/09/14 04:00
Glucose Random
Routine Today, Once, 2005/09/14 04:00
Calcium Total
Routine Today, Once, 2005/09/14 04:00
Magnesium Level
Routine Today, Once, 2005/09/14 04:00
PO4 Level (Phosphate Inorganic Level)
Routine Today, Once, 2005/09/14 04:00
PT INR aPTT
Routine Today, Once, Anticoagulant other: None, 2005/09/14 04:00
AST level
Routine Today, Once, 2005/09/14 04:00
Alkaline Phosphatase Level (ALP Level)
Routine Today, Once, 2005/09/14 04:00
ALT Level
Routine Today, Once, 2005/09/14 04:00
GGT Level
Routine Today, Once, 2005/09/14 04:00
Bilirubin Total
Routine Today, Once
Albumin Level
Routine Today, Once
Protein Total (Total Protein)
Routine Today, Once, 2005/09/14 04:00
TSH Level
Routine Today, Once
Free T3 Level
Routine Today, Once
Free T4 Level
Routine Today, Q8H for 24 hr


Careset - COPD Medical Admission Order Set
Component
Order Details
Investigations
Electrocardiogram 12 Lead (ECG 12 Lead)
Routine, Once, on admission
Electrocardiogram 12 Lead (ECG 12 Lead)
Routine, prn with chest pain
Chest Xray (CXR)
Routine, Routine (PA/Lat), SOB, Pregnant No
Bedside Spirometry
Routine, Once prior to discharge
Transthoracic Echo Doppler Study (Echo Regular)
Routine
Brain CT (CT Brain)
Intravenous Fluids
Insert Peripheral IV
Routine, Once
Saline Lock IV
2005/09/13 13:44
Saline 0.9% (Saline 0.9% Flush)
Routine, 3 mL, IV Q8H 2005/09/13 14:00
IV Site Change
Routine, Q72H, 2005/09/13 13:44
Sodium Chloride 0.9% hydration fluid
Routine, 1000 mL IV 2005/09/13 13:33, Rate = 75 mL/hr, 13.3 hr
Dextrose 3.3% + Sodium Chloride 0.3% hydration fluid
Routine, 1000 mL IV 2005/09/13 13:33, Rate = 75 mL/hr, 13.3 hr
Dextrose 5% in Water hydration fluid
Routine, 1000 mL IV 2005/09/13 13:33, Rate = 75 mL/hr, 13.3 hr
Sodium Chloride 0.9% with KCl 20 mmol/L
Routine, 1000 mL IV 2005/09/13 13:33, Rate = 75 mL/hr, 13.3 hr
Dextrose 3.3% + Sodium Chloride 0.3% with KCl 20 mmol/L
Routine, 1000 mL IV 2005/09/13 13:33, Rate = 75 mL/hr, 13.3 hr
Medications
ipratropium (ATROVENT 20 mcg/Dose)
Routine, 4 puffs, Inhalation Q4H
salbutamol (VENTOLIN 100 mcg/Dose)
Routine, 2 puffs, Inhalation Q4H
salbutamol (VENTOLIN 100 mcg/Dose)
Routine, 2 puffs, Inhalation Q1H PRN
ipratropium-salbutamol (COMBIVENT 20 mcg-120 mcg/Dose)
Routine, 4 puffs, Inhalation Q4H PRN
predniSONE
Routine, 30 mg, PO Q24H x 7 Doses
cefuroxime
Routine, 500 mg, PO Q12H
amoxicillin-clavulanate (CLAVULIN 500 F)
Routine, 1 Tab, PO Q8H
azithromycin
500 mg, PO Once x 1 Doses
azithromycin
Routine, 250 mg, PO Q24H x 4 Doses T+1;1000
moxifloxacin (AVELOX)
Routine, 400 mg, PO Q24H x 5 Doses
docusate (COLACE)
Routine, 100 mg, PO BID
Note: For DVT prophylaxis
heparin (heparin 10,000 units/mL)
Routine, 5,000 units, SC Q12H
heparin (heparin 10,000 units/mL)
Routine, 5,000 units, SC Q8H
Note: If patient not vaccinated within the last 10 years, order
pneumococcal 23-valent vaccine (PNEUMOVAX 23)
Routine, 0.5 mL, IM/SC Once x 1 Doses T+4;N
Note : During the months of Oct to Jan 15 if patient not already vaccinated this year


Careset - COPD Medical Admission Order Set
Component
Order Details
docusate (COLACE)
Routine, 100 mg, PO BID
Note: For DVT prophylaxis
heparin (heparin 10,000 units/mL)
Routine, 5,000 units, SC Q12H
heparin (heparin 10,000 units/mL)
Routine, 5,000 units, SC Q8H
Note: If patient not vaccinated within the last 10 years, order
pneumococcal 23-valent vaccine (PNEUMOVAX 23)
Routine, 0.5 mL, IM/SC Once x 1 Doses T+4;N
Note : During the months of Oct to Jan 15 if patient not already vaccinated this year order
influenza virus vaccine (FLUZONE SV)
Routine, 0.5 mL, IM Once x 1 Doses T+4;N
PRN Medications
acetaminophen
Routine, 650 mg, PO Q4H PRN for Pain / Fever
magnesium hydroxide (MILK OF MAGNESIA)
Routine, 30 mL, PO Q12H PRN for Constipation
lorazepam
Routine, 1 mg, PO/SL QHS PRN for Sleep
zopiclone (IMOVANE)
Routine, 7.5 mg, PO QHS PRN for Sleep
Consultation
Physiotherapy Referral
Routine, Weight bearing status: As tolerated, for chest physio
Occupational Therapy Referral
Social Work Referral
Speech Language Pathology Referral
Dietitian Referral
IV Site Change: Routine, Q72H, 2005/09/13 13:44
Order details
Priority [Routine]
Frequency [Q72H]
Duration
Duration Unit
Requested Date/Time [2005/09/13 13:44]
Detail values
Order comments
Details

Nursing order sets

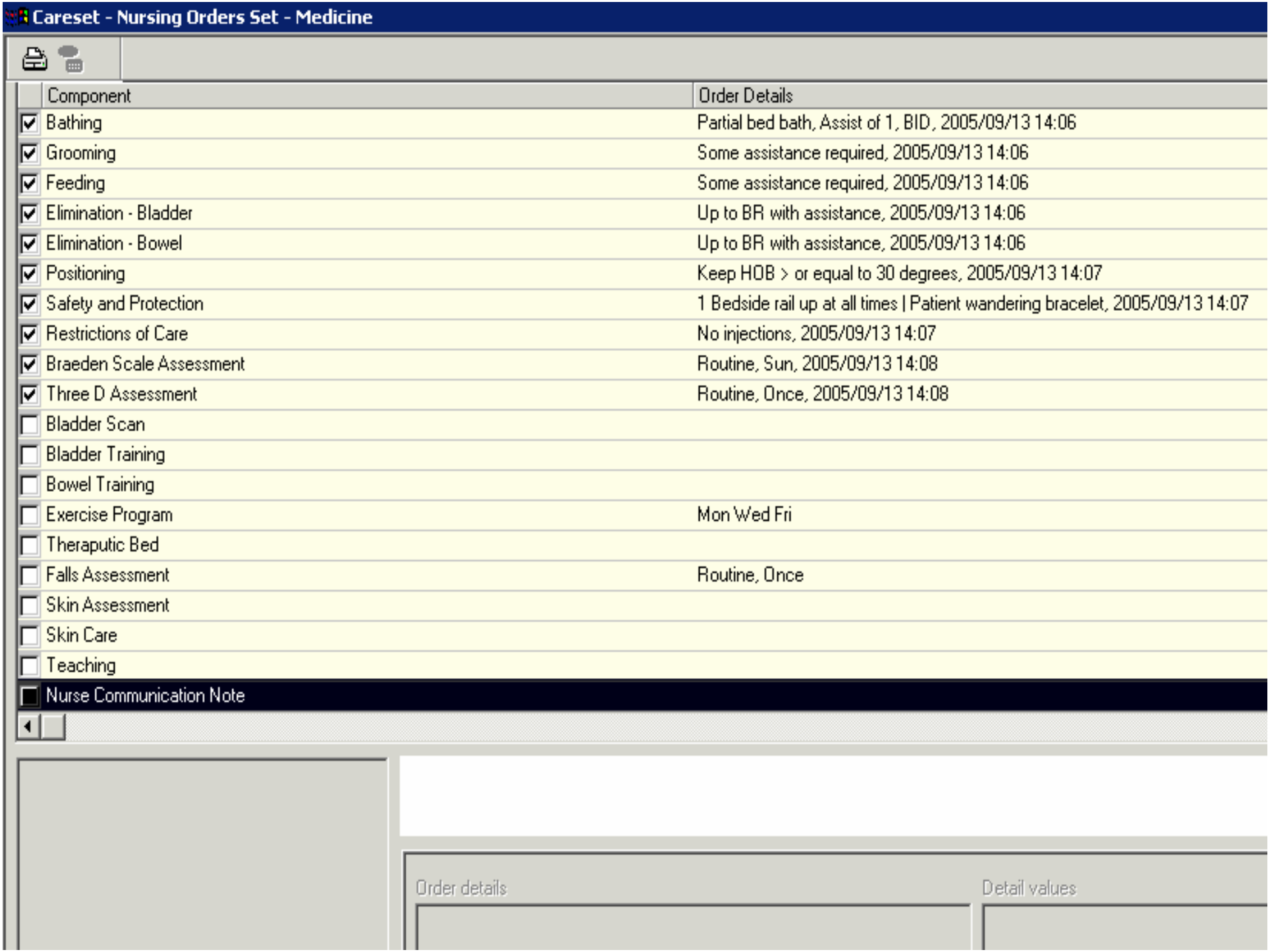
- Designed iteratively by staff Nurses, Clinical Nurse Specialists, Nurse Clinicians and Practice Leaders
- Designed to make work process for the bedside Nurse better
- Allows the expert Nurse to make clinical decisions based on Nursing practice, judgement and knowledge

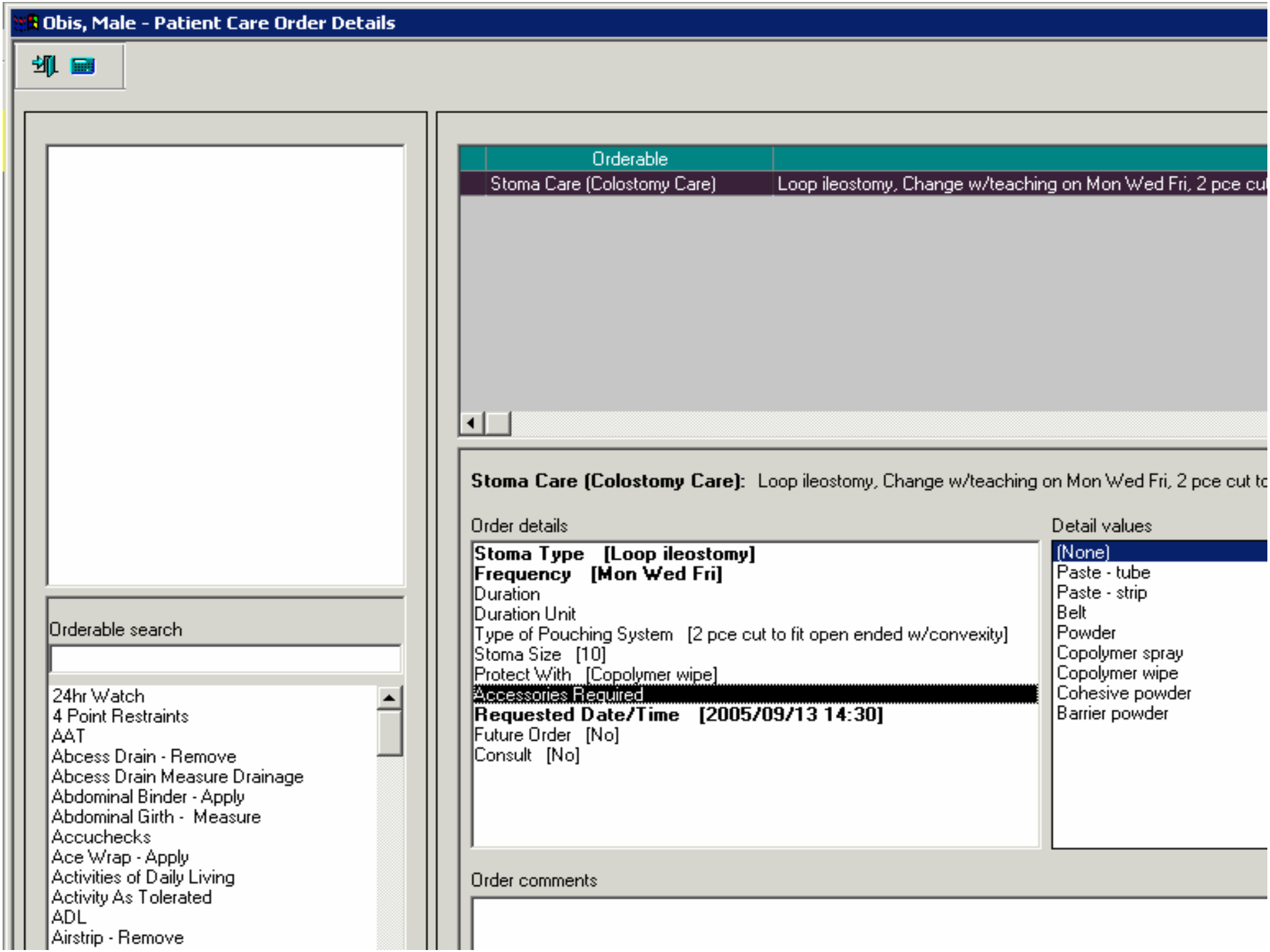
Design Process

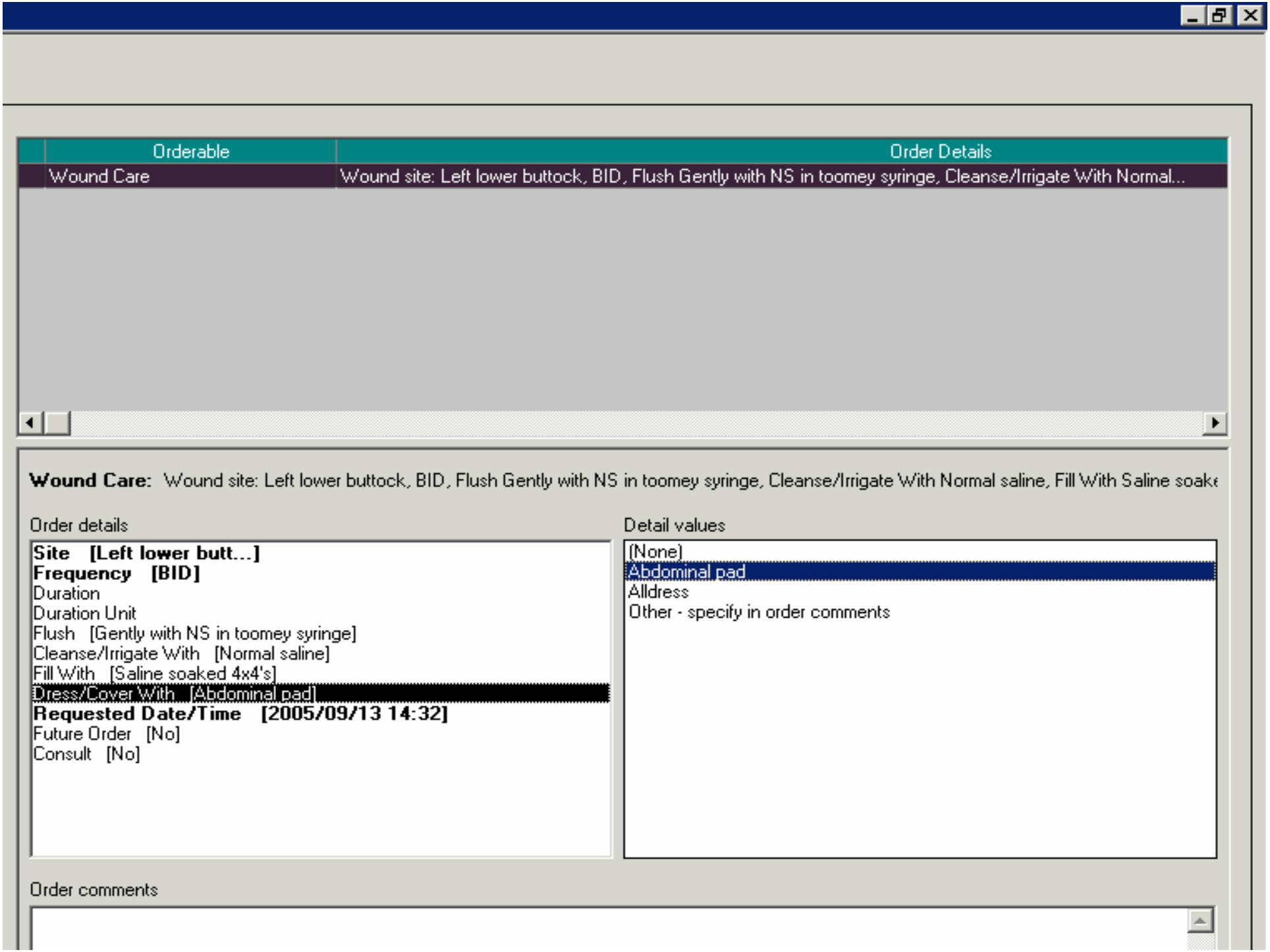
- Nursing orders and order sets link up with the electronic care summary or *KARDEX* ®
- Nursing orders ***do not*** require the signature of a physician
- Iterative process used to design orders, forms and reference texts

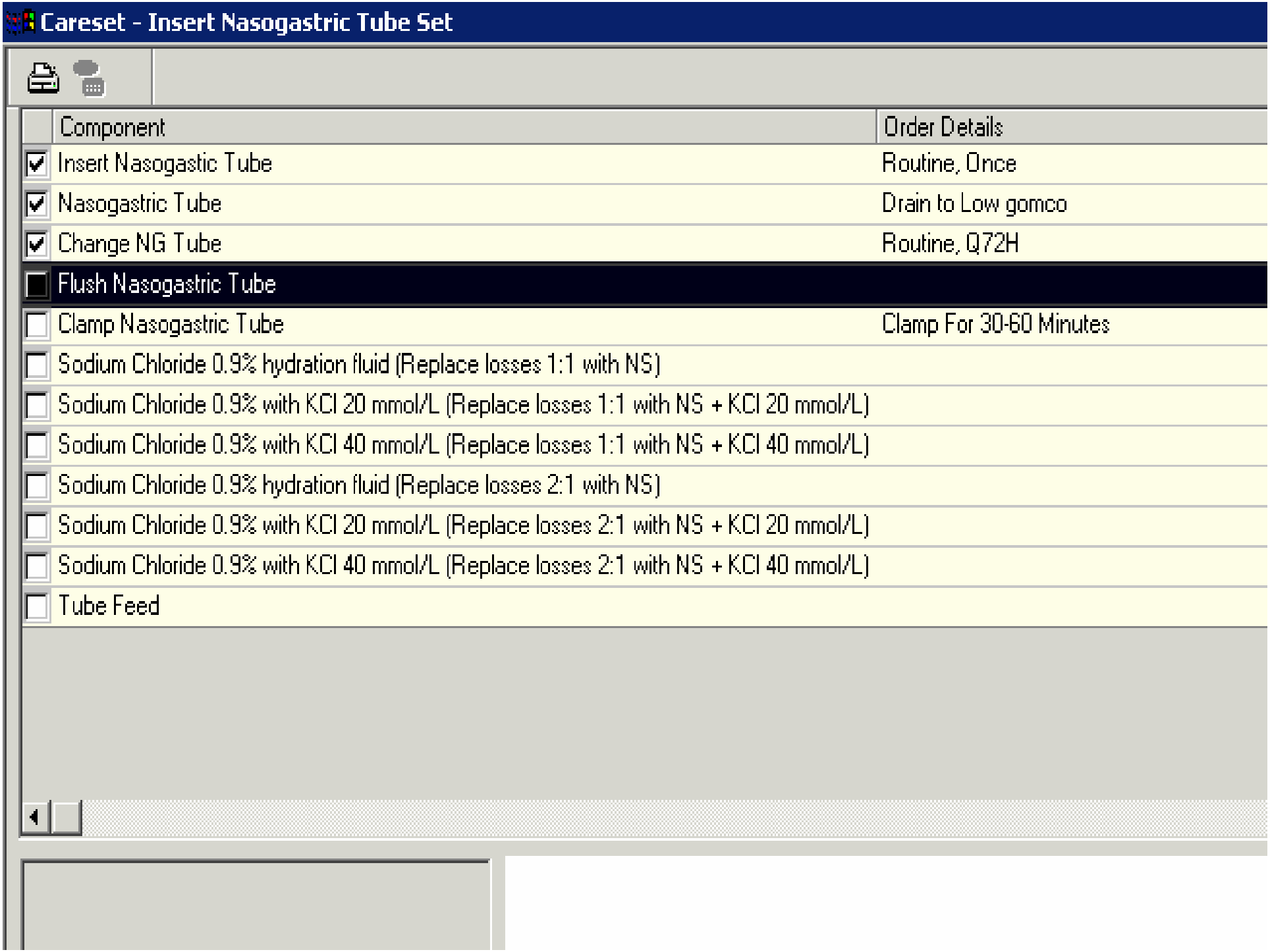
Our Dream

- A virtual care station as the Nurses office at the patient’s bedside


Careset - Nursing Orders Set - Medicine
Component
Order Details
Bathing
Partial bed bath, Assist of 1, BID, 2005/09/13 14:06
Grooming
Some assistance required, 2005/09/13 14:06
Feeding
Some assistance required, 2005/09/13 14:06
Elimination - Bladder
Up to BR with assistance, 2005/09/13 14:06
Elimination - Bowel
Up to BR with assistance, 2005/09/13 14:06
Positioning
Keep HOB > or equal to 30 degrees, 2005/09/13 14:07
Safety and Protection
1 Bedside rail up at all times | Patient wandering bracelet, 2005/09/13 14:07
Restrictions of Care
No injections, 2005/09/13 14:07
Braeden Scale Assessment
Routine, Sun, 2005/09/13 14:08
Three D Assessment
Routine, Once, 2005/09/13 14:08
Bladder Scan
Bladder Training
Bowel Training
Exercise Program
Mon Wed Fri
Theraputic Bed
Falls Assessment
Routine, Once
Skin Assessment
Skin Care
Teaching
Nurse Communication Note
Order details
Detail values

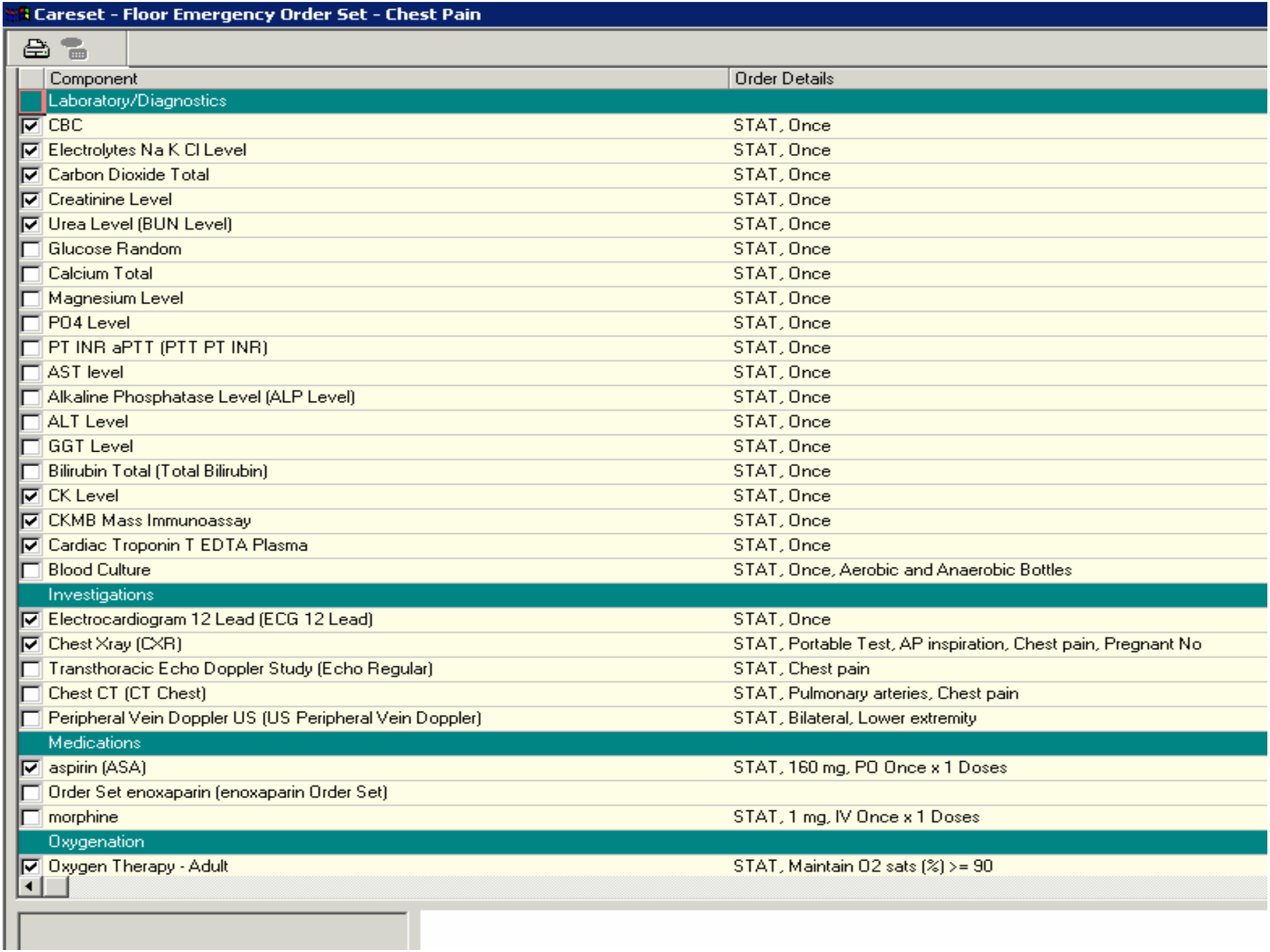

Obis, Male - Patient Care Order Details
Orderable
Stoma Care (Colostomy Care)
Loop ileostomy, Change w/teaching on Mon Wed Fri, 2 pce cu
Stoma Care (Colostomy Care): Loop ileostomy, Change w/teaching on Mon Wed Fri, 2 pce cut to
Order details
Stoma Type [Loop ileostomy]
Frequency [Mon Wed Fri]
Duration
Duration Unit
Type of Pouching System [2 pce cut to fit open ended w/convexity]
Stoma Size [10]
Protect With [Copolymer wipe]
Accessories Required
Requested Date/Time [2005/09/13 14:30]
Future Order [No]
Consult [No]
Detail values
(None)
Paste - tube
Paste - strip
Belt
Powder
Copolymer spray
Copolymer wipe
Cohesive powder
Barrier powder
Order comments
Orderable search
24hr Watch
4 Point Restraints
AAT
Abcess Drain - Remove
Abcess Drain Measure Drainage
Abdominal Binder - Apply
Abdominal Girth - Measure
Accuchecks
Ace Wrap - Apply
Activities of Daily Living
Activity As Tolerated
ADL
Airstrip - Remove


Orderable
Order Details
Wound Care
Wound site: Left lower buttock, BID, Flush Gently with NS in toomey syringe, Cleanse/Irrigate With Normal...
Wound Care: Wound site: Left lower buttock, BID, Flush Gently with NS in toomey syringe, Cleanse/Irrigate With Normal saline, Fill With Saline soake
Order details
Site [Left lower butt...]
Frequency [BID]
Duration
Duration Unit
Flush [Gently with NS in toomey syringe]
Cleanse/Irrigate With [Normal saline]
Fill With [Saline soaked 4x4's]
Dress/Cover With [Abdominal pad]
Requested Date/Time [2005/09/13 14:32]
Future Order [No]
Consult [No]
Detail values
(None)
Abdominal pad
Alldress
Other - specify in order comments
Order comments

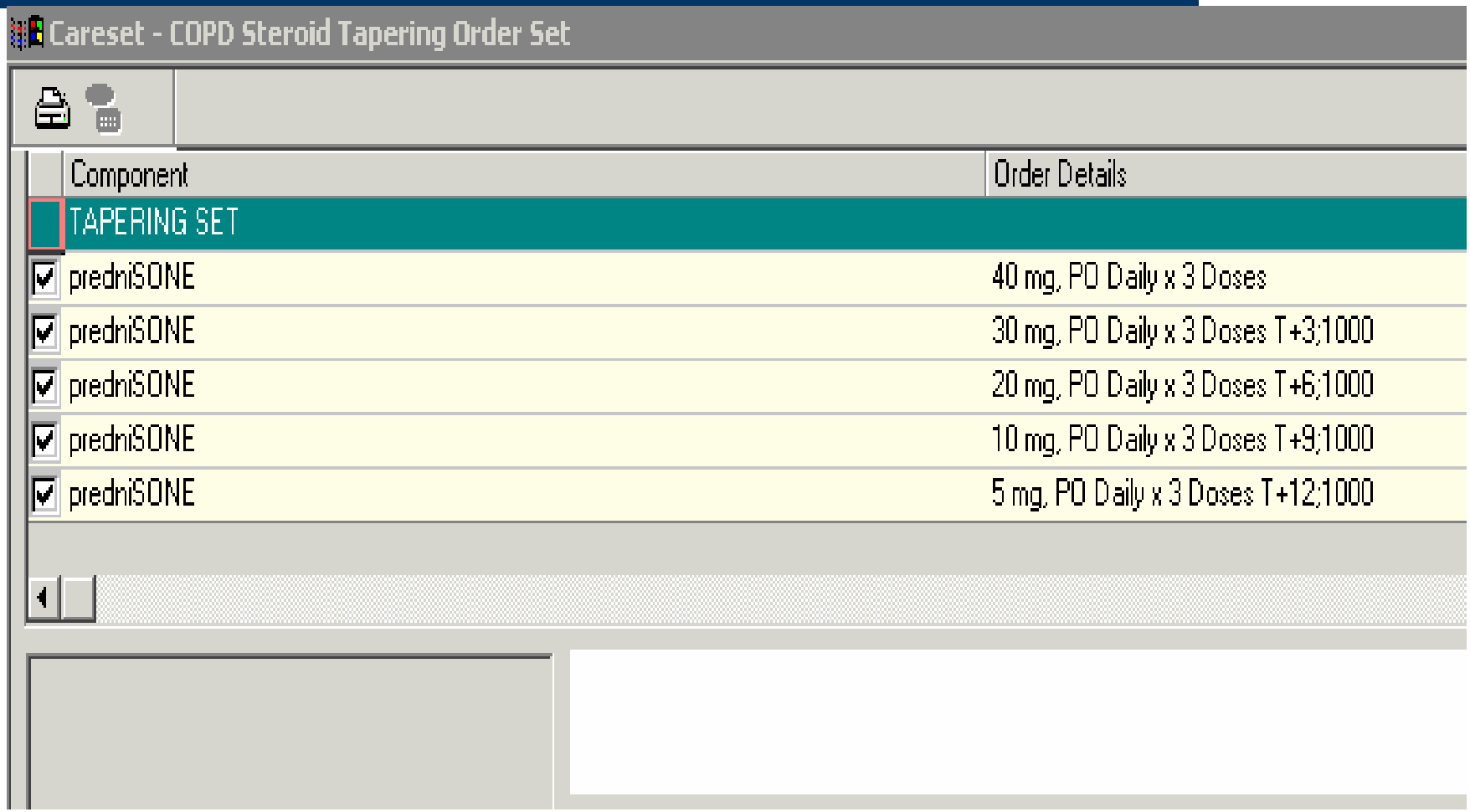

Careset - Insert Nasogastric Tube
Component
Order Details
Insert Nasogastic Tube
Routine, Once
Nasogastric Tube
Drain to Low gomco
Change NG Tube
Routine, Q72H
Flush Nasogastric Tube
Clamp Nasogastric Tube
Clamp For 30-60 Minutes
Sodium Chloride 0.9% hydration fluid (Replace losses 1:1 with NS)
Sodium Chloride 0.9% with KCl 20 mmol/L (Replace losses 1:1 with NS + KCl 20 mmol/L)
Sodium Chloride 0.9% with KCl 40 mmol/L (Replace losses 1:1 with NS + KCl 40 mmol/L)
Sodium Chloride 0.9% hydration fluid (Replace losses 2:1 with NS)
Sodium Chloride 0.9% with KCl 20 mmol/L (Replace losses 2:1 with NS + KCl 20 mmol/L)
Sodium Chloride 0.9% with KCl 40 mmol/L (Replace losses 2:1 with NS + KCl 40 mmol/L)
Tube Feed

Emergency order sets

- Designed to make the ordering process quick and easy
- All orders for one emergency situation in one screen for easy one click ordering.

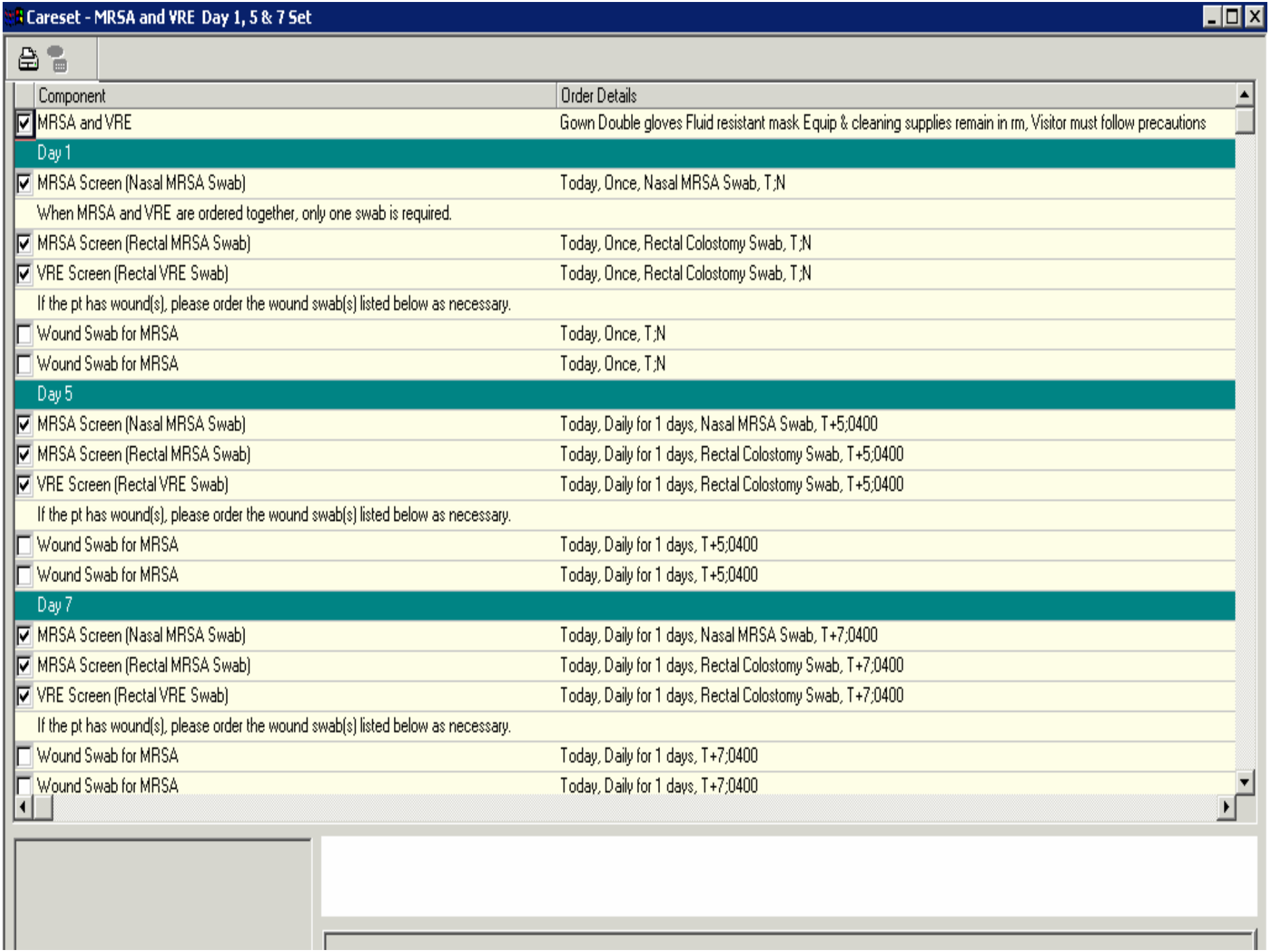

Careset - Floor Emergency Order Set - Chest Pain
Component
Order Details
Laboratory/Diagnostics
CBC
STAT, Once
Electrolytes Na K Cl Level
STAT, Once
Carbon Dioxide Total
STAT, Once
Creatinine Level
STAT, Once
Urea Level (BUN Level)
STAT, Once
Glucose Random
STAT, Once
Calcium Total
STAT, Once
Magnesium Level
STAT, Once
PO4 Level
STAT, Once
PT INR aPTT (PTT PT INR)
STAT, Once
AST level
STAT, Once
Alkaline Phosphatase Level (ALP Level)
STAT, Once
ALT Level
STAT, Once
GGT Level
STAT, Once
Bilirubin Total (Total Bilirubin)
STAT, Once
CK Level
STAT, Once
CKMB Mass Immunoassay
STAT, Once
Cardiac Troponin T EDTA Plasma
STAT, Once
Blood Culture
STAT, Once, Aerobic and Anaerobic Bottles
Investigations
Electrocardiogram 12 Lead (ECG 12 Lead)
STAT, Once
Chest Xray (CXR)
STAT, Portable Test, AP inspiration, Chest pain, Pregnant No
Transthoracic Echo Doppler Study (Echo Regular)
STAT, Chest pain
Chest CT (CT Chest)
STAT, Pulmonary arteries, Chest pain
Peripheral Vein Doppler US (US Peripheral Vein Doppler)
STAT, Bilateral, Lower extremity
Medications
aspirin (ASA)
STAT, 160 mg, PO Once x 1 Doses
Order Set enoxaparin (enoxaparin Order Set)
morphine
STAT, 1 mg, IV Once x 1 Doses
Oxygenation
Oxygen Therapy - Adult
STAT, Maintain O2 sats (%) >= 90

Medication order sets



Infection Control Order Sets enhancing our dreams of patient safety

- Once a patient has been flagged in our system as MRSA/VRE positive for example the system remembers this for future admissions.
- System automatically generates orders for clinicians such as private room, swabs and infection control precautions.
- Sends a flag to IC practitioner to follow up


Careset - MRSA and VRE Day 1, 5 & 7 Set
Component
Order Details
MRSA and VRE
Gown Double gloves Fluid resistant mask Equip & cleaning supplies remain in rm, Visitor must follow precautions
Day 1
MRSA Screen (Nasal MRSA Swab)
Today, Once, Nasal MRSA Swab, T;N
When MRSA and VRE are ordered together, only one swab is required.
MRSA Screen (Rectal MRSA Swab)
Today, Once, Rectal Colostomy Swab, T;N
VRE Screen (Rectal VRE Swab)
Today, Once, Rectal Colostomy Swab, T;N
If the pt has wound(s), please order the wound swab(s) listed below as necessary.
Wound Swab for MRSA
Today, Once, T;N
Wound Swab for MRSA
Today, Once, T;N
Day 5
MRSA Screen (Nasal MRSA Swab)
Today, Daily for 1 days, Nasal MRSA Swab, T+5;0400
MRSA Screen (Rectal MRSA Swab)
Today, Daily for 1 days, Rectal Colostomy Swab, T+5;0400
VRE Screen (Rectal VRE Swab)
Today, Daily for 1 days, Rectal Colostomy Swab, T+5;0400
If the pt has wound(s), please order the wound swab(s) listed below as necessary.
Wound Swab for MRSA
Today, Daily for 1 days, T+5;0400
Wound Swab for MRSA
Today, Daily for 1 days, T+5;0400
Day 7
MRSA Screen (Nasal MRSA Swab)
Today, Daily for 1 days, Nasal MRSA Swab, T+7;0400
MRSA Screen (Rectal MRSA Swab)
Today, Daily for 1 days, Rectal Colostomy Swab, T+7;0400
VRE Screen (Rectal VRE Swab)
Today, Daily for 1 days, Rectal Colostomy Swab, T+7;0400
If the pt has wound(s), please order the wound swab(s) listed below as necessary.
Wound Swab for MRSA
Today, Daily for 1 days, T+7;0400
Wound Swab for MRSA
Today, Daily for 1 days, T+7;0400

Conclusion

- Dreams can come true!
- The Nurse in the virtual care station as an office can be a reality
- We **are** co-creating a fully integrated patient focused interdisciplinary system
- Our dream of a healing system, eradicating those 24,000 Canadian deaths each year will be achievable!
- BUT only if we harness the power of the patients' stories!!

But what are our Nurses at MSH saying….

- “We love it…it gives us more time to spend with our patients once we enter the vital signs and shift assessments!”
- “The shift assessment forces you to do the whole assessment on our patients, it has improved charting and assessment skills!”
- “The accessibility of patient information at your fingertips, anywhere, anytime”

Additional Comments

- “Communications have improved, when the physicians don’t tell you what the orders are in rounds then you can see them for yourself”
- “Interdisciplinary team can access other members notes without the hassle of looking for the patient’s chart.”
- Increased accountability and ownership of the data documented.

What our Nurses are telling us…

- “When physicians write orders, its clear”
- “It’s easier to see patterns such as vital signs.”
- “The language used in documentation is universal and non-judgemental.”
- “The yellowbirds would sit with you, calming, they didn’t make us feel stupid.”

So Our Final Conclusion…

- *When we harness the voices of both our patients and Nurses with the power of technology, our dreams will become our transformative reality!!*

References

- Ball, M.J., Weaver, C., & Abbott, P.A. (2003). Enabling technologies promise to revitalize the role of nursing in an era of patient safety. *International Journal of Medical Informatics, 69,* 29-38.
- Belmont, C.L., Wesorick, B., Jesse, H., Troseth, M.R., & Brown, D. (2003). Clinical Documentation. Retrieved June 13, 2005 from, Health Care Technology website: http://www.hctproject.com/solutions.asp?sID=316&n=Clinical+Care+Documentation
- Cook, R., Render, M., & Woods, D.D. (2000). Gaps in the continuity of care and progress on patient safety. *British Medical Journal, 320,* 791-794.