

Supplemental Digital Content 1: Screenshots showing Decision Support-Symptom Management System

The screenshot displays the SymptomCare@Home DS-SMS interface. At the top, there is a red header with the University of Utah College of Nursing logo and name. Below this is a gold navigation bar with options: Log Off, Patient Alerts, All Patients, and Patient Activity. A dropdown menu for 'Study Site' is set to 'Utah'. The main content area is titled 'Patient Alerts' and contains a table with the following data:

| Patient (# of Alerts)            | Alerting Symptom  | Severity | Distress | Date Alerted | Alert Status |
|----------------------------------|-------------------|----------|----------|--------------|--------------|
| <a href="#">Gordon, Evan (1)</a> | general           |          |          | 11/14/2016   | New          |
| <a href="#">Jackson, Ian (5)</a> | general           |          |          | 11/14/2016   | New          |
|                                  | diarrhea          | 6        | 8        | 11/14/2016   | New          |
|                                  | sore mouth        | 8        | 7        | 11/14/2016   | New          |
|                                  | diarrhea          | 6        | 8        | 11/14/2016   | New          |
|                                  | sore mouth        | 8        | 7        | 11/14/2016   | New          |
| <a href="#">Jones, Susan (1)</a> | nausea/vomiting   | 9        | 9        | 10/13/2016   | New          |
| <a href="#">Hills, Frank (1)</a> | numbness/tingling | 8        | 8        | 11/14/2016   | New          |
| <a href="#">Carter, Bob (1)</a>  | pain              | 7        | 7        | 11/16/2016   | Follow Up    |

SCREENSHOT A: Default screen that opens when the NP logs into the SymptomCare@Home DS-SMS. It lists patient alert status for the day or requirement for follow up from a previous day. If the NP goes into the Patient Activity Screen on the upper middle gold bar area, she/he can view who is still in the queue to call in for the day.

|   |            |  |                          |                   |                          |   |
|---|------------|--|--------------------------|-------------------|--------------------------|---|
| <b>Patient Alerts</b><br>All Patients   |            | <b>Bobbi Tester-Experimental</b> MRN: 1<br>DOB: 2/15/1963 Phone: 8015875830 Physician: John Ward<br>Pharmacy: Walgreen's Pharmacy Phone: |                          |                   | Antiemesis               | Log Off   |
| <b>Alerts</b>   |            | <b>Symptom Graphs</b>  |                          | <b>Assessment</b> |                          | <b>Intervention</b>   |
| <b>Reports</b>  |            |  |                          |                   |                          |   |
| nausea/vomiting   | sore mouth | diarrhea   | fever                    | fatigue           | trouble thinking         | down or blue  |
| nervous/anxious   | appearance | pain   | numbness/tingling        | trouble sleeping  | <b>Review EMR</b>        |   |
| How Caller Feels: <b>Patient has experienced symptoms.</b>  |            |  |                          |                   |                          | TLC Data Date: 10/24/2012 <input type="button" value="View"/> |
| <b>Overall Functioning (SHDQ)</b>   |            |  |                          |                   |                          |   |
| <b>Nausea/Vomiting</b>  |            |  | <b>Severity Score: 5</b> |                   | <b>Distress Score: 4</b> |   |
| # times vomited in last 24 hours <b>2</b>   |            |  |                          |                   |                          |   |
| # cups of fluid consumed <b>6</b>   |            |  |                          |                   |                          |   |
| Felt dizzy or lightheaded <b>no</b>   |            |  |                          |                   |                          |   |
| Nausea occurred <b>comes and goes</b>   |            |  |                          |                   |                          |   |
| Taken prescription medication   |            |  |                          |                   |                          |   |
| <b>Sore Mouth</b>   |            |  | <b>Severity Score: 0</b> |                   | <b>Distress Score: 0</b> |   |
| <b>Diarrhea</b>   |            |  | <b>Severity Score: 0</b> |                   | <b>Distress Score: 0</b> |   |
| <b>Fever and Chills</b>   |            |  | <b>Temperature: 0</b>    |                   | <b>Distress Score: 0</b> |   |
| <b>Fatigue</b>  |            |  | <b>Severity Score: 0</b> |                   | <b>Distress Score: 0</b> |   |
| <b>Trouble Thinking/Concentrating</b>   |            |  | <b>Severity Score: 0</b> |                   | <b>Distress Score: 0</b> |   |
| <b>Feeling Down and Blue</b>  |            |  | <b>Severity Score: 0</b> |                   | <b>Distress Score: 0</b> |   |
| <b>Feeling Nervous and Anxious</b>  |            |  | <b>Severity Score: 0</b> |                   | <b>Distress Score: 0</b> |   |
| <b>Changes in Appearance</b>  |            |  | <b>Severity Score: 0</b> |                   | <b>Distress Score: 0</b> |   |
| <b>Pain</b>   |            |  | <b>Severity Score: 0</b> |                   | <b>Distress Score: 0</b> |   |
| <b>Numbness and Tingling</b>  |            |  | <b>Severity Score: 0</b> |                   | <b>Distress Score: 0</b> |   |
| <b>Trouble Sleeping</b>   |            |  | <b>Severity Score: 0</b> |                   | <b>Distress Score: 0</b> |   |
| <b>Review Medical Record</b>  |            |  |                          |                   |                          |   |
| <input type="checkbox"/> <b>Documents/Clinical Forms</b>  |            |  |                          |                   |                          |   |
| <ul style="list-style-type: none"> <li>History of other illnesses/comorbidities (cardiac, pulmonary, renal, hepatic, neurologic and endocrine dysfunction; restless leg syndrome, narcolepsy, obstructive sleep apnea)</li> <li>Disease status and treatment</li> <li>Venus access device</li> <li>Type of chemotherapy</li> <li>Diet including enteral and parenteral nutrition</li> <li>Other medical conditions include irritable bowel syndrome, infection (viral, bacterial, protozoan, parasitic, fungal), surgery, fecal impaction</li> <li>Use of alternative therapies (e.g., dietary supplements, herbal remedies, coffee enemas)</li> <li>Social/Behavioral, Counseling</li> </ul> |            |  |                          |                   |                          |   |
| <input type="checkbox"/> <b>Patient Information</b>   |            |  |                          |                   |                          |   |
| <ul style="list-style-type: none"> <li>Drug Allergies</li> <li>Food Allergies (including lactose intolerance, and others)</li> <li>Other Allergies (including latex, environmental, etc.)</li> </ul>  |            |  |                          |                   |                          |   |
| <input type="checkbox"/> <b>Labs</b>  |            |  |                          |                   |                          |   |
| <ul style="list-style-type: none"> <li>Anemia</li> <li>Neutropenia</li> <li>Fluid and electrolyte imbalances (sodium, potassium, calcium, magnesium)</li> </ul>   |            |  |                          |                   |                          |   |
| <input type="checkbox"/> <b>Medications</b>   |            |  |                          |                   |                          |   |
| <ul style="list-style-type: none"> <li>Current medications/medication changes</li> <li>Corticosteroids</li> <li>Antibiotics, laxatives, antacids, NSAIDS</li> </ul>   |            |  |                          |                   |                          |   |
| <input type="button" value="Save Data"/>  |            |  |                          |                   |                          |   |

SCREENSHOT B: This screen provides details of the symptoms reported by the patient in the IVR. Nausea/vomiting has been selected as the symptom generating an alert, keeping in mind there are often multiple symptom alerts for one patient. The screen summarizes additional information that the patient reported, such as number of times vomited in the last 24 hours. The boxes at the bottom left of the screen are checked after the NP reviews pertinent information from the patient's EHR.

**Bobbi Tester-Experimental** MRN: 1  
 DOB: 2/15/1963 Phone: 8015875830 Physician: John Ward  
 Pharmacy: Walgreen's Pharmacy Phone:

Antiemesis ▼ [Show Guideline](#) [Log Off](#)

**Patient Alerts**  
**All Patients**

**Alerts**    **Symptom Graphs**    **Assessment**    **Intervention**    **Reports**

[nausea/vomiting](#)   [sore mouth](#)   [diarrhea](#)   [fever](#)   [fatigue](#)   [trouble thinking](#)   [down or blue](#)   [nervous/anxious](#)   [appearance](#)   [pain](#)   [numbness/tingling](#)   [trouble sleeping](#)   [Open Alerts](#)

How Caller Feels: **Patient has experienced symptoms.**    Last Completed Date: **10/24/2012**

Notes Prior To Contacting Patient

49yo female with breast ca. Rec'd cycle 3 DD AC on 10/22/12. Alerts today for nausea and some emesis. Pt has compazine, zofran, and lorazepam written for antiemetics per EMR.

10/24/2012 5:11:36 PM

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**Nausea/Vomiting**    Experienced Symptom: Yes    Severity Score: 5    Distress Score: 4

| CALL THE PATIENT AND INQUIRE ABOUT:   | Action  | What to do detail |
|---|---|-------------------|
| <input checked="" type="checkbox"/> Confirm date of last chemo and what given<br><input checked="" type="checkbox"/> Assess nausea: onset, frequency, intensity, alleviating/aggravating factors <ul style="list-style-type: none"> <li>▪ If chemotherapy-related, then non-urgent</li> <li>▪ If acute, delayed or anticipatory, then non-urgent</li> </ul> <input checked="" type="checkbox"/> Assess vomiting: character, color, force, quantity, frequency<br><input checked="" type="checkbox"/> Headache<br><input checked="" type="checkbox"/> Food/fluid intake over the last 24 hours? <ul style="list-style-type: none"> <li>▪ If unable to eat or drink for 24 hours, then urgent</li> </ul> <input checked="" type="checkbox"/> Signs of dehydration: decreased urine output, fever, thirst, dry mucus membranes, weakness, dizziness, confusion<br><input checked="" type="checkbox"/> Any abdominal distention<br><input type="checkbox"/> Presence of flatus, time of last BM<br><input checked="" type="checkbox"/> Use of OTC, supplements and other, including complimentary treatments and non-pharmacologic interventions<br><input checked="" type="checkbox"/> Have they listened to hints in TLC script? Did they use any of these? Did any of these help | <b>NONPHARMACOLOGIC</b><br><input checked="" type="checkbox"/> Water<br><input checked="" type="checkbox"/> Food<br><input checked="" type="checkbox"/> Signs of dehydration<br><input checked="" type="checkbox"/> Contacting Doctor<br><input checked="" type="checkbox"/> Distraction strategies <ul style="list-style-type: none"> <li>▪ music, moderate exercise, relaxation, breathing exercises, t.v, crafts</li> <li>▪ loose clothing/ventilation</li> <li>▪ peaceful environment</li> </ul> <b>REFERRAL</b><br><input type="checkbox"/> Emergency Room<br><input type="checkbox"/> Doctor appointment in next 24 hours<br><input type="checkbox"/> Doctor appointment after 24 hours<br><input type="checkbox"/> Acupuncture<br><input type="checkbox"/> Guided imagery<br><input type="checkbox"/> Music therapy<br><input type="checkbox"/> Progressive muscle relaxation  |                   |
| <b>PHARMACOLOGIC INTERVENTION NOTES</b><br><input type="checkbox"/> BREAKTHROUGH OR REFRACTORY Nausea/Vomiting<br><input type="checkbox"/> DELAYED Nausea/Vomiting<br><input type="checkbox"/> Nausea/Vomiting not related to chemo   | <b>MEDICATIONS [Drug/Dose/Route/Schedule]</b><br><b>Phenothiazines</b><br><input type="checkbox"/> Prochlorperazine (Compazine)/25mg/PR/Q 12 hrs ATC or pm<br><input checked="" type="checkbox"/> Prochlorperazine/(Compazine)/10 mg/PO/Q 4-6 hrs<br><input type="checkbox"/> Promethazine/12.5-25 mg/PO/Q 4 hrs pm<br><b>5-HT<sub>3</sub> receptor agonists (May cause headache, especially if a history of migraines)</b><br><input checked="" type="checkbox"/> Ondansetron/16mg/PO/QD<br><b>Benzodiazapenes</b><br><input checked="" type="checkbox"/> Lorazepam (Ativan)/0.5 to 2 mg/PO/Q 4-6 hrs<br><b>Substituted benzamide</b><br><b>Corticosteroids</b><br><b>NK1 receptor agonist</b><br><input type="checkbox"/> Changed Drug Class<br><input type="checkbox"/> Changed to ATC dosing<br><input type="checkbox"/> Advised to take as directed<br><input type="checkbox"/> Changed to rectal route<br><input type="checkbox"/> Reported breakthrough or delayed nausea/vomiting to team |                   |

Notes

Screenshot C. This screen is used to guide and document actions during the NP call to the patient. The NP adds pertinent information gathered before the call to the free text field. The screen guides additional symptom-specific assessment and evidence-based interventions. This page is user friendly because the NP can point and click while on the phone with the patient. Clicking any underlined item provides greater detail. A link on the top right allows viewing the latest clinical practice guideline.