

Integrating Research into Practice: Nurse Telephone Support to Improve Outcomes and Emergency Room Utilization for Patients Receiving Chemotherapy

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Problem

- Oncology Symptom Management
 - Most patients experience side effects to cancer treatment and most report more > one side effect
 - patients often experience and manage symptoms at home
- Nurses are a vital link and often the first point of contact -
 - >50% of nurses also provide telephone support (Macartney 2012)
- Symptom clinical practice resources are often not formatted for use in clinical practice (Stacey, et al., 2013)
- Unplanned ED visits can potentially be averted with nursing intervention in oncology settings. (Bell, et al, 2017)

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Support Care Cancer
DOI 10.1007/s00520-012-1459-y

REVIEW ARTICLE

Emergency department visits for symptoms experienced by oncology patients: a systematic review

Amanda Digel Vandyk • Margaret B. Harrison •
Gail Macartney • Amanda Ross-White • Dawn Stacey

ADVANCED PRINT EXCLUSIVE ARTICLE

Systematic Review of Hospital Readmissions Among Patients With Cancer in the United States

Janice F. Bell, PhD, MN, MPH, Robin L. Whitney, RN, PhD, Sarah C. Reed, MSW, MPH, Hermine Poghosyan, PhD, MPH, Rebecca S. Lash, PhD, MPP, RN, Katherine K. Kim, PhD, MPH, MBA, Andra Davis, RN, MN, PhD, Richard J. Bold, MD, and Jill G. Joseph, MD, PhD

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TRIPLE AIM

- **Health:** patient-reported outcomes including chemotherapy-specific symptoms, psychological distress, pain, and quality of life (primary outcomes)
- **Healthcare delivery:** processes of care, patient engagement, and patient satisfaction
- **Healthcare utilization:** hospitalizations, ED utilization



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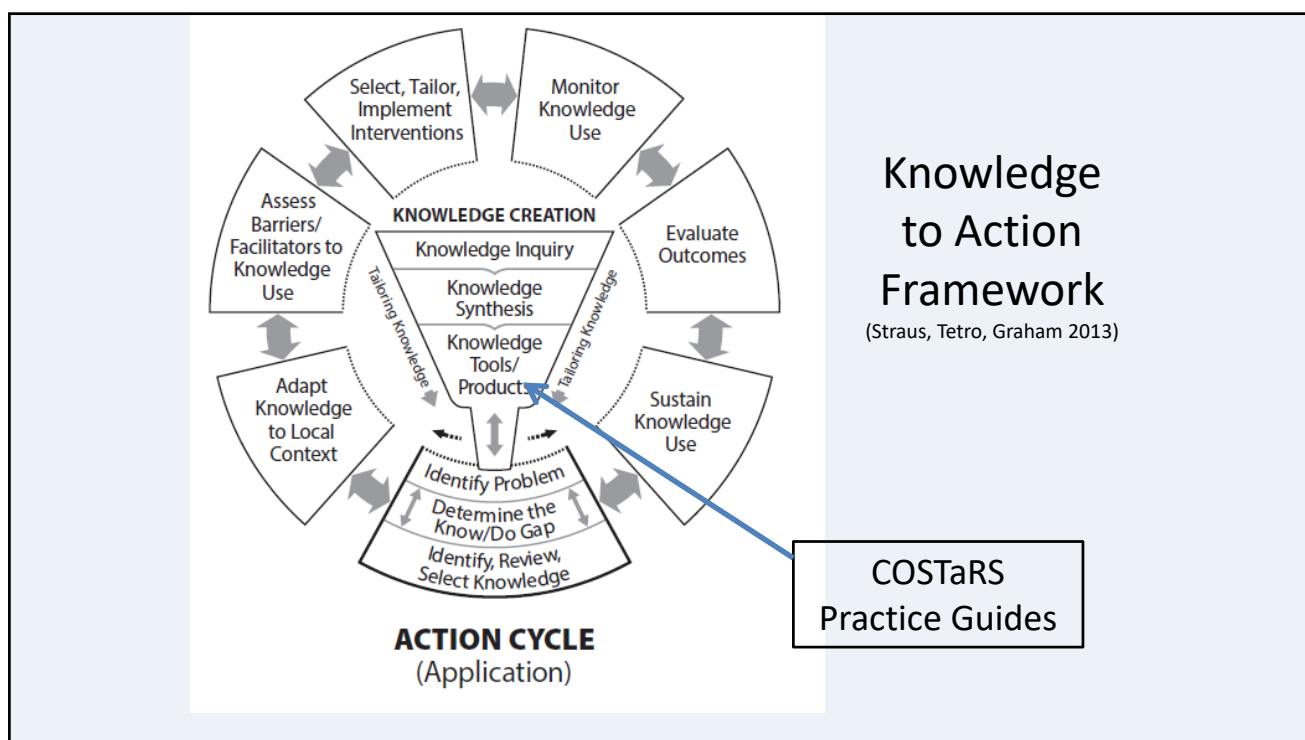


Generalist Competencies: Clinical Care Quality

- Integrates **patient-centered care**
- Applies **evidence-based clinical practice guidelines, symptom management tools, standards, and protocols** in patient evaluation and care
- **Implements symptom management and monitoring parameters**
- **Provides education** addressing the needs of the patient and caregivers.

Oncology Nursing Society (2016)

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Evidence-based Symptom Guides: pan-Canadian Oncology Symptom Triage and Remote Support (COSTaRS)

- Are informed by clinical practice guidelines
 - If elements are missing, likely because no supporting evidence from guidelines
- Meet rigour criteria for guidelines (AGREE II-rigour)
 - Make explicit the recommendations
 - Linked to evidence
 - Based on systematic review for guidelines
 - Reviewed by experts across Canada
- Are usable in practice beyond a resource on the shelf
- Can be integrated in electronic health record
- Use plain language – Flesch-Kincaid Grade 6.4 (Stacey et al., 2013)

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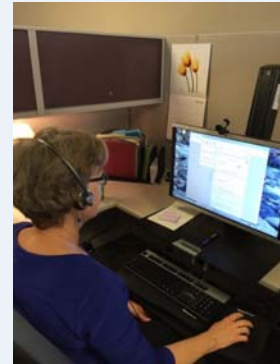
COSTaRS: 15 Symptoms

- | | |
|--|---|
| <ul style="list-style-type: none"> - Anorexia - Anxiety - Bleeding - Breathlessness/dyspnea - Constipation - Depression - Diarrhea - Fatigue/tiredness | <ul style="list-style-type: none"> - Febrile neutropenia - Mouth sores/
stomatitis - Nausea/vomiting - Pain - Peripheral
neuropathy - Skin reaction - Sleep problems |
|--|---|

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COSTaRS

1. Rating Symptom Severity
2. Triage 1 2 3
3. Review Medications
4. Self-Care Strategies
5. Summarize and document plan



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Nausea & Vomiting Practice Guide		Name	Date of Birth	Sex	Date and Time
<p>Nausea: A subjective perception that emesis may occur. Feeling of queasiness.</p> <p>Vomiting: A forceful expulsion of stomach contents through the mouth and may include retching (gastric and esophageal movement without vomiting – dry heaves).^{6,10}</p>		<p>ESAS question Ask patient to rate severity on scale of 0 (none) to 10 (worst possible).</p>			
<p>1. Assess severity of nausea/vomiting (Supporting evidence: 4 guidelines)^{1,6,7,10}</p>					
<p>Tell me what number from 0 to 10 best describes your nausea</p> <p>No nausea 0 1 2 3 4 5 6 7 8 9 10 Worst possible nausea^{8(ESAS)}</p>					
<p>Tell me what number from 0 to 10 best describes your vomiting?</p> <p>No vomiting 0 1 2 3 4 5 6 7 8 9 10 Worst possible vomiting^{8(ESAS)}</p>					
<p>How worried are you about your nausea/vomiting?</p> <p>Not worried 0 1 2 3 4 5 6 7 8 9 10 Extremely worried</p>					
<p>Ask patient to indicate which of the following are present or absent</p>					
Patient rating for nausea (see ESAS above) ^{1,6,8}	1-3	<input type="checkbox"/>	4-10	<input type="checkbox"/>	
Patient rating for vomiting (see ESAS above) ^{1,6,8}	1-3	<input type="checkbox"/>	4-6	<input type="checkbox"/>	7-10 <input type="checkbox"/>
Patient rating of worry about nausea/vomiting (see above) ⁶	0-5	<input type="checkbox"/>	6-10	<input type="checkbox"/>	
How many times per day are you vomiting or retching? ^{1,6,7,10}	≤1	<input type="checkbox"/>	2-5	<input type="checkbox"/>	≥6 <input type="checkbox"/>
<p><input type="checkbox"/> No vomiting</p>					
Have you been able to eat within last 24 hours? ^{7,6,10}	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	
Have you been able to tolerate drinking fluids? ^{6,7,10}	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	
Are you feeling dehydrated, which can include feeling dizzy, a dry mouth, increased thirst, fainting, rapid heart rate, decreased amount of urine? ^{6,10}	No	<input type="checkbox"/>	Yes, some	<input type="checkbox"/>	Yes, significantly <input type="checkbox"/>
Do you have any blood in your vomit or does it look like coffee grounds? ⁶	No	<input type="checkbox"/>		<input type="checkbox"/>	Yes <input type="checkbox"/>
<p><input type="checkbox"/> No vomiting</p>					
Do you have any abdominal pain or headache? ⁶	No/Mild 0-3	<input type="checkbox"/>	Moderate 4-6	<input type="checkbox"/>	Severe 7-10 <input type="checkbox"/>

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Does your nausea/vomiting interfere with your daily activities at home and/or at work? ⁶ Describe.	No	<input type="checkbox"/>	Yes, some	<input type="checkbox"/>	Yes, significantly	<input type="checkbox"/>
Do you have any other symptoms? <input type="checkbox"/> Constipation <input type="checkbox"/> Pain	No	<input type="checkbox"/>	Yes, some	<input type="checkbox"/>	Yes, often	<input type="checkbox"/>
2. Triage patient for symptom management based on highest severity (Supporting evidence: 2 guidelines)^{6,7}	1 Mild (Green)	<input type="checkbox"/> Review self-care. <input type="checkbox"/> Verify medication use, if appropriate.	2 Moderate (Yellow)	<input type="checkbox"/> Review self-care. <input type="checkbox"/> Verify medication use, if appropriate. <input type="checkbox"/> Advise to call back if symptom worsens, new symptoms occur, or no improvement in 12-24 hours.	3 Severe (Red)	<input type="checkbox"/> Refer for medical attention immediately.

If patient is experiencing other symptoms, did you also refer to the appropriate practice guides? If yes, please specify:

Additional Comments:

Space to make notes

Rate severity and triage to highest level (use nursing judgment)

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Patient Name _____

3. Review medications patient is using for nausea/vomiting, including prescribed, over the counter, and/or herbal supplements (Supporting evidence: 8 guidelines)^{1-5,9-11}

Current use	Examples of medications for nausea/vomiting	Notes (e.g. dose, suggest to use as prescribed)	Evidence
<input type="checkbox"/>	5HT ₃ antagonists (Zofran [®]), granisetron (Kytrel [®]), dolasetron (Anszemet [®]) ^{1-5,9,10}		Effective
<input type="checkbox"/>	dexamethasone ^{1-5,9,10}		Likely effective
<input type="checkbox"/>	fosaprepitant ^{1-5,9,10}		Effective
<input type="checkbox"/>	metoclopramide (Stemetil [®]) ^{1-5,9,10}		Expert opinion
<input type="checkbox"/>	Triple drug receptor antagonist (Akinzeto) ^{1-5,9,10}		Effective
<input type="checkbox"/>	Cannabis (Nabilone, medical marijuana), dronabinol ^{2,5}		Effective
<input type="checkbox"/>	Gabapentin ⁵		Likely effective
<input type="checkbox"/>	Other: lorazepam (Ativan [®]) ^{1-5,9,10} , haloperidol (Haldol [®]) ^{2,5}		Expert opinion

*Metopimazine is not recommended for practice.⁵

4. Review self-care strategies (Supporting evidence: 6 guidelines)^{2,3,5,6,10}

Patient already uses	Strategy suggested/education provided	Patient agreed to try	Self-care strategies
1. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	What is your goal for managing your nausea and vomiting?
2. <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	What helps when you have nausea/vomiting? Reinforce as appropriate. Specify: Are you trying to drink clear fluids (e.g. water, sports drinks, broth, gingerale, chamomile tea)? ^{8,10} Have you tried relaxation techniques that may include guided imagery, music therapy, progressive muscle relaxation, and/or hypnosis? ^{2,3,5,6,10} Are you taking anti-emetic medications before meals? If vomiting, are you limiting food and drink until vomiting stops? If vomiting, sip clear fluids. When clear fluids stay down, eat small, bland, dry cereal, pretzels. If starchy food stay down, eat toast, dry cereal, pretzels. If starchy food stay down, eat toast, dry cereal, pretzels. Are you trying to:

Engage client/family by asking what they would agree to try

Effectiveness of medications based on the current evidence

Guide client/family in choosing self-care strategies

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4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you tried relaxation techniques that may include guided imagery, music, progressive muscle relaxation, and/or hypnosis? ^{2,3,5,6,10}
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are you taking anti-emetic medications before meals so they are effective during meals? ^{2,5,6,10}
6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If vomiting, are you limiting food and drink until vomiting stops? After 20-60 minutes, sip clear fluids. When clear fluids stay down, add dry starchy foods (e.g., toast, dry cereal, pretzels). If starchy food stay down, add protein-rich foods (e.g., eggs, chicken). ^{2,5,6,10}
7.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are you trying to: - eat 5-6 small meals or snacks? ^{2,5,6} - eat foods that minimize your nausea and are your "comfort foods"? ^{2,5} - avoid greasy/fried, highly salty, and spicy foods? ^{2,5,6} - eat foods that are cold, avoiding extreme temperatures and strong odors? ^{2,5,6,10}
8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are you sitting upright or reclining with head raised for 30-60 minutes after meals? ⁸
9.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are you wearing loose clothing? ⁵
10.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are you rinsing your mouth before eating and keeping your mouth clean (brushing, rinsing)? ⁶
11.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you tried acupuncture or acupressure to help with your nausea/vomiting? ^{4,5,6}
12.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you spoken with a dietitian? ¹⁰
13.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Would more information about your symptoms help you to manage them better? ^{2,5,6} If yes, provide appropriate information or suggest resources.

5. Summarize and document plan agreed upon with caller (check all that apply)

☐ No change, continue with self-care strategies and if appropriate, medication use

☐ Patient agrees to try self-care items #:

How confident are you that you can try what you agreed to do (0=not confident, 10=very confident)?

☐ Patient agrees to use medication to be consistent with prescribed regimen. Specify: _____

☐ Referral (service & date): _____

☐ Patient agrees to seek medical attention; specify time frame: _____

☐ Advise to call back in 12-24 hours if no improvement, symptom worsens, or new symptoms occur

Name	Signature	Date
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References: 1. Basch E, et al. (2011); 2. NCCN (2015); 3. Gralla RJ, et al. (2013); 4. Naeim A, et al. (2008); 5. ONS-PEP (2015); 6. Cancer Care Ontario (2010); 7. NCI-NCI (2010); 8. Bruera E, et al. (2011); 9. Feyer PC, et al. (2011); 10. Cancer Care Nova Scotia (2004); 11. Hesketh et al. (2015). (See pages 36-39 for complete references)

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Document agreed upon plan to empower patient

If not confident, explore ways to support patient

See 11 guidelines used for more information

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Purpose

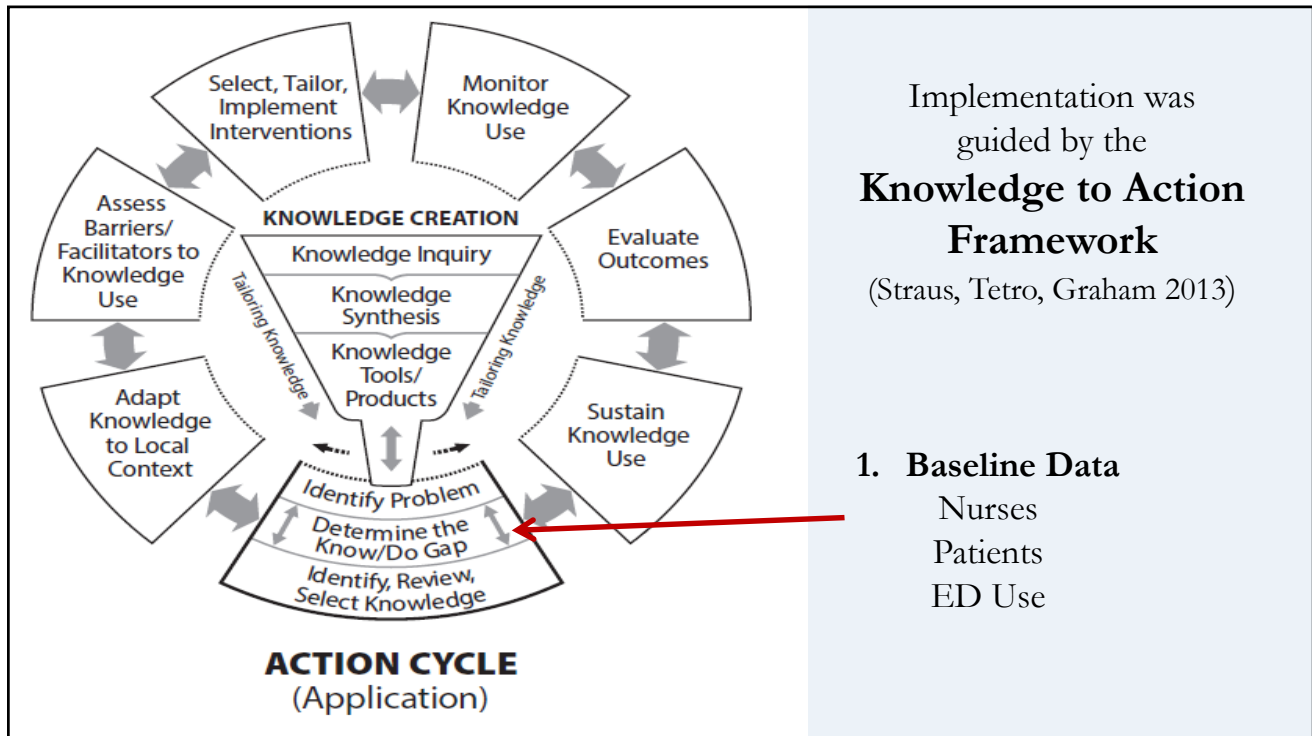
To evaluate integration of evidence-based symptom guides to provide nurse-led telephone-based symptom support during chemotherapy.

Specific objectives for this project

1. Describe emergency department utilization of cancer patients currently receiving chemotherapy at PH clinics.
2. Examine the feasibility of incorporating COSTaRS into the outpatient cancer clinic nurse workflow.
3. Describe the patient experience with nurse-led telephone support during chemotherapy treatment.

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Implementation Outcomes

- Nurse Surveys

Client Outcomes

- Patient Experience
- Unplanned Utilization of Healthcare System

The graphic features a word cloud with the word **DATA** in large blue letters and **INFORMATION** in red letters, both highlighted by a magnifying glass. Other words in the cloud include 'KNOWLEDGE', 'WORD', 'INTER', 'ADVICE', 'WISDOM', 'DOSSIER', 'DEVELOP', 'COMMUNICATION', 'RECOMMENDATION', 'STUDY', 'INFO', 'FAC', 'GUIDA', 'MEDI', 'CONCEPT', 'WIS', 'LAMP', 'U', 'FAC', 'CONCEPT', 'WIS', 'LAMP', 'U', 'FAC', 'CONCEPT', 'WIS', 'LAMP', 'U', 'FAC'.

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ALL ED ENCOUNTERS (N=329)

July 2016-Jun3 2017			
Gender	Frequency	Percent	
Female	188	57	
Male	141	43	
Age	Average	Max	Min
	62.7	94	22
Time of ED Visit			
During office hours	131	39.8%	
After Hrs/Weekends	198	60%	

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REASON FOR UNPLANNED ED VISITS

Reason for Presentation	Frequency (N)
1. Pain	76
2. Dehydration	30
3. Nausea and/or vomiting	28
4. Fever	22
5. Diarrhea	14
6. Shortness of breath	13
7. Fatigue/Tired	7
8. Other	169

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ALL ED VISITS Days Since Last Infusion (N=329)			
Days	Frequency (N)	'	
<1 day	47	36	59% in 1st Week
≥1, <3 days	51	16	
≥3, <5 days	60	11	
≥5, <7 days	37	33	41% remaining days
≥7 days	134	63	
Total	329	322	

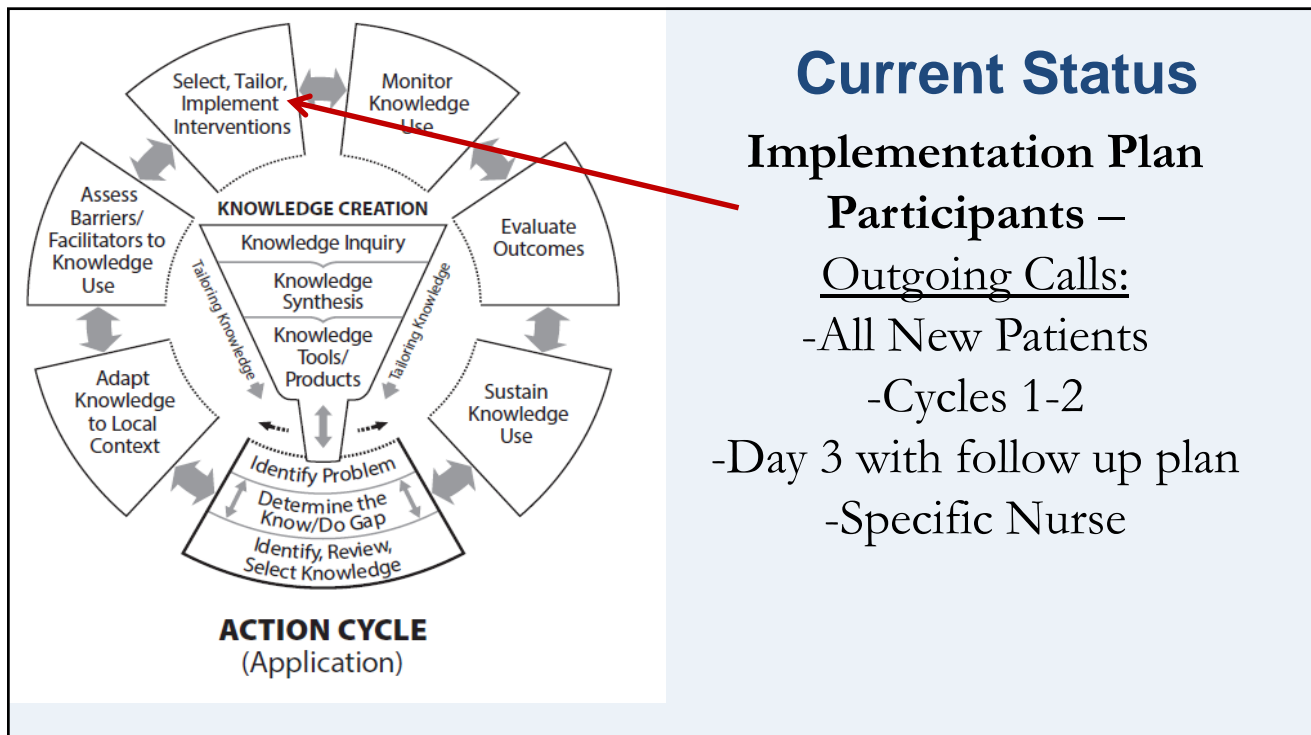
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ALL ED ENCOUNTERS Disposition	
134	Admitted 40.7%
16	Observation 4.8%
6	Transferred to other facilities 1.8%
163 DISCHARGED HOME/SELF CARE 49.5%	

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Discharged Home/Self-Care (n=163)	
Reason for Presentation	Frequency (N)
1. Pain	83
2. Dehydration	10
3. Nausea and/or vomiting	22
4. Fever	7
5. Diarrhea	2
6. Shortness of breath	23
7. Fatigue/Tired	4
8. Other	12

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COSTaRS



Role Playing

Scheduled Interactive Support

Educational Boosters



Role-Play Clinical Scenarios

Routine Contact (2-week call)

1. ROBIN

a. WHAT NURSE KNOWS:

- i. 47 y/o with colon cancer. She is married, has 1 child not living at home. She lives 30 minutes away. She works for a chain department store as a manager and is using extended leave for this first month to see how she handles the treatments. Will be returning to work after second course of treatment if she is feeling well enough.
- ii. Just completed 1st cycle of chemotherapy. Has not contacted you but in completing ESAS she reports the following symptoms.

b. WHAT PATIENT REPORTS:

- i. **Lack of appetite**
- ii. **Difficulty sleeping**
- iii. **Feeling depressed**

2. CARLOS

a. WHAT NURSE KNOWS:

44 y/o retired engineer. Is widowed and has moved into his daughter's home for the time being. She is his primary caregiver

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A Few Lessons Learned

IMPORTANCE OF.....

- identifying and engaging key stakeholders
- a leadership climate that supports innovations and best practices
- taking the TIME to nurture key relationships, gather preliminary data, contextualize your plan
- readying yourself to address the unintended or unspoken barriers that surface
- EXPECT something to not work well or “EMBRACE DYNAMISM”



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