Prescription of Nutrition Supplements as Medication by Dietitians: Application of Lean Methodology

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Monash Cancer Centre

- Located at Monash Medical Centre, Moorabbin
- Operated by Southern Health in partnership with Peter MacCallum Cancer Institute
- 137 beds+ chairs with 5 radiotherapy treatment units
- Services provided:
  - Chemotherapy day unit
  - Inpatients
  - Multidisciplinary outpatients
  - Radiotherapy
- 9257 chemotherapy treatment (2009)
- 5167 admitted inpatients (08/09)
Malnutrition in Oncology

• Affects 40-80%\(^1\)

• Multifactorial causes:
  • mechanical obstruction, cancer symptoms such as anorexia, nausea, vomiting, anxiety, depression, fatigue or early satiety and pain
  • cancer therapy and their side effects

• Major prognostic indicator of poor survival, impaired response & tolerance to anti-neoplastic therapy

\(^1\)Recent Results Cancer Res.(1991);121:249-259
Nutrition Care Process

- Nutrition screening
- Nutrition Assessment
- Nutrition Intervention

snacks, small frequent meals, liberalized diets, enteral nutrition, oral supplements and nutritional supplements as medication (NSAM or Med-Pass)
Nutritional Supplements as Medication (NSAM or Med-Pass)

- Weight status
- Improved meal intake (protein and energy intake)
- Decreased incidence of pressure ulcers
- Improved functionality
- Improved compliance
- Ease of consumption
- Well tolerated in volume sensitive patients
- Reduced likelihood of taste fatigue
Nutritional Supplements as Medication (NSAM or Med-Pass)

Requires the prescription of nutritional supplements on the patients medication chart by the treating medical team.

Administration of nutritional supplements at each medication round by a registered nurse:

- 75 calories (300 MJ) to 120 calories (500 MJ) per dose (~60ml/dose)
- 3-4 or more doses per day
Lean Methodology

“is to deliver the maximum value to the customer whilst consuming the fewest resources by eliminating waste and reducing lead time.”

- Distinguishes value added steps from non value added steps
- Identifies and eliminates waste so that ultimately every step in the process adds value.
Use Lean Methodology to review our practice for prescribing nutrition supplements on medication chart
What did we do?

• What bugs you: waste? clinical risks?
“...I am frustrated by the many problems relating to patients receiving Med Pass supplements .....

• What is the evidence that an issue exists?
• What is the ‘weight of the problem’?
• What is the cause? (Why?)
• How can the ‘roadblock’/wastes be cleared?
Value Stream Map

Patient assessed by dietitian
Nutrition Recommendation: NSAM

Dietitian documents request for NSAM in Medical Record and contacts treating medical team

Value-added time

Process cycle efficiency = \frac{\text{Value-added Time}}{\text{Total time}} = 4\%

NSAM charted on Medication Chart by medical staff

Patient receives NSAM administered by Nurse on medication round

Non value-added time
Current Condition

My patient needs NSAM

Too much time spent on requests

Inappropriate non-dietetic order

Where is my energy shot?

Underutilisation of dietitians knowledge and skills

Order systems not simple

Delay in pt receiving NSAM

icare | Southern Health
Evidence that an issue exists

Weight of the problem

- Of the 12 Victorian hospitals surveyed, no dietitians had prescribing rights for NSAM
- Ordering process was complicated and not linear

<table>
<thead>
<tr>
<th>Audit</th>
<th>Results</th>
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</thead>
<tbody>
<tr>
<td>Patients on NSAM requested by dietitians (nos.)</td>
<td>10</td>
</tr>
<tr>
<td>Average time delay in charting (days)</td>
<td>2.8 (0-23)</td>
</tr>
<tr>
<td>Repeat requests by dietitian to doctor (%)</td>
<td>60%</td>
</tr>
<tr>
<td>Average time spent on repeat requests (minutes)</td>
<td>10 minutes per request</td>
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1. Request for NSAM not a simple process from dietitian to patient
   Why—Requires two health staff to perform two steps of a task for the same outcome
   Why—Dietitian’s request via medical notes and verbal communication (1st Step)
   Why—Doctors to prescribe on medication chart (2nd Step)
   Why—Process has not been questioned, reviewed or compared to practices by dietitians in Australian hospitals

2. Delay in patient receiving NSAM
   Why—Nurses waiting for doctors to prescribe the NSAM
   Why—Prescription on medication chart not timely
   Why—Doctors required to visit ward to attend to dietitian request
   Why—Ward dietitian lacks NSAM prescribing privileges

3. Too much time spent in re-requestings
   Why—Doctors receiving requests for NSAM more than once
   Why—Dietitians have to re-request/remind doctors regarding NSAM
   Why—Doctors have not prescribed NSAM on medication chart on first request
   Why—Doctors place higher priority /more accountable for ‘medical’ tasks
   Why—Knowledge regarding importance of NSAM lacking
Future Target Condition

Direct prescription of nutrition supplement on medication chart

My patient requires nutrition supplements

Drug Chart

Timely receipt of nutrition supplements by patient

Appropriate prescription of nutrition supplements by credentialed dietitians
## Implementation

<table>
<thead>
<tr>
<th>Counter Measures Determined</th>
<th>Plan Implemented</th>
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| Dietitians to obtain NSAM prescribing privileges on medication chart                        | Submission to Medical Executive Committee seeking NSAM prescribing privileges for dietitians  
Approval obtained and project rolled out  
Evaluation in progress                                                                          |
| Review of existing procedures for prescribing nutritional supplements                       | Revise, evaluate and finalise procedures for prescribing NSAM  
Competency training and credentialing for dietitians (90% bed based dietitians credentialed to date) |
| Improve knowledge of health professionals regarding rationale, change in dietetic practice  | Ward education  
Communicate to Nursing Executive, Medication Safety Committee  
Communicate to health professionals via newsletters, emails |
| and procedures for prescribing NSAM                                                        |                                                                                                                                                      |
Potential Benefits

Patient benefits
• Increased quality of care and patient satisfaction
• Improved clinical outcomes

Staff benefits
• Increased direct patient staff contact time
• Improved morale of dietetic staff
• Recognition of dietetic expertise and raised profile

Cost Benefits
• Length of hospital stay
• Inappropriate supplement ordering
• Reduced wastage of supplements
• Time wasted by dietitians, nurses
Overview of Project Issues and Plan (A3)

Nutrition Supplements as Medication - Dietitian Prescribing Rights

By Samantha Bern, Anne Gordon, Marykath Insker, Jessica MacDonald, Rubina Raja, Department of Dietetics, Moriah Medical Centre

- **Background**: Nutrition Supplements as Medication (NSAM) is effective in alleviating deterioration of nutritional status of patients. Timely delivery of NSAM to patients was observed to delay in patients' nutrition. Use of methodology was used to identify and reduce delayed delivery of nutrition support for patients' NSAM.

- **Incidence of malnutrition in Australia**: 20-35%, MNC up to 66% at risk

- **MRC Survey**: Duration = 10 days; Diets = 11 nos.
  - Number of patients who requested for NSAM by dietitians = 10
  - Time delay in obtaining NSAM by doctors from time of request: Average 2.8 days (0.23 days)
  - Number of repeat requests by dietitians for NSAM: 6 repeat requests for 10 patients (60%)
  - NSAM initiated by doctors: 6, 34% of doctors often prescribed inappropriately (not nourished, those on dietary restrictions) compared to dietitians (1%)

- **Target Condition**: Nutritional needs not being met
- Nutrition supplements being used as a last resort

- **Counter Measures**: Review of existing policy for prescribing nutritional supplements
  - Dietitians to obtain prescribing privileges on medication chart
  - Improve knowledge of health professionals regarding rationale and protocol for prescribing NSAM

- **Implementation Plan**

- **Problem Analysis/Root Cause Analysis**

  1. **Prob. 1**: Why Requires two health staff to perform two steps of task for the same outcome
     - Why: Doctors to prescribe on medication chart
     - Why: Doctors have not been updated according to standard practices

  2. **Prob. 2**: Delay in patient receiving NSAM
     - Why: Nurses waiting for doctors to prescribe
     - Why: Prescribing on medication chart

  3. **Prob. 3**: Too much time spent in work requests and 'work around'
     - Why: Doctors receiving many requests for NSAM
     - Why: NSAM not prescribed on medication chart

  4. **Prob. 4**: NSAM being a routine item
     - Why: Considered to be routine items of patients having poor oral intake

- **Core Benefits**
  - Increased length of hospital stay due to delayed nutrition status and associated complications
  - Reduced morbidity, mortality, quality of life, reduced infection rates, improved healing

- **Start Benefits**
  - Increased patient dietary contact time through improved efficiency of processes
  - Improved morale and quality of staff

- **Implementation**

  - **Formation of working group**: March 2010
  - **Identification of hospital procedures for obtaining approval**: May 2010
  - **Draft proposal for change to practice**: July 2010
  - **Finalisation of proposal**: October 2010
  - **Guideline writing**: July 2010
  - **Implementation across Southern Health**: September 2010 - December 2010

- **Education and training**: September 2010 - December 2010

- **Southern Health**
Evaluation

• 90% bed based dietitians credentialed (June 2011)
• 4.8 minutes on average taken to prescribe NSAM

Dietitian survey results:
• 82% respondents strongly agreed that obtaining prescribing privileges has simplified the process and minimised delays in patients receiving NSAM
• 69% respondents strongly agreed that prescribing privileges has had a positive impact on the patients nutritional care
• High level of perceived satisfaction from nursing and medical staff relating to prescribing privileges
• 52% respondents strongly agreed that prescribing privileges has improved professional profile of the dietitians

Medical, Nursing and Pharmacy survey results pending
Key Lessons Learnt

• Clearly define problem and scope
• Focus on improvement opportunities from patient’s perspective
• Identify process in early stages, importance of thorough diagnostics
• Observe the process – ‘see first-hand’
• Understand and acknowledge the local context
• Strong and visible team work
• Support and collaboration from key partners
Conclusion

Application of Lean Methodology enabled Dietetics in our Oncology Service:

• to clearly examine, in a systematic manner, delays and inefficiencies with the current process of ordering NSAM

• to develop a structured action plan to improve quality of nutrition care to our oncology patients and reduce waste in our health care setting by timely and appropriate commencement of NSAM