Achieving goals by guidelines: myth or reality?

Do guidelines advance clinical practice? A practical guide to implementation

H. Højgaard Rasmussen (Denmark)
Do guidelines advance clinical practice?
A practical guide to implementation

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ESPEN 2012
It has been found that 30-40% of patients do not get treatment of proven effectiveness, and, up to 25% of patients receive unnecessary care or care that is potentially harmful.

"The median effect size overall for implementing guidelines was about 10% improvement in absolute terms.”

Translation of research into clinical practice

Grol R, Med Care 2003
Grimshaw J, J Cont Educ Health Prof 2004
Science

i.e. ESPEN, NICE guideline

Evaluation:
GRADE
AGREE
NICE

Quality of evidence
Benefits
Practice
Cost-effectiveness

CRT based on:
Simple interventions
Highly selected patients (> 80-90% excluded)
Good infrastructure
Follow up
Superior performers

Burgers J, Int J Tech Ass Health Care 2002
Oxman AD, BMJ 2004
Science

Guidelines

Implementation

Individual:
Knowledge
Attitudes
Skills
Motivation

Non-individual:
Structural (i.e. finance)
Organizational (i.e. facilities)
Peer group barriers (i.e. local vs. regional)
Professional-patient interactions (i.e. communication)

McDonald CJ, Ann Intern Med 1976
Dodek P, JPEN 2009
<table>
<thead>
<tr>
<th>Strategy</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational material</td>
<td>Mixed effects</td>
</tr>
<tr>
<td>Conference/courses</td>
<td>Mixed effects</td>
</tr>
<tr>
<td>Interactice group meetings</td>
<td>Mostly effective*</td>
</tr>
<tr>
<td>Educational outreach visits</td>
<td>Especially effective for prevention</td>
</tr>
<tr>
<td>Use of opinion leaders</td>
<td>Mixed effects</td>
</tr>
<tr>
<td>Reminders</td>
<td>Mostly effective*</td>
</tr>
<tr>
<td>Intro of PC’s in practice</td>
<td>Mostly effective</td>
</tr>
<tr>
<td>Multiprofesional collaboration</td>
<td>Effective in chronic disease*</td>
</tr>
<tr>
<td>Mass media campagnes</td>
<td>Mostly effective*</td>
</tr>
<tr>
<td>Quality-management (continous)</td>
<td>Limited effects (few RCT)</td>
</tr>
<tr>
<td>Financial interventions</td>
<td>Fundholding and budgets effective*</td>
</tr>
<tr>
<td>Patient-mediated interventions</td>
<td>Mixed effects</td>
</tr>
<tr>
<td>Combined interventions</td>
<td>More effective than single interventions*</td>
</tr>
</tbody>
</table>

*Grol R, Lancet 2003
Ting HH, Circulation 2009*
Can attitude be changed among the staff concerning hospital undernutrition?

Original Article

Management and perception of hospital undernutrition—A positive change among Danish doctors and nurses

Karen Lindorff-Larsen\textsuperscript{a,*}, Henrik Højgaard Rasmussen\textsuperscript{b}, Jens Kondrup\textsuperscript{c}, Michael Staun\textsuperscript{d}, Karin Ladefoged\textsuperscript{e}, The Scandinavian Nutrition Group\textsuperscript{f}

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\textsuperscript{b}Department of Gastroenterology, Aalborg Hospital, Aarhus University Hospital, Denmark
\textsuperscript{c}Nutrition Unit, Rigshospitalet, and Department of Human Nutrition, Royal Veterinary University, Denmark
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\textsuperscript{e}Department of Internal Medicine, Dr. Ingriis Hospital, Nuuk, Greenland, Denmark

Received 20 December 2006; accepted 14 January 2007
More patients fed enterally
Duration of mechanical ventilation
EN associated with reduced risk of death
Malnutrition prevalence rates from 2004 to 2007 (A) and malnutrition prevalence rates against the number of previous LPZ audits (B) in hospitals, nursing homes, and home care institutions.

Framework for adherence to clinical practice guidelines in the intensive care unit.

Dodek P et al. JPEN J Parenter Enteral Nutr 2010;34:669-674
# Organization/structure and GNP

<table>
<thead>
<tr>
<th>Good Nutritional Practise</th>
<th>Attitude Entirely or largely agree</th>
<th>Practice Yes, this is a routine in all patients at my department</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total group %</td>
<td>Total group %</td>
</tr>
<tr>
<td>Nutrition status should be evaluated in all patients on admission</td>
<td>90</td>
<td>27</td>
</tr>
<tr>
<td>All patients should be weighed at admission</td>
<td>93</td>
<td>48</td>
</tr>
<tr>
<td>Energy intake should be taken in account on wards rounds</td>
<td>92</td>
<td>15</td>
</tr>
<tr>
<td>Energy requirements should be determined before prescribing nutrition therapy</td>
<td>97</td>
<td>31</td>
</tr>
<tr>
<td>Ongoing checks of risk-patients achieving the desirable level of 24-hour energy intake</td>
<td>97</td>
<td>19</td>
</tr>
<tr>
<td>Nutrition care plan should be included in the patients’ records</td>
<td>93</td>
<td>13</td>
</tr>
</tbody>
</table>

\( w-DS = \) well-defined structure

\( p-DS = \) poorly-defined structure

NO METHOD HAS PROVEN ULTIMATELY EFFECTIVE IN CLINICAL NUTRITION!

Methods (CQI)

i.e.
P = plan
D = do
S = study
A = act

Outcome

A practical guide to implementation
Background

- A framework for establishing **good nutritional practise** has been made:
  - Council of Europe (barriers and recommendations)
  - ESPEN/ASPEN/CANADIAN guidelines
    - Screening
    - Nutrition plan
    - Monitoring
    - Communication
    - Audits
  - National guidelines in clinical nutrition ([www.sst.dk](http://www.sst.dk))

Only few studies have been made concerning implementation strategies ...
Definitions

Criterion: The ideal goal for quality

Standard: The acceptable and realistic goal for quality

Indicator: A measurable variable, which alone or together with other indicators can be used to illustrate to which degree the standard has been fulfilled
Nutrition Standards and Indicators
The Danish Quality Programme (I)

- **STANDARD I**: Patients in hospitals are assessed for nutritional risk.
- **INDICATOR 1**: Guidelines for screening patients to identify patients at nutritional risk. They should as a minimum include:
  - A clear division of responsibility for screening and nutritional therapy.
  - Description of screening method and patients to be screened.
  - When patients should be screened, and reasons why patients have not been screened.
  - A nutrition plan for patients at nutritional risk
- **INDICATOR 2**: Leaders and staff know and use the guidelines.
- **INDICATOR 3**: Nutrition screening should be documented in the records.
- **INDICATOR 4**: On the basis of quality assessment leading staff will make steps for quality improvements.
**STANDARD II**: Patients in hospitals at nutritional risk will get an individual nutritional therapy.

**INDICATOR 1**: Guidelines for a nutrition plan and monitoring. These should include:
- Assessment of energy- and protein needs according to recommendation from National Board of Health
- Prescribing a diet
- Registration of food intake and calculation of energy- and protein intake. Furthermore weight should be monitored.
- Indication for modifying the nutrition plan.

**INDICATOR 2**: Leaders and staff knows and uses the guidelines.

**INDICATOR 3**: Documentation in records for nutritional needs (energy- and protein).

**INDICATOR 4**: Documentation in records for the diet prescribed.

**INDICATOR 5**: On the basis of quality assessment leading staff will make steps for quality improvements.
Framework for implementation

Structure

Proces

Result*

Nutrition committee
Politics
National guidelines

Screening
Plan
Monitoring

Do the patients fulfill req of E- and P intake? Outcome?
Politicians
Health authorities
Standards-indicators
Accreditation

National or regional:
Nutrition committee

Hospital
Politics – guidelines – protocols
Leading manager

Nutrition committee:
Politics

Nutrition teams
Guidelines Protocols
Catering
Artificial support
Education

Organization/structure of nutrition support in hospitals
COMMUNICATE THE DATA

ESPEN guidelines 2004
Implementation: does it work?

A method for implementation of nutritional therapy in hospitals.
Department of Gastroenterology, Aalborg Hospital, Aarhus University Hospital, 9000 Aalborg, Denmark. hhr@rn.dk

Can a targeted plan made by the staff in four different departments improve nutritional treatment within selected quality goals based on ESPEN screening guidelines?
Continuous quality improvement

1. Establish goals for quality (criteria and indicators)
2. Identify indicators

- Collecting data and data analysis
- Quality assessment: Did we fulfill the goals?
  - Yes
  - No
    - Analysing the cause: Clarification of the lack of fulfillment of the goals
    - Improvement of the quality: Planning and implementation of the solutions
    - Evaluation of the improvements: Do we now fulfill the goals?
      - Yes
      - No
        - Maintain what is reached by: Monitoring the quality continuously, readjusting the problems and the goals of the quality continuously
<table>
<thead>
<tr>
<th>Continuous quality improvement steps</th>
<th>Questions</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality goals</td>
<td>Which quality goals to measure?</td>
<td>Quality goals: Danish National Health Board, Resolution on food and nutritional care in hospitals (Council of Europe), ESPEN</td>
</tr>
<tr>
<td>Quality measurement – and assessment</td>
<td>Within which areas is there a need to improve the quality of nutrition therapy at the ward?</td>
<td>Pre-measurement Measuring of actual practice-journal audit and patient interview</td>
</tr>
<tr>
<td>Quality improvement</td>
<td>Which barriers are there at the ward to live up to the quality goals? Which ideas do the ward staffs have for improvements in the nutritional area, so that the goals can be reached? How will the ward improve the quality of nutrition therapy at the ward?</td>
<td>Intervention: •Quality assessment (multidisciplinary project using Groupware®) •Elaboration of an action plan in the project group •Implementation of action plan</td>
</tr>
<tr>
<td>Quality monitoring- maintenance and assurance</td>
<td>Has the quality of nutrition therapy improved? Does the ward live up to the laid down goals after the implementation of the action plan?</td>
<td>Re-measurement Journal audit and patient interview Evaluation Focus group interview</td>
</tr>
</tbody>
</table>
## Implementation: Results

<table>
<thead>
<tr>
<th>Documentation of variables</th>
<th>Pre-measurement* %</th>
<th>Re-measurement* %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight?</td>
<td>74</td>
<td>81</td>
</tr>
<tr>
<td>Height?</td>
<td>40</td>
<td>74</td>
</tr>
<tr>
<td>BMI?</td>
<td>0</td>
<td>56</td>
</tr>
<tr>
<td>Patients with weight loss &lt; 3 months?</td>
<td>25</td>
<td>53</td>
</tr>
<tr>
<td>Patients with weight loss during hospitalization?</td>
<td>18</td>
<td>52</td>
</tr>
<tr>
<td>Energy intake &lt; 1 week?</td>
<td>31</td>
<td>64</td>
</tr>
<tr>
<td>Energy intake in patients with decreased food intake?</td>
<td>43</td>
<td>69</td>
</tr>
<tr>
<td>Screening?</td>
<td>15</td>
<td>61</td>
</tr>
<tr>
<td>Nutrition plan?</td>
<td>34</td>
<td>86</td>
</tr>
</tbody>
</table>

*Significant differences in all variables p < 0.05

Rasmussen HH Clin Nutr 2006
A multi-modal strategic implementation

- Implementation of good nutritional practice (GNP) is mandatory for targeted treatment of malnourished patients; that is: screening, plan, monitoring and follow-up. However, despite introduction of national and international guidelines for treating patients at nutritional risk patients are not diagnosed and treated accordingly.

- **Objectives:**
  To improve GNP by a multi-modal strategic intervention according to the Danish Health Quality Programme which includes nutrition standards (www.IKAS.dk) and the National Guideline from Board of Health, in a Danish University Hospital.
Baseline measurements were followed by a 12 months intervention period and follow-up measurements.

Inclusion: All adult hospitalized patients (> 3 days of admittance) at a randomly selected day were included.

Setting: A university hospital with 990 beds and all specialities.

Baseline measurements (and follow-up measurements):
- Record audit for demographics
- Screening for nutritional risk (NRS 2002)
- Nutrition plan
- Monitoring (energy- and protein intake by 24-hour recall interviews)
- Each department had their own results from the baseline measurement presented, together with the overall hospital results
- A questionnaire investigation was made including patients before and after the intervention
Multimodal interventions
12 months period

• Education for all clinical staff
• Local investigations of barriers towards GNP
• Action plans were then made and implemented to improve GNP
• Standard nutrition plans for eight diagnoses
• Improved hospital food (both for patients and staff)
• Education of kitchen staff
• Improved environments in the dining rooms (supervised by a research team of architecture and design in “food-scapes”)  
• Personas
• Events, TV, press
• Cantinas were improved

• Statistics: Mann-Whitney and Kruskal-Wallis test was used for ordinal data, and Pearson Chi square test for nominative data. P values <0.05 were considered significant.
Nutritional care process

p < 0.001 for all variables
Conclusion

• This study showed that a good nutritional practice can be achieved by introducing a multi-modal strategic model using both a bottom up and a top down approach.

• The top down approach was accomplished by the nutritional standards from the Danish quality model. This was furthermore supported by the hospital management and the hospital nutritional steering committee.

• The bottom up approach was based on the local nutrition teams choosing their own way to deal with the results from the pre-measurements, and having the access to experts on request.

• In this study many different elements were included, and it is not possible to differentiate which parts paid the major role.

• Even when a multi-modal approach is introduced we still have room for improvements as only 50-60% of our patients have a protein intake of more than 75% of their requirements.
Implementing: Clinical Practice

- Awareness Relevance
- Information Adopt guideline
- Evaluation

EXPERTS - PATIENTS

POLITICIANS

NATIONAL BOARD OF HEALTH

Organisations
Thank you for your attention

Never give up !!