Implementing and disseminating guidelines

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Jean-Charles Preiser
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Ethical dilemmas
Bioethical principles
Application of bioethical principles to “Nutrition at the end-of-life”
The decision-making process
RULE #1

Gestation Period = 3 yrs
RULE # 2
Having heard these new guidelines....
Almost back home

I spent 3 lovely days in Geneva

I heard a lot of new informations, including guidelines

How to translate these in my daily clinical practice?
A few basic questions

- Who is the target audience?
  - Knowledge on the process of guidelines
  - Professional background
  - Involvement in nutrition

- Which is the starting point?
  - Which is the magnitude of the expected improvement?
A few basic questions

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Invited editorial

ESPEN disease-specific guideline framework

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Guidelines: What are they?

- Clinical guidelines are essentially recommendations for patient care based on the best available data.
  - not absolute requirements,
  - do not guarantee outcome or mortality benefits,
  - certainly never a substitute for clinical judgment.

- Developed by specialty societies
- Supported by current literature (PRCTs)
- Expert opinion or consensus recommendations

Medical guidelines?

“systematically develop statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances” (U.S. Institute of Medicine).

Medical guidelines intended to provide clinicians with recommendations based on the best available evidence; to inform clinicians of when there is no evidence; and finally, to help clinicians deliver the best health care possible (ACP).

Clinical nutrition guidelines designed to compare your current practice to these guidelines to illuminate any gaps there maybe between what is done and what the best nutrition support practice should be (criticalcarenutrition.com).
Additional hurdles in the field of clinical nutrition

- Lack of standardization for the prescription of nutritional solutions for parenteral or enteral or of oral supplementation
- Gaps between prescription and actual clinical practice
- Current practice is sometimes guided by industrial companies and not by scientific societies.
- Involvement of several categories of caregivers (practicing physician of different specialties, nurses, dieticians, pharmacists) with various levels of interest and knowledge in nutrition.
- Malnourished patients are often managed by specialists of the underlying disease, without particular skill in nutrition therapy.
Guidelines: What should it be for the clinician?
A few basic questions

- Who is the target audience?
  - Knowledge on the process of guidelines
  - Professional background
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To which healthcare provider am I speaking?

- Physician
  - Medical specialty
- Dietician
- Nurse
- Pharmacist
- Others..
Diffusion of Innovations

Haines BMJ 1999 308:1488
University of Kentucky Nutritional Support Service Acceptance of Recommendations by Physicians

Physician Cognitive Process

Heuristics refers to experience-based techniques for problem solving

Mohan CCM (2010) 38:s637-41
A few basic questions

- Who is the target audience?
  - Knowledge on the process of guidelines
  - Professional background
  - Involvement in nutrition
Target audience

- Mostly practitioners not involved in nutrition
  - Need to know, understand and use their own language!
  - (meaning of hospital LOS/mortality for a dermatologist?)
A few basic questions

- Who is the target audience?
  - Knowledge on the process of guidelines
  - Professional background
  - Involvement in nutrition

- Which is the starting point?
  - Which is the magnitude of the expected improvement?
Prevalence of malnutrition related to the hospital

- Darmstadt
- Frankfurt HL
- Frankfurt UK
- Freiburg
- Krefeld
- Berlin Zehlendorf
- Hannover
- Berlin Campus Mitte
- Regensburg
- Wien
- Leipzig
- Berlin CVK

Prozent

Prozent

Prevalence of malnutrition related to the hospital
Have a look at the starting point. Wide heterogeneity can be found.
Which is the starting point?
158 ICUs, 20 countries, prospective, observational, cohort, 2946 mechanically ventilated adult pts with > 72 h LOS in ICU

High Adherence:
- use of enteral nutrition in preference to parenteral nutrition,
- glycemic control,
- lack of utilization of arginine-enriched enteral formulas,
- delivery of hypocaloric parenteral nutrition,
- presence of a feeding protocol.

Gaps
- Average time to start of enteral nutrition was 46.5 hrs (site average range, 8.2–149.1 hrs).
- The average use of motility agents and small bowel feeding in patients who had high gastric residual volumes was 58.7% (site average range, 0%–100%) and 14.7% (site average range, 0%–100%), respectively.

Cahill CCM (2009) 38:395-401
Having delineated the target audience and the starting point..

- How to communicate and convince?
Screening → Nut’l intervention → Follow-up

Which index?
Screening → Nut’l intervention → Follow-up

Underlying question: which outcome is the most likely to be improved by a nutritional intervention?
Invited editorial

ESPEN disease-specific guideline framework

3.10. Step 10: presentation and dissemination

Each set of guidelines will be published as a full article in Clinical Nutrition without further reviewing, entitled “ESPEN (or ESPEN/other society(ies)) guidelines on …”, and authored by GDG chair, GDG members (alphabetical order), and the referent GLC member. As stated earlier, the negotiations with specialty societies will include a publication plan in order to have these guidelines published in the journals and websites of the specialty society as well as in Clinical Nutrition and on the ESPEN website. Dissemination will also include:

- ESPEN website
- Oral presentation during ESPEN congresses
- Translation and dissemination by national PEN societies
- Implementation: collection of local/national/international use of these guidelines + experiences (dedicated blog on ESPEN website)
Implementation of guidelines

No universal solution

Dietitian lead workshops
Pre-printed orders
Pocket cards
Feeding protocols
Glycemic control protocols

Primary End Point: nutritional adequacy of enteral nutrition
Secondary End point: compliance with CPGs, glycemic control, duration of ICU and hosp. stay, 28d mortality

58 sites
Canadian CPGs
Cluster RCT
Mech.vent.Pts

Active Dissemination
(30 ICUs) 307 Pts

Passive Dissemination
(28 ICUs) 305 Pts

Multicentre, cluster-randomized clinical trial of algorithms for critical-care enteral and parenteral therapy (ACCEPT)

14 hospitals (Ontario)
2 cross-over excluded
n = 499
Pts with expected ICU stay at least 48h

Intervention:
• in-service education sessions,
• reminders (local dietitian, posters)
• academic detailing

At ICU admission: Should this patient be fed?
Yes
Can EN be started within 24 hours?
No

Acceptable conditions:
• Tolerating adequate oral diet
• < 24 h to oral intake
• Palliative care

No

Acceptable conditions:
• Acute pancreatitis*
• Enteric anastomosis*
• Ischemic bowel
• Enteric fistula
• Imminent bowel resection
• Imminent endoscopy
• Bowel obstruction
• High nasogastric losses
• Severe exacerbation of inflammatory bowel disease

*May still opt for elemental enteral feeding

Gastric challenge: Use full-strength concentration
Consider prokinetic with challenge
Goal: at least 80% of requirements at 72 h
Assess q12h

Is progression on target to reach at least 80% by 72 h?
No

Yes

Increase rate to 100% of requirements

Is goal met?
No

Begin TPN
Reassess q12h for EN eligibility

• Use prokinetic
• Use postpyloric tube

Yes

• Continue EN to maximum tolerated
• Supplement with PN
• Continue EN challenges q12h

Martin CMAJ (2004) 170:197-204
Multicentre, cluster-randomized clinical trial of algorithms for critical-care enteral and parenteral therapy (ACCEPT)

Hosp. LOS 25 vs 35 d
P=0.003

Martin CMAJ (2004) 170:197-204
Two examples from Belgium...
At the local level

- Decision tree for administration of enteral nutrition
Assess gastric residual volume

< 250 ml

Keep the rate identical if caloric target reached
Or increase it by a factor 2

> 250 ml

Decrease rate by half

Diminuer de moitié le débit de perfusion ou le multiplier par 2 en vue d'atteindre la cible

RESIDU GASTRIQUE /6h

< 250 ml

Keep the rate identical if caloric target reached
Or increase it by a factor 2

> 250 ml

Decrease rate by half
If residual volume twice > 250 ml: add pro-kinetic medication

GASTRIC RESIDUAL VOLUME (q6h)
Use of a decision tree
De Ryckere et al Nut Clin Metab 2012

- Comparison before – after in the department:
  - 34 medico-surgical beds
  - 3000 patients/year
  - 2.5 patients/nurse

- 3 phases during 4 months
  - PRE : usual management of enteral nutrition
  - Information – diffusion of the decision tree (available at each bedside)
  - POST: management of enteral nutrition following the decision tree
Results

- Easy access to the decision tree
- No complaint from the nursing staff
- 40 patients analysed (20 PRE / 20 POST)
- Number of EN days 204 (PRE) vs 122 (POST)
- No difference of demographics between the two periods:
  - Age (60 [48–64] vs 62 [48–8])
  - Proportion of females (0.5 vs 0.4)
  - BMI (25(±4) vs 24(±3))
  - APACHE II (12.2 (± 3,9) vs 14.5 (± 6,3))
  - Surgical admissions (40 vs 45 %)
Time interval between admission and initiation of EN

![Bar chart showing time intervals for Groupe PRE and Groupe POST.]

- Groupe PRE: 40 hours
- Groupe POST: 27 hours

\[ p = 0.17 \]
Time to achieve the target rate

PRE

POST

$33$

$12$

$p = 0.001$
Difference between target caloric intake and actual intake

- PRE: 3346 Kcal
- POST: 551 Kcal

p = 0.01
Current SITUATION (ICU Erasme)

3,000 admissions/y
7,500 pt.days/y
At the national level

- Official – legal incentives to participate to NutritionDay since 2010
Belgian participation

Support of the Ministry of health
From 2010

Thank You!!
64 centres
(33 NL
31 FR)
Be prepared to face hurdles..
Energy Delivered per Fed Patient

Kcal

Study Day

- Guideline ICUs
- Control ICUs

Total patients
Guideline: 171 471 465 428 417 404 376
Control: 105 257 326 358 365 360 358

Doig JAMA (2008) 300:2731-41
What works best at your site?

(barriers and enablers will vary site to site)

What is already working well at your site?

(strengths and weaknesses are different across sites)
Barriers to Implementation of guidelines

- **Resistance to change**
  - We’ll see tomorrow
  - PN is easy to use
  - Obesity precludes any early nutrition
Barriers to Implementation of guidelines

- **Lack of awareness**
  - Nutrition is not a first line issue
  - Guidelines are difficult to find…
Barriers to Implementation of guidelines

- Lack of experience
  - Reserved to the nurse or the dietetician.
Clinical condition of patient

- Digestive dysfunctions…
- Even with protocols, only 70-80% pts could adequately fed with EN.
Barriers to Implementation of guidelines

- Resource constraints
- Slow administrative process
- Workload
- Complex recommendations
- Paucity of evidence
Effectiveness and efficiency of guideline dissemination and implementation strategies

- **Interventions:**
  - reminders,
  - dissemination of educational materials,
  - audit and feedback,
  - educational meetings,
  - patient-directed interventions,
  - organisational interventions,
  - multiple educational interventions,
  - multifaceted interventions.
Effectiveness and efficiency of guideline dissemination and implementation strategies

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  - multifaceted interventions.

- 235 studies.
- Modest to moderate improvements in care.
- Multifaceted interventions did not appear to be more effective than single interventions, and the effects of multifaceted interventions did not appear to increase with the number of component intervention.

Grimshaw JM Health Technol Assess 2004;8(6)
Knowing is not enough, we must apply. Willing is not enough, we must do.

J.W. von Goethe