

Nutrition Support Teams in Developing Countries

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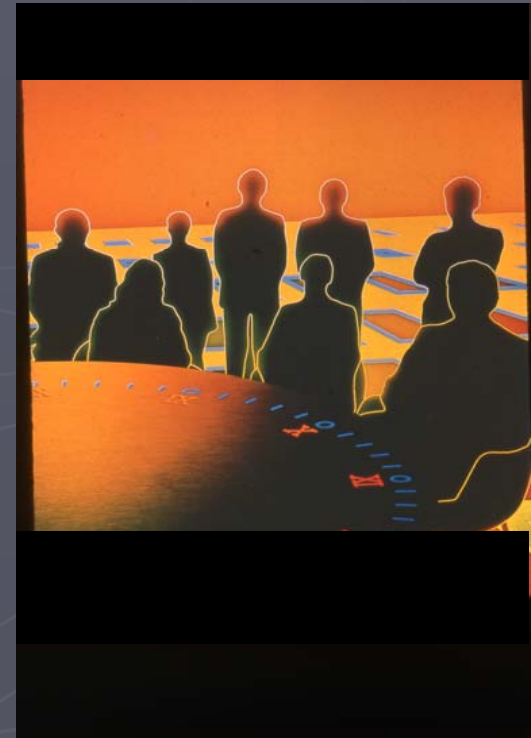
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Origin of concept of Nutrition Support Teams

Originally proposed by Kaminski and
Stolar in 1974 (Am J Hosp Pharm, 1974, 31:228)

Hospital Nutrition Committee

- ▶ Develop care policies
- ▶ Develop standard forms
- ▶ Standardize products and supplies
- ▶ Resolve conflicts



Defined Nutrition Team

- ▶ Typically control all aspects of specialized nutrition care
 - Nutritional assessment
 - Placement of feeding access
 - Writing of nutrition orders
 - Monitoring clinical course
 - Avoidance and recognition of complications

Defined Nutrition Team

- ▶ Usually composed of:
 - Physician(s)
 - Dietitian(s)
 - Nurse(s)
 - Pharmacist(s)

Goal of Team Approach

- ▶ Identify patients at nutritional risk
- ▶ Perform nutritional assessment to document status and response to therapy
- ▶ Provide safe and effective nutrition support

Physician's Role

- ▶ Evaluate all patients referred for Specialized nutritional care
- ▶ Place intravenous or enteral access
- ▶ Review and approve all nutritional support orders
- ▶ Oversee all activities of the Team

Dietitian's Role

- ▶ Perform initial and interval nutritional assessments
- ▶ Determine nutrient requirements
- ▶ Monitor enteral fed patients daily altering orders as necessary
- ▶ Assist in transition from TPN to Enteral to oral nutrient intake

Nurse's Role

- ▶ Conduct assessment of all patients
- ▶ Assist in patient-family relations
- ▶ Assist in venous catheter insertion
- ▶ Maintain catheter dressings

Pharmacist's Role

- ▶ See all patients on TPN daily, review laboratory values, and write formula orders
- ▶ Oversee compounding and monitor for solution incompatibility and breaks in sterile technique
- ▶ Monitor for drug-nutrient interactions

Administrator's Role

▶ Hospital Administrators

- Document cost/benefit of Team
- Represent Team with rest of administration to support Team's activities
- Work to enhance compensation for team's activities

Importance of Team Approach

- ▶ Delivery of nutrition support requires multidisciplinary expertise:
 - Physicians – patient selection, medical management, feeding access
 - Dietitians – nutritional evaluation, enteral and oral nutrition
 - Nurses – Dressing management, patient teaching
 - Pharmacists – Compounding, drug-nutrient pharmacology

Time commitments

- ▶ No need to make rounds as a team every day (patients are seen individually as needed)
- ▶ Schedules Team bedside rounds 2 days a week
- ▶ At other times, on a “as needed” basis
- ▶ Monthly administrative meetings – a must

Importance of Team Approach

- ▶ The incidence of catheter-related infections during TPN was recorded over a 5-year period during which time a TPN Consultation Service was established:
 - There was a decrease in catheter-related infections from 28.6% to 4.7%
 - Sanders and Sheldon, Am.J.Surg., 132:214, 1976

Importance of Team Approach

- ▶ 1980 – Compared complications of nutrition support in two hospitals:
 - One with a nutrition team (164 patients)
 - One without a nutrition team (211 patients).

Nehme, J.A.M.A., 243:1906, 1980

Importance of Team Approach

Complication	Without Team	With Team
Catheter Insertion Complications	33%	3.2%
Catheter Sepsis	26.2%	1.3%
Line Days	8.7	18.6
Unnecessary line removal for ? sepsis	30.4%	11.3%

Nehme, J.A.M.A., 243:1906, 1980

Importance of Team Approach

Complication	Without Team	With Team
Electrolyte Imbalance	28%	3.6%
pH Imbalance	14.7%	3.6%
Trace element Deficiency	3.8%	1.2%
Nehme, J.A.M.A., 243:1906, 1980		

Importance of Team Approach

- ▶ 1984 – Compared complications of nutrition support when delivery changed:
 - From a consultation service, to
 - A TPN Team controlled service

Dalton, JPEN, 8:146, 1984

Importance of Team Approach

Complication	Consult	TPN Team
Catheter Insertion	35%	11%
Unnecessary removal	36%	10%
Metabolic	47.7%	26.3%

Dalton, JPEN, 8:146, 1984

Importance of Team Approach

- ▶ 1984 – Compared complications of nutrition support:
 - Before hiring a TPN Nurse
 - After hiring a TPN Nurse

Jacobs, J.Am.Coll.Nutr., 3:311, 1984

Importance of Team Approach

Complication	Without Nurse	With Nurse
Catheter Insertion Complications	10%	0%
Catheter Sepsis	24%	0%
Metabolic	0.4%	0.1%

■ Jacobs, J.Am.Coll.Nutr., 3:311, 1984

Cost saving from NSTs

An "average hospital unit" will save 26000 to 80000 pounds per year from a reduction in catheter infections alone due to the availability of an NST

The saving for the national exchequer for England by having trained dieticians in all hospitals is close to 300 million pounds

Kings Fund Center, A positive approach to nutrition as treatment, London, 1992

NST and cost saving

Expanded use of NSTs can help cut hospital costs or increase revenues if they are targeted at patients at high risk for malnutrition and applied early in the hospital course

Tucker HN, Miguel SG. Cost containment through nutrition intervention. *Nutr Rev* 1996; 54:111.

Importance of team: Costs

Costs and causes of inappropriate nutrition support in a
Community teaching hospital

Without a team, nutrition support is rarely used effectively,
Leading to a significant unnecessary cost.

Brodsky MJ (St Joseph Hospital, Chicago)
JPEN 26(4):S31, 2002

Recent European experience with team

- ▶ Organization of teams in Germany, Austria and Swizerland (in 2004!)
- ▶ A total of 3071 hospitals
- ▶ 12% of physicians and 46% of dieticians had exclusive team responsibilities
- ▶ Conclusion: Complications ↓ 88%
Cost saving ↑ 98%

Shang E et al. Clin Nutr 2005; 24(6):1005

Asian experience

- ▶ Study from The Phillipines
- ▶ Initiated in 2000
- ▶ A computerized program to assist dieticians, physicians and nutrition support teams
- ▶ Overall increase in screening, record keeping efficiency and interventions during 2000-2003

Llido LO. Clin Nutr 2006; 25(1)

Advantages of Team Approach

- ▶ Better Patient Selection
 - Under- vs Over-utilization
- ▶ More Use of Enteral vs Parenteral Nutrition
- ▶ Cost-Savings
 - Enteral vs Parenteral
 - Less wastage
- ▶ Improved Monitoring

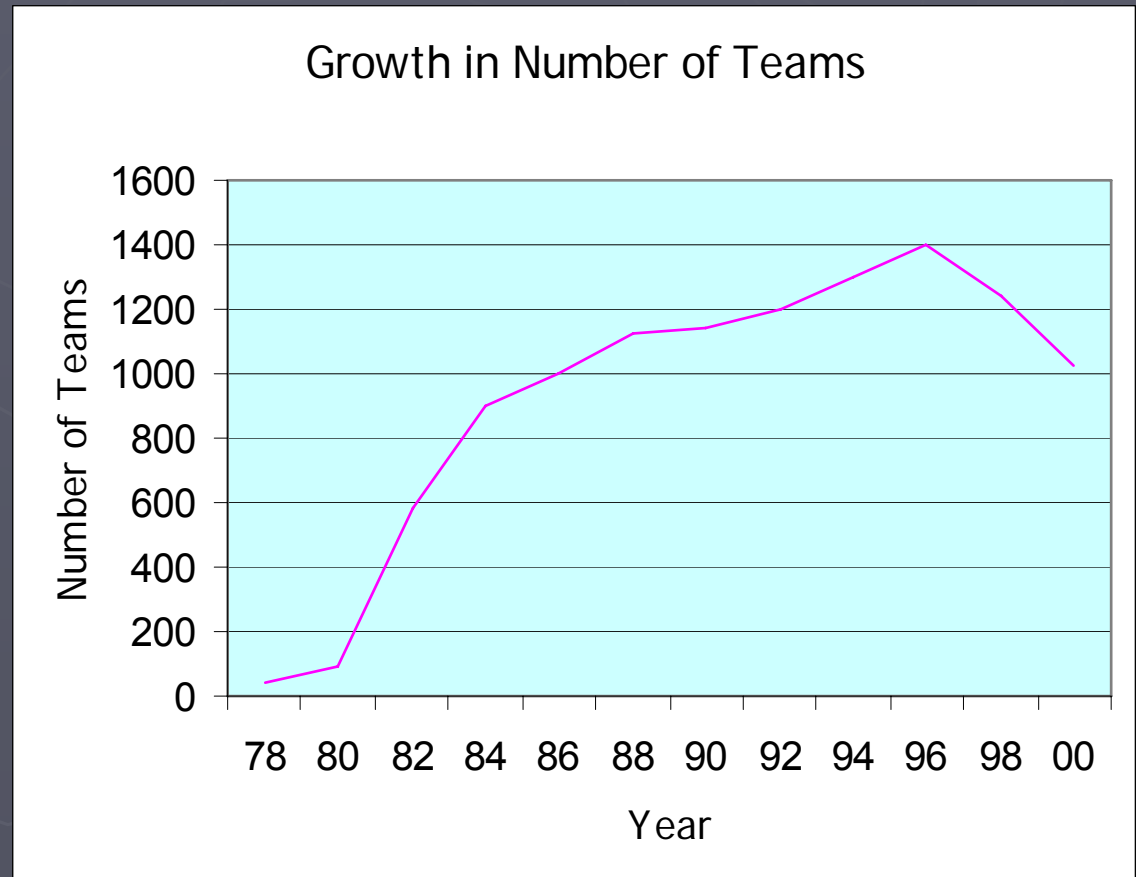
Advantages of Team Approach

- ▶ Fewer Mechanical Complications
- ▶ Fewer Septic Complications
- ▶ Fewer Metabolic Complications

Nutrition Support Teams in USA

Of just over 7000 hospitals in USA, 1500 could have NSS Team: IV Service; ≥ 3 RD's; and ≥ 4 pharmacists

Hamaoui, JPEN, 11:412, 1987



Cost effectiveness of nutrition support teams: Are they necessary?

- ▶ Almost certainly : but difficult to present hard data regarding specifically the cost effectiveness

Depends on hospital, training of physicians, their awareness of nutritional support, etc

Payne-James J. Nutrition 13 (10): 928-929, 1997

Future Trends in USA

- ▶ The number of TPN Teams is decreasing
 - Budgetary Concerns
 - Consolidation of Hospitals
- ▶ The need for Team expertise is increasing
 - Severity of Illness increasing
 - Variety of specialty products

Lessons to learn

- ▶ Learn from mistakes
- ▶ Lets not re-invent the wheel
- ▶ Asian countries should develop the concept of nutrition support teams and never allow this to decline

Organizational aspects of nutrition support teams

Minimal requirement for a team:

- Full time clinical dietician

 - Minimal kitchen responsibilities

 - Preferably with advanced training or experience

- Part time physician

 - Any specialty but with a keen interest in nutritional support



Organizational aspects of nutrition support teams

Other members:

Nurse, pharmacist, physiotherapist

Beneficial to include:

Physician and dietician trainees, even if role is temporary

Nutrition Training in Asia

- ▶ Programs to emphasize local practices, culture, and availability and affordability
- ▶ Leading to Diploma or Masters degree
- ▶ 1 – 2 year programs
- ▶ Sound knowledge, confidence levels
- ▶ Advanced training in other centers (in Asia, and in other countries) only after local training and education

Increasing the recognition of Nutrition Support Teams within hospital

- ▶ Regular departmental programs - Journal clubs, case discussions, etc to which all hospital staff are welcome
- ▶ Publications & presentations in national and international meetings

Increasing the recognition of NSTs within hospital : the role of the dietician

- ▶ Sound and current data base
- ▶ Confidence in clinical judgement
- ▶ Able to express and communicate well
- ▶ Back up with readily accessible literature
- ▶ Must have a strong physician backing

Nutrition support teams: Cross - training

- ▶ All members, regardless of position or seniority, accept responsibility
- ▶ Detection of a problem may be done by one team member, and the solution carried out by another as best as possible in a timely manner
- ▶ Accountability



“Your time on earth
has been extended.
Go back and thank
your nutrition
practitioner”