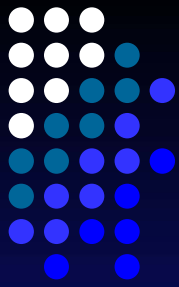


Bridging the Gap Between Actual and Best Practice:



Quality Improvement in the ICU



Naomi Jones MSc RD

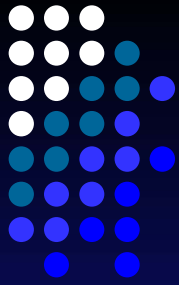
Critical Care Nutrition,

Queen's University, Kingston ON Canada

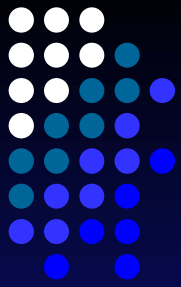


Outline

- Defining Best Practice
 - Canadian Guidelines
- Actual Nutrition Practices
 - International Survey 2007
- Bridging the Gap
 - Identifying the barriers and enablers to guideline adherence
 - Strategies to implement change

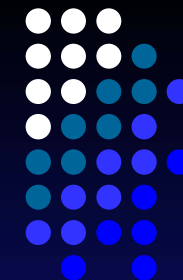


Bridging the Gap: Quality Improvement in the ICU

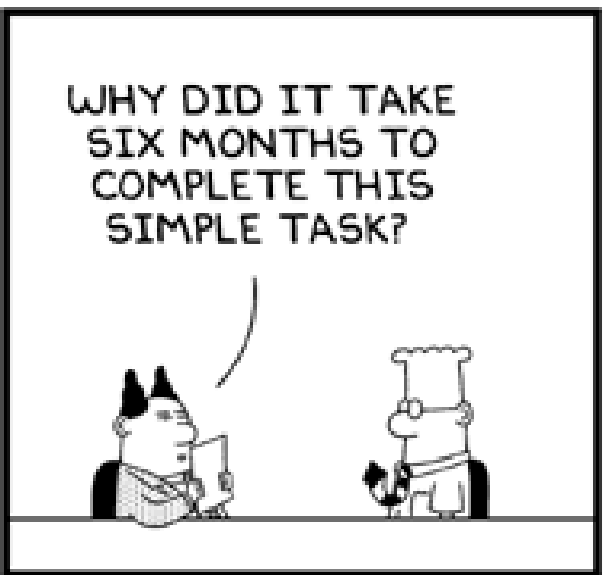


- Variation in nutrition practices exist
- Changing nutrition practice is complex
- Need to identify barriers and enablers to guideline adherence





Guideline adherence is complex



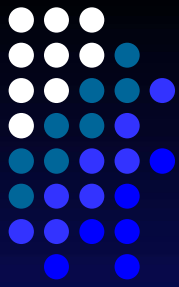
www.dilbert.com scottadams@aol.com



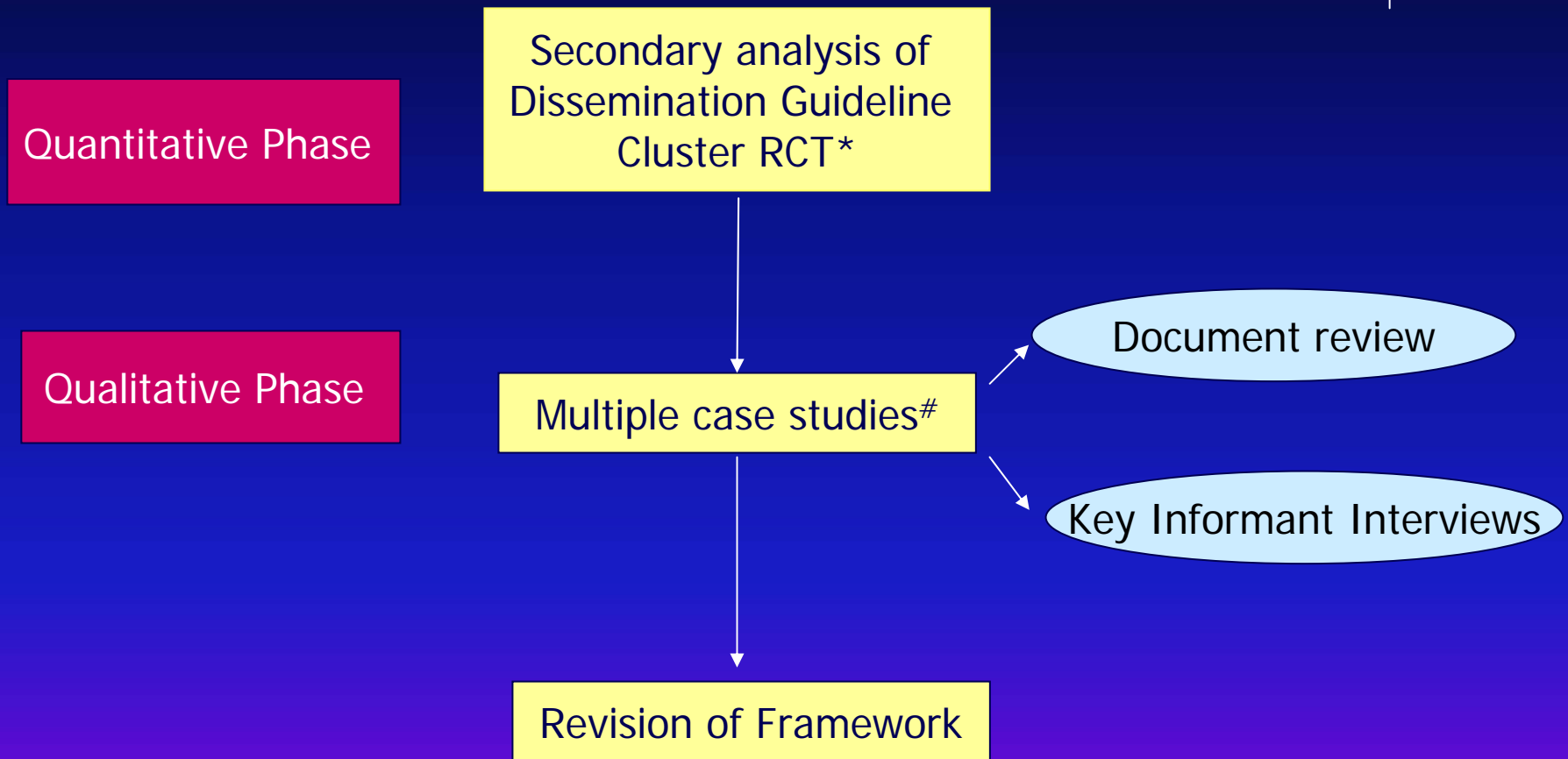
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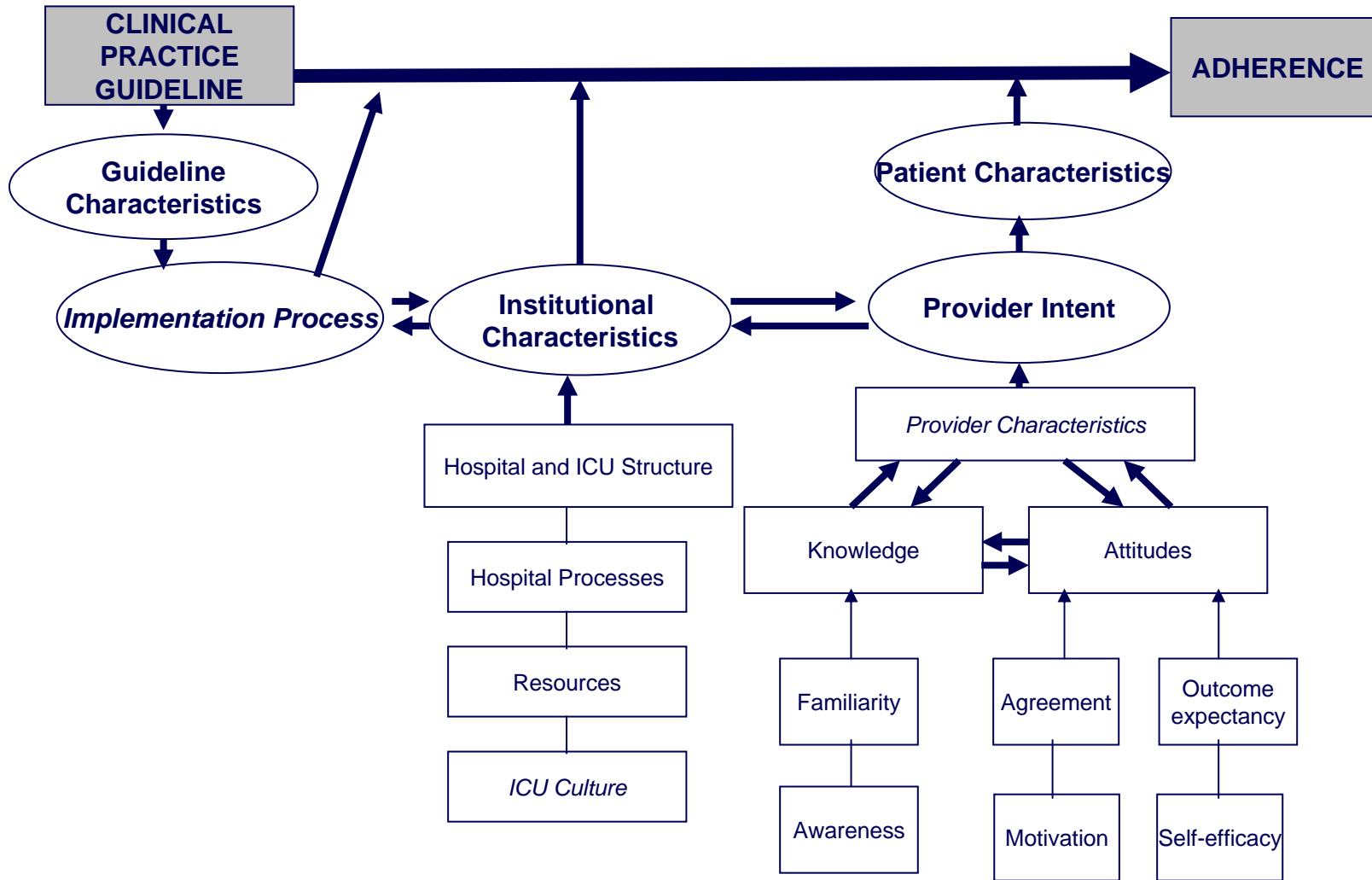
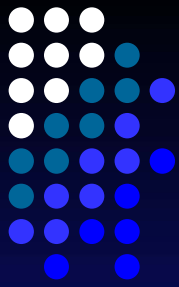
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Understanding Guideline Adherence: Mixed Methods Approach



Framework for Adherence to CPGs in the ICU



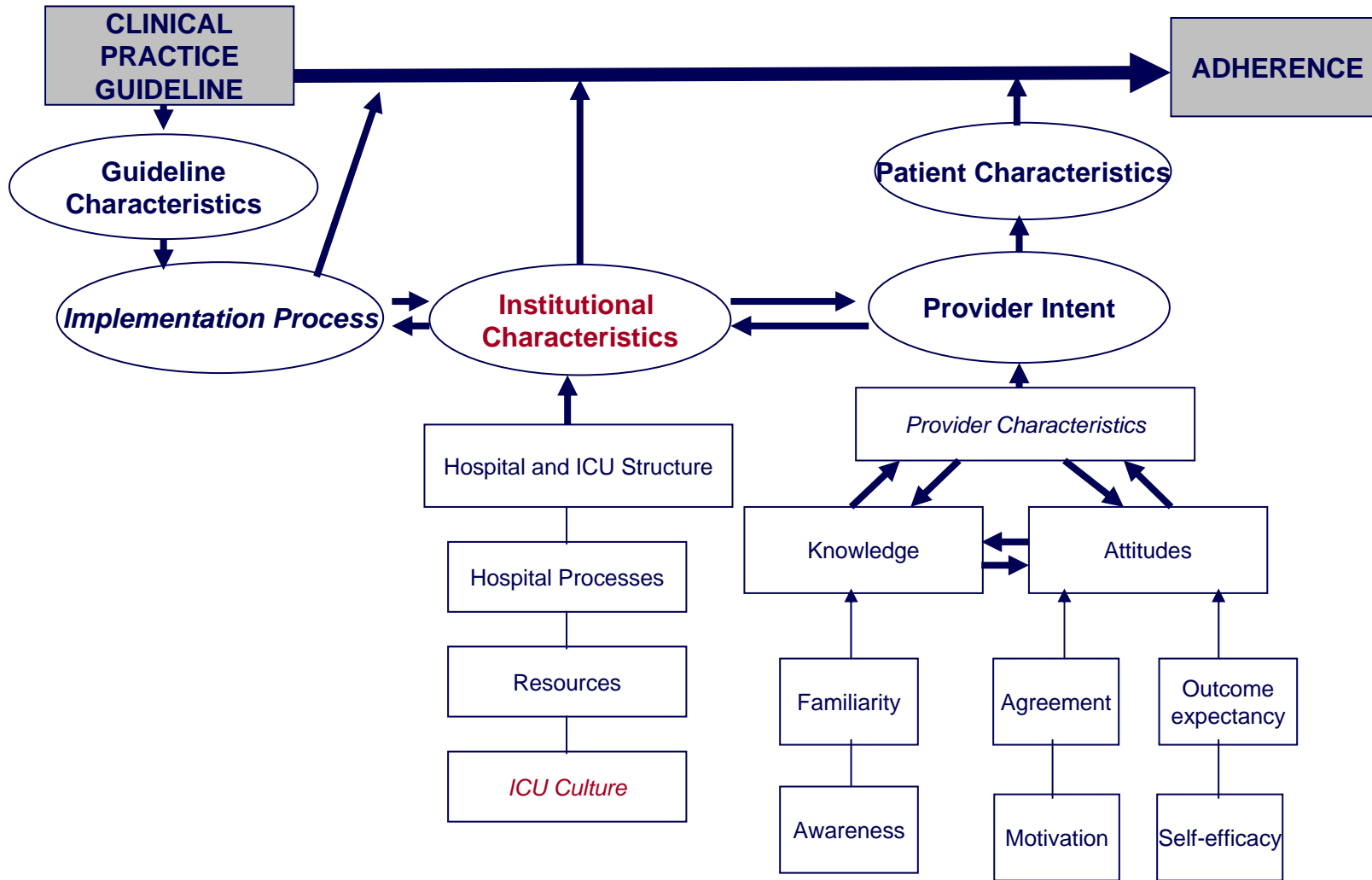
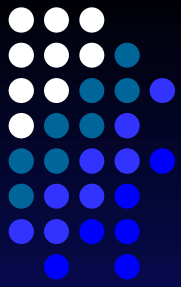
Theme 1 and 2

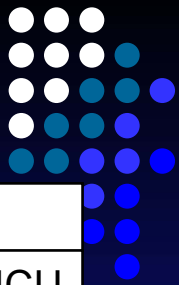


Theme /Factor	Barrier	Enabler
CPG Characteristics	<ul style="list-style-type: none"> • Outdated • Vague or complex statements 	<ul style="list-style-type: none"> • Evidence – based • Respected developer • User friendly format • Action-orientated
Implementation Process	<ul style="list-style-type: none"> • Lack of availability of all ICU Team to attend meetings, educational sessions etc. • No dedicated individual willing to ‘champion’ the guidelines • Time commitment to develop and implement educational strategies • Restricted access to computers • Displacement of posters and pamphlets over time 	<ul style="list-style-type: none"> • Multiple approaches • Support of Clinical educator + Medical Director • Tailored to specific needs of individual • Reminders (e.g. checklist) • Protocols • Academic detailing (i.e. one-on-one education) • Educational sessions • Audit and feedback • E-mail / web-based tools • Opinion leader (e.g. the Dietitian)



Framework for Adherence to CPGs in the ICU

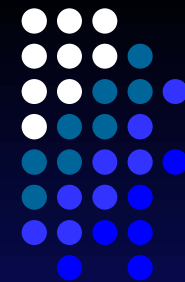




Theme 3: Institutional Characteristics

Factor	Barrier	Enabler
Hospital and ICU Structure	<ul style="list-style-type: none"> • Community hospital • Open structure • Rural location • Small hospital and / or ICU • Lack of geographical consolidation 	<ul style="list-style-type: none"> • Large hospital and / or ICU • Closed structure • Critical care residency program • Dedicated, stable workforce
Hospital Processes	<ul style="list-style-type: none"> • Long, slow administrative process • Disconnect between priorities of management and clinical personnel • Organizational constraints on practice 	<ul style="list-style-type: none"> • Support for evidence-based practice • Efficient, flexible administrative process
Resources for Implementation	<ul style="list-style-type: none"> • Shortage of staff • Limited budget • Lack of appropriate equipment / materials • Lack of access to specialist services 	<ul style="list-style-type: none"> • Adequate resources available (i.e. level of staffing, equipment, budget for implementation activities) • New, contemporary facilities

Theme 3: Institutional Characteristics

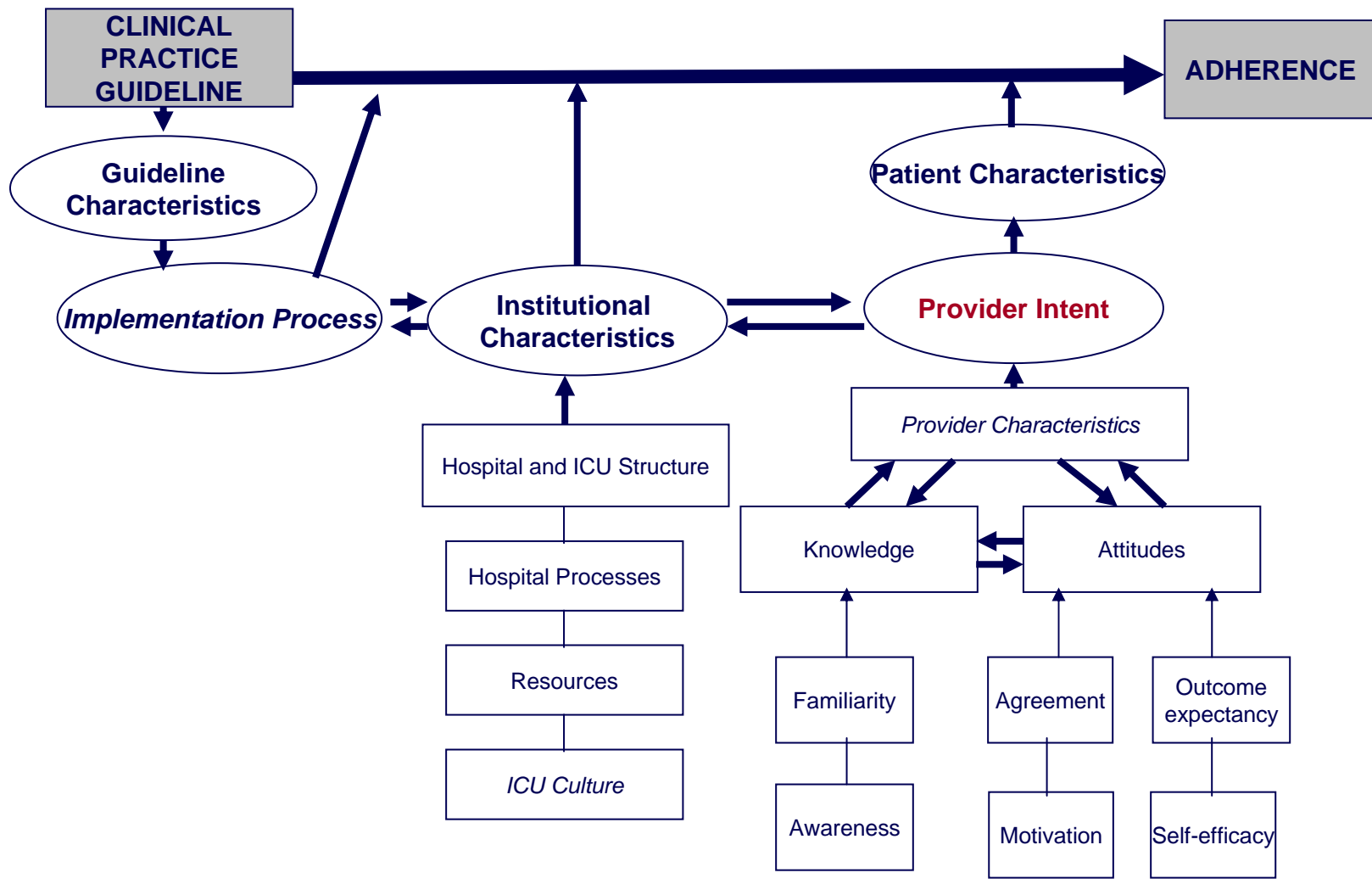


Factor	Barrier	Enabler
Prevailing Culture of ICU	<ul style="list-style-type: none">•No cohesive, multi-disciplinary team structure•No multi-disciplinary daily rounds•Unresolved conflict or disagreements between ICU team members•Reliance on written communication (e.g. Cardex, paper notes)•Leadership not physically present on unit•Poor communication	<ul style="list-style-type: none">•Established multi-disciplinary team•Leadership Support•Collaborative decision-making•Patient centred approach•Formal / informal mentorship•Group learning•Respect for expertise of each ICU Team member•Innovation: embracing change•Informal, open communication•Positive work environment

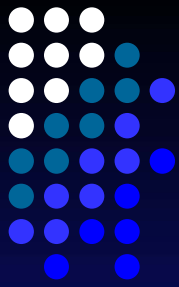




Framework for Adherence to CPGs in the ICU



Theme 4: Provider Intent



Factor	Barrier	Enabler
Knowledge		
Familiarity	<ul style="list-style-type: none">• CPGs infrequently used due to rare clinical condition or narrow case-mix	<ul style="list-style-type: none">• Part of daily routine• Visibility / access to CPGs on ICU
Awareness	<ul style="list-style-type: none">• Conflicting and numerous CPGs on same topic• Information overload• Time required to remain updated• Poor dissemination	<ul style="list-style-type: none">• Effective implementation process



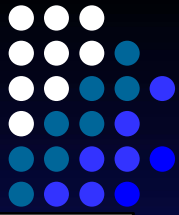
Theme 4: Provider Intent



Factor	Barrier	Enabler
Attitudes		
Outcome Expectancy	<ul style="list-style-type: none">•Experience of adverse event from following guideline	<ul style="list-style-type: none">•Belief that best for patient•Positive experience from following guideline
Self-efficacy	<ul style="list-style-type: none">•Labour-intensive•Complex procedure•Limited circle of influence	<ul style="list-style-type: none">•Recommendation simple and quick to perform•Procedure frequently performed successfully•Possession of skills and training to perform procedure•Procedure within usual scope of practice
Motivation	<ul style="list-style-type: none">•Inertia of previous practice, especially among experienced, older staff•Physician resistance•High cost / work burden	<ul style="list-style-type: none">•Shared team goal to optimize patient care•Enforcement or incentive to perform task
Agreement	<ul style="list-style-type: none">•Paucity of evidence supporting recommendation•Lack of generalizability to critical care and/or specific patient groups	<ul style="list-style-type: none">•Buy-in of attending physicians•Buy-in of all members of the ICU Team•Understanding rationale behind recommendation



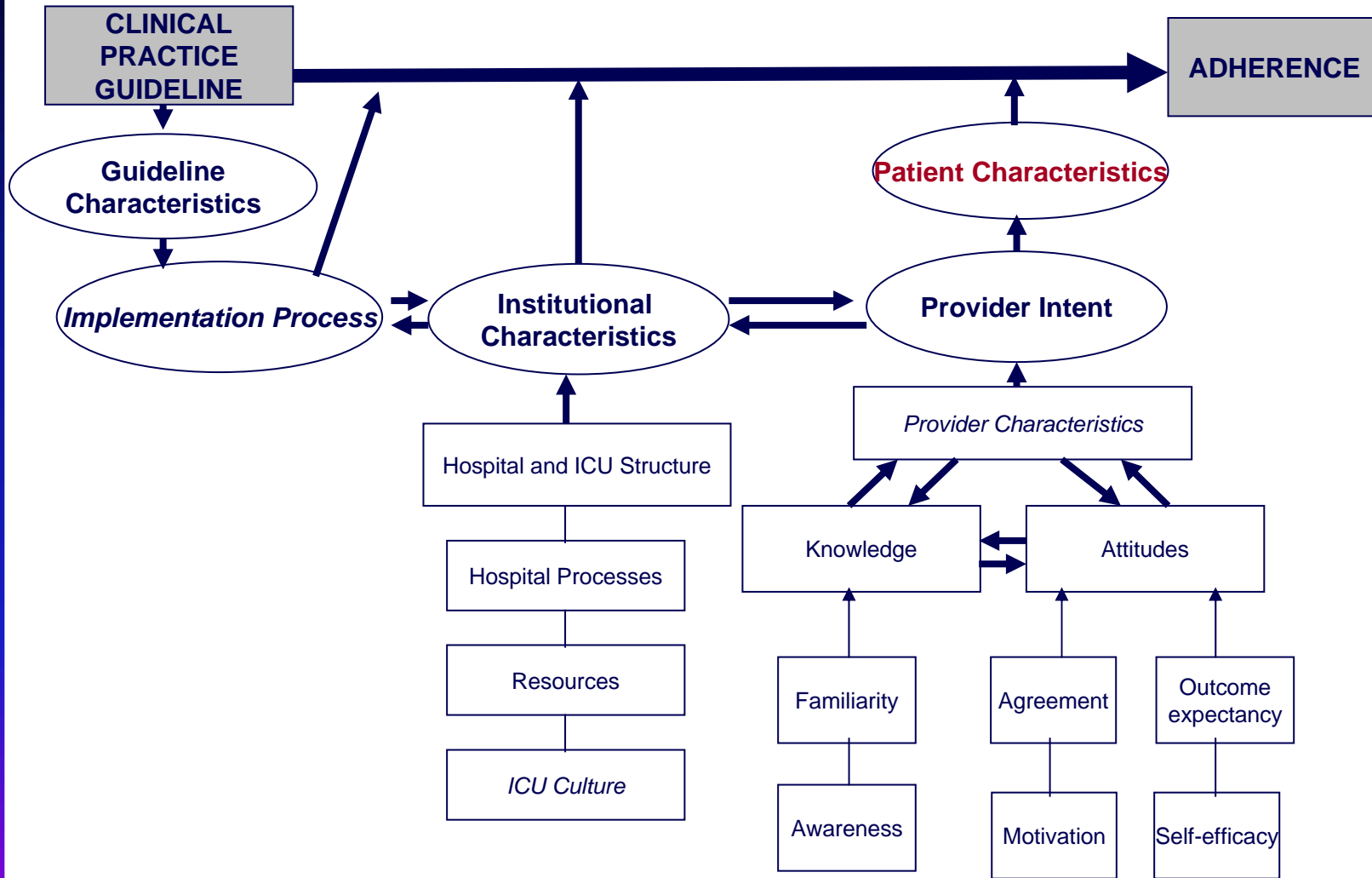
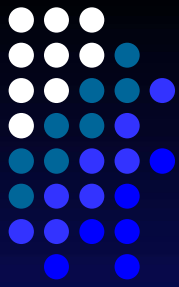
Theme 4: Provider Intent



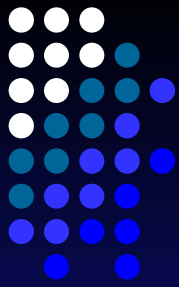
Factor	Barrier	Enabler
Provider Characteristics		
Professional Roles	<ul style="list-style-type: none"> •Circle of influence of nursing staff and allied healthcare professionals (e.g. dietitian) dependent on support of physician and leadership team 	<ul style="list-style-type: none"> •Attending physician and/or surgeon responsible for patient care. •Nurse Manager and ICU Medical Director accountable for management of ICU
Critical Care Expertise	<ul style="list-style-type: none"> •Junior, novice staff •Locum or casual staff 	<ul style="list-style-type: none"> •Older, experienced staff •Full-time in ICU
Educational Background	<ul style="list-style-type: none"> •Clinical training > 10 years •Reliance on expert opinion 	<ul style="list-style-type: none"> •Recent graduate •Training in Evidence Based Medicine and critical appraisal •Training in large, academic institution
Personality	<ul style="list-style-type: none"> •Type B personality •Uncooperative •Laggard / skeptic 	<ul style="list-style-type: none"> •Type A personality •Team-player •Innovator / early adopter



Framework for Adherence to CPGs in the ICU



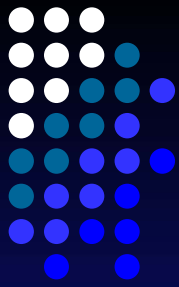
Theme 5: Patient Characteristics



Factor	Barrier	Enabler
Patient Characteristics	<ul style="list-style-type: none">• Poor prognosis• Other priorities of care• Unstable clinical condition• Surgical patients• Reconciliation with family preferences	<ul style="list-style-type: none">• Medically stable• Functioning gastrointestinal tract

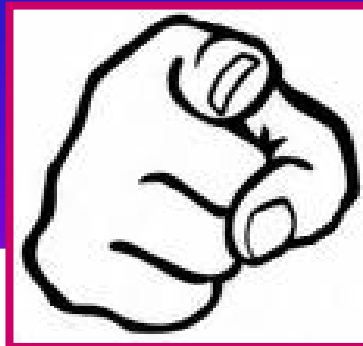


Next Steps....

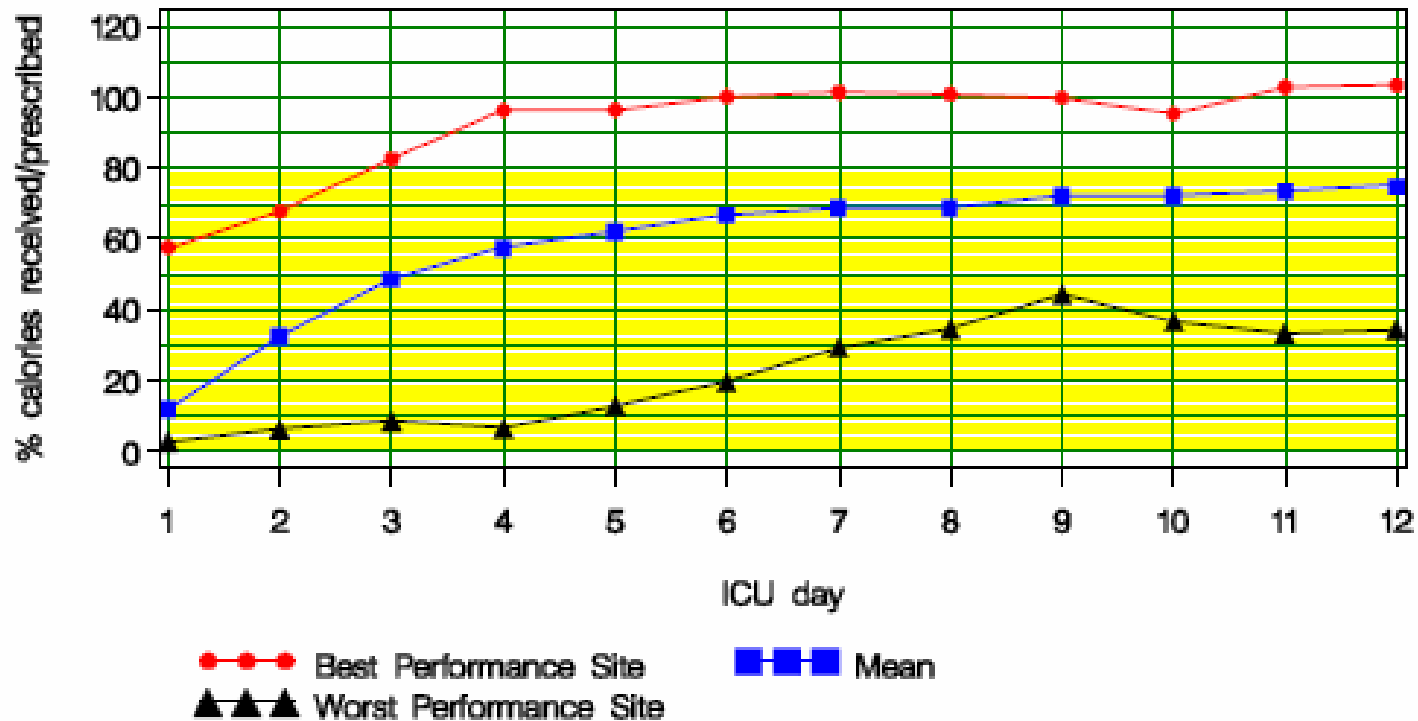
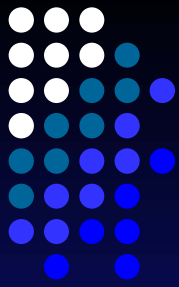


- Development of screening questionnaire based on Framework
- Tailored approach to guideline implementation
 - Future Trial

What can you do?



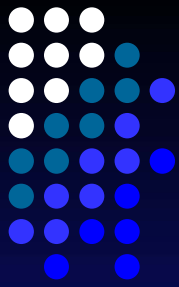
Is Best Practice an Achievable Goal?



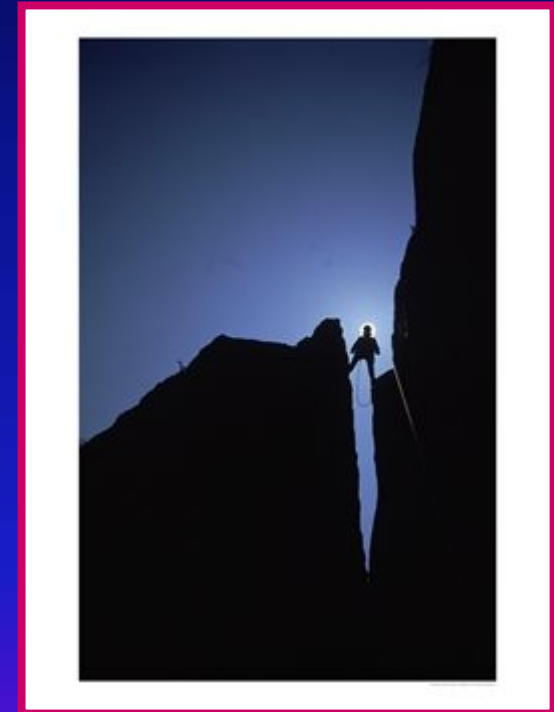
Yes!



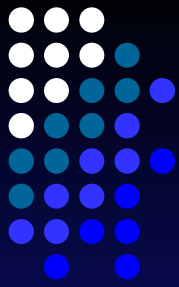
Bridging the Gap: A.C.T



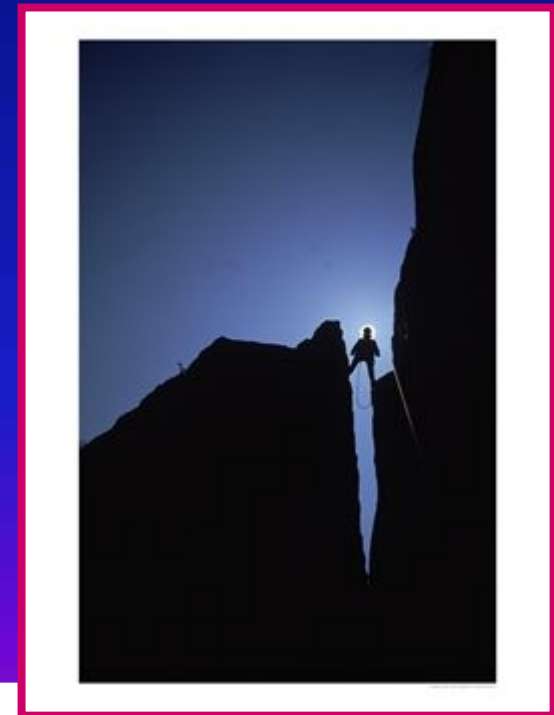
- **A**udit and Feedback
 - International Nutrition Survey 2008
- **C**ommunicate
 - Informal one-on-one discussions
 - Academic detailing, ward rounds
- **T**riggers
 - Daily check-list
 - posters



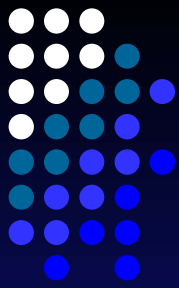
Bridging the Gap: A.C.T



- **A**udit and Feedback
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- **T**riggers
 - Daily check-list
 - posters



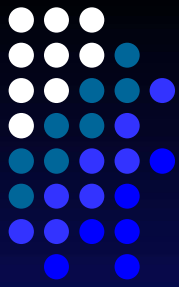
International Nutrition Survey 2008



- Plan to participate: 14 May 2008
- Review your Site Report with your ICU colleagues
- Present results at various forums
- Identify your strengths and weaknesses
- Identify barriers to change
- Agree actionable items
- Implement change
- Re-audit



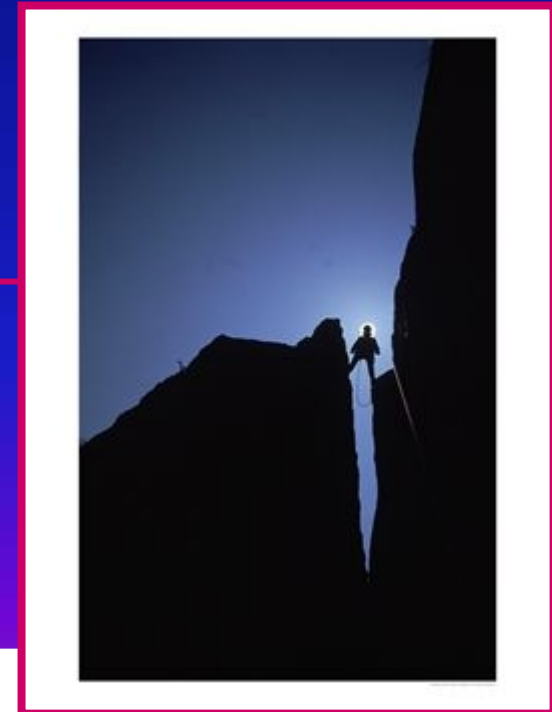
Bridging the Gap: A.C.T



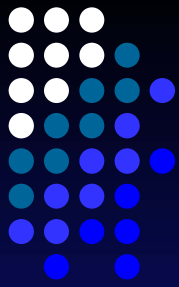
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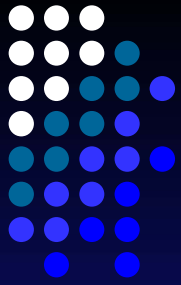
Bridging the Gap: A.C.T



- **A**udit and Feedback
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 - Daily check-list
 - posters



Triggers



KINGSTON GENERAL HOSPITAL
PHYSICIAN'S ORDERS

WEIGHT (KG) _____ URUG SENSITIVITIES _____

Please use bold/serif pen and press hard.

ORDER AND SIGNATURE	TRANSCRIPTION & RN NOTES
PARENTERAL NUTRITION ORDER FORM (ADULT ICU) Page 1 of 2	
<p>NOTE: Orders must be received in pharmacy by 1300h, otherwise solutions will be supplied for the following day?</p> <p><input type="checkbox"/> New Order (complete Section A and Section B) <input type="checkbox"/> Continue Enteral Nutrition (EN) _____ (solution) at 10 mL/h <input type="checkbox"/> Order Modification (complete only section B) <input type="checkbox"/> Initiate Adult ICU Glycemic Control Protocol (Physician to complete an Adult ICU Glycemic Control Protocol order form)</p> <p><input type="checkbox"/> Section A: New Parenteral Nutrition (PN) Orders</p> <ol style="list-style-type: none"> Consult Clinical Dietician (required for all initial orders) CBC, platelets, INR, PTT, blood glucose, electrolytes, calcium, phosphate, magnesium, urea, creatinine, triglycerides, serum albumin, AST, alkaline phosphatase, total bilirubin Twice weekly weights (every Monday and Thursday) Monitor intake/output q12 h Initiate amino acid and dextrose infusion IV at _____ mL/h for 6 hours, then increase by 25 mL/h every 6 hours if blood glucose less than 9 mmol/L until target PN rate reached (as outlined in section B) Daily electrolytes and blood glucose until patient has received PN for 5 days at target PN rate. Twice weekly (every Monday and Thursday) calcium, magnesium, phosphate, urea, creatinine, prealbumin, electrolytes and blood glucose Weekly (every Monday) CBC, AST, alkaline phosphatase, total bilirubin, triglycerides, serum albumin, 24 hour urinary urea and creatinine clearance <p><input type="checkbox"/> Section B: New or Modified Parenteral Nutrition (PN) orders (refer to the Calculation of Adult Daily Energy Requirements on reverse)</p> <ol style="list-style-type: none"> Base solution (select one) <input type="checkbox"/> Amino acids 5% and dextrose 25% (central) at target PN rate of _____ mL/h OR <input type="checkbox"/> Amino acids 5% and dextrose 15.6% (central) at target PN rate of _____ mL/h OR <input type="checkbox"/> Amino acids 4.25% and dextrose 10% (central/peripheral) at target PN rate of _____ mL/h OR <input type="checkbox"/> Other (consult pharmacy) _____ at target PN rate of _____ mL/h 	
Physician Signature _____	
Printed Name _____	
Date & Time _____	

KGH Form 160 (Rev. 04/09) Page 1 of 2 Original - Chart Copy - Pharmacy Physician Orders

Critical Care Nutrition

Nutrition Therapy Makes a Difference to the Outcomes of Our Patients

We recently audited our nutrition practice:

Our strengths are:
 ✓ Limited and appropriate use of parenteral nutrition
 ✓ Use of motility agents

Our Weaknesses are:
 ✗ Our patients are not receiving adequate amounts of enteral nutrition
 ✗ We are too slow to start enteral nutrition
 ✗ Low utilization of small bowel feeding

To improve our nutrition practice we propose to:

- ★ Change the threshold of out gastric residual volume to 250 from 200cc
- ★ Change our preprinted admission orders to allow an option to start early enteral nutrition at 10cc/hr for 24 hrs (reassess the next day)
- ★ Ask nurses to include daily nutrition adequacy (amount enteral nutrition received -amount enteral nutrition prescribed) in their daily morning report

If nutritional intake is inadequate, don't forget to consult Dr Drover, Dr Jain, Dr Samis or Dr D'Arigny for endoscopic placement of small bowel tubes

By improving our nutrition practice, we can improve the outcomes of our critically ill patients

- Checklists
- Reminders
- Pre-printed orders
- Protocols

Critical Care Nutrition

Patient ID # _____

Daily Enteral Nutrition Checklist

Admission Date: _____

ICU Day	1	2	3	4	5	6	7
Goal Calories (Kcals)							
Calories Received (Kcals)							
Meeting >80% of Goal calories (Y/N)							
If No							
Motility agents prescribed? (Y/N)							
Small bowel feeding tube placed? (Y/N)							
RD review requested? (Y/N)							
Other comments:							





Critical Care Nutrition

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Nutrition CPGs

International Survey 2008

REDOXS® Study

Tools and Training Kit

Recent Publications

Research

Presentations

Upcoming Conferences

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Glutamine $C_5H_{10}N_2O_3$



What we offer?

We are dedicated to the improvement in nutrition therapies in intensive care units across the world.

We bring to you...

Important Announcement:

Get ready for the next International Survey starting **Wednesday, 14 May 2008**.
For more information, please click [here](#).

- The latest evidence based recommendations for nutrition therapies in the ICU ([here](#))
- Tools to assist in implementing the evidence from the Clinical Practice Guidelines ([here](#))

And much more...

NEWSROOM

International Survey 2008

- [Read more](#)

REDOXS® Study now CIHR funded

- [Read more](#)

Attitudes Survey

- [Read more](#)

Join the CCN Discussion Group

- [Read more](#)

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Critical Care Nutrition



Thank you

Questions

