Capacity Development for Prevention and Management
Moderate Acute Malnutrition

International Atomic Energy Agency
Vienna, May, 2014

Alan A Jackson and Steve Wootton

NIHR Southampton Biomedical Research Centre
2005: Nobel Peace Prize Awarded to IAEA and Director General

Cancer and Nutrition Fund

“The Fund will be used to maximize the Agency’s ability to build capacity and transfer the needed know-how to developing countries.”

IAEA Board of Governors
International Atomic Energy Agency
Nobel Peace Fund Schools for Nutrition

1. Raise awareness of the IAEA’s activities in human nutrition;

2. Disseminate information about the usefulness of stable Isotope techniques in the development and monitoring of nutrition programs to combat malnutrition, in particular in infants and children.

IAEA Nobel Peace Prize Fund School for Nutrition participants include policymakers and professionals with relevant background in nutrition.

Events: Africa, Asia, Latin America, Pacific
John Waterlow

TMRU, Jamaica

Application of isotopic methodologies, 1960
Facility Based Care: Severe Acute Malnutrition with Complications
WHO Treatment Manual

Severe Malnutrition

1981
Our experience
Research integral
to improved service

Best Research for Best Health
A new national health research strategy

Professor Dame Sally Davies
Chief Medical Officer (DH)
Chief Scientific Advisor (DH)
Quality in Research

Safeguarding

Improvement

Accountability

Responsibility

ICH-GCP Guidelines for Clinical Trials  - > 120 countries
NIHR Health Research System

- most integrated clinical research system in the world
- driving research from bench to bedside for the benefit of patients.

‘Share seamlessly & steal shamelessly’
Capacity building

International Malnutrition Task Force

International Atomic Energy Agency

IUNS: International Congress Nutrition:

Scaling Up Nutrition

A way forwards: Community of practice.
What do we mean by capacity building?

Understanding the obstacles that inhibit achieving developmental goals;

Enhancing ability to achieve measurable and sustainable results;

Strengthen skills, competencies, & abilities so that they can overcome causes of exclusion and suffering;

- individual
- communities / society
- institutional

UNDP
Capacity building


Systemic capacity (Potter and Brough 2004)

Core nutrition, professionals and organization

Wider health professionals: access and use nutrition

Research

Enable projects:
Build system capable of delivering improved evidence informed care

Leadership programmes
Systemic capacity
Four-tier hierarchy of capacity building needs

Christopher Potter and Richard Brough

HEALTH POLICY AND PLANNING; 19(5): 336–345
'Easier' and more technical

TOOLS

SKILLS

STAFF AND FACILITIES

'Structures, systems and roles'

'Harder' and more socio-cultural

Time to implement change
Being clear of the problem & the purpose

Nutrition is a demand-led process.

We need to know:
- what determines the demand?
- how might the demand be satisfied?
- the consequences of failing to satisfy the demand or deal with excess?
- what interventions can be introduced to ensure adequacy and avoid toxicity?

Our research should be needs-led

Support Service Delivery
Who are the Stakeholders?

People

How do we go to Scale?

Trust the people and work with the people (Civil Society Associations)
2005: International Congress Nutrition
Durban, South Africa
International Malnutrition Task Force
International Task Force on Malnutrition - 2005

International Union of Nutritional Sciences (IUNS)
International Paediatric Association
Board
World Health Organization
UNICEF
IAEA

www.imtf.org

Royal College of Paediatrics and Child Health, London
Nutritional Lens

Complicated SAM

Effective care counterintuitive

Structure no longer adequately marks function

Reductive adaptation:

Specific nutrient deficiencies

Silent infection

Ten point structured care order in which things done
Resource Poor Areas South Africa
Structured Care
Mortality pre- and post-training

Systems Failure
<table>
<thead>
<tr>
<th></th>
<th>Performing well</th>
<th>Performing poorly</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-service training</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Induction of new staff</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Audit and discussion of critical incidents</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Supervision of junior staff and mothers</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Leadership and teamwork</td>
<td>✓</td>
<td>✗</td>
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</table>
Needs Scale-up and Improved Programme Coverage

Screening: active case finding

Ready to use therapeutic food

Emergency vs Development Context
Integrated Management of Malnutrition
Nutritional status (anthropometry)

- Normal
- Food security
- Supplementary feeding
- Therapeutic food
- Facility based care

- Mild to moderate malnutrition, stunting

- Severe Acute Malnutrition

- Severe Acute Malnutrition
  - oedema
  - appetite loss
Food Security

Figure 1. Schematic representation of the key components of a sustainable diet.
Effectiveness:

- doing simple things well,
- doing the right thing for the particular circumstance
- take complexity and make relevant intervention clear

Organisation and structure:

- know who does what best
- complementarity of competence, skills and abilities

Operational research:

- translate what we know to better effect.
Country specific

Targets

Deliverables

Education, training

Integrated national programmes
Working with Professional Bodies

2009: ICN Bangkok Thailand:

India and RUTF: Legitimate debate, allow differences, going to scale:

2010: 26th International Paediatric Association: Johannesburg resolution

2010: 4th African Nutritional Epidemiology Conference: Nairobi declaration

Accept professional responsibility for leadership: training, best (better) Practice – community of practitioners.
Paediatricians and Nutritionists

Take responsibility for leadership in addressing the problem of severe malnutrition.

Assure that all have the core elements of training to meet standard benchmarks and competencies for certification for professional practice, including training others in the health workforce in the identification, treatment of severe malnutrition.

Academic institutions: examine curricula, training activities, CPD and evaluation process to ensure identification and treatment of severe malnutrition as a core competency.
Systemic Capacity: Sub-Saharan Africa

Knowledge: Skills: Competency

Training workshop (ANEC, Abuja 2011)
Standardised knowledge skills, competency based curricula.

In depth study: current training available at Higher Education Institutes across sub-Saharan Africa:
- types, levels
- staffing capacity
- graduate destinations

Too few: <45% adequately staffed
Lack of consistency: curricula, students, content
Wide difference content, emphasis, focus

Reflective practice, professional development, competency based

Amuna, Ellahi, Annan, Jackson, Unpublished
Global Action Plan for Scaling Up Nutrition

Scaling up of evidence-based, high priority nutrition interventions

Focusing primarily on the window of opportunity from conception to 24 months

Multisectoral: underlying socio-economic, intersectoral causes

Integrate: health systems, agriculture and food security and social safety nets
IMTF and IAEA

Lead up to International Congress of Nutrition, Grenada 2013

Scaling Up Nutrition

Empowered people

Draw on experience

Share experience

Create a space for people to carry forwards their agenda within defined framework

Regional meetings: Africa (Ghana), Asia (Thailand)

Food and Nutrition Bulletin, June 2013
We are obliged, all of us, to follow the ancient imperatives,

“To heal sometimes
To relieve often
To comfort always.”
### Differences between Kwashiorkor and Pellagra

<table>
<thead>
<tr>
<th>KWASHIORKOR</th>
<th>PELLAGRA</th>
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</thead>
<tbody>
<tr>
<td>Affected skin black, rugose, and soft.</td>
<td>Affected skin rough, dry, and branny.</td>
</tr>
<tr>
<td>Extensor surfaces and points of irritation and pressure affected.</td>
<td>Face, necklance area, and dorsum of hands and feet affected.</td>
</tr>
<tr>
<td>Skin not photosensitive.</td>
<td>Skin photosensitive.</td>
</tr>
<tr>
<td>Occurs in children under five years.</td>
<td>Rare in children.</td>
</tr>
<tr>
<td>Usual under two years.</td>
<td>Almost unknown under two years.</td>
</tr>
<tr>
<td>Reflexes unchanged.</td>
<td>Peripheral neuritis common.</td>
</tr>
<tr>
<td>Dementia not observed.</td>
<td>Dementia common.</td>
</tr>
<tr>
<td>Patients may be largely on a breast milk diet.</td>
<td>Very rare with milk diet.</td>
</tr>
<tr>
<td>Arkasa (preparation of maize) in diet contains yeasts.</td>
<td>Yeasts said to be curative.</td>
</tr>
<tr>
<td>Fatty infiltration of liver severe and constant.</td>
<td>Fatty infiltration of liver may be present, but is generally mild.</td>
</tr>
<tr>
<td>Common in the Gold Coast.</td>
<td>Never yet described in the Gold Coast.</td>
</tr>
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Note: "The Editor of the Lancet had seen the article in "The Archives of Disease in Childhood" (1933) entitled "A
Fatty Liver Disease in Infants in the British West Indies

BY

J. C. WATERLOW

Figure 1. Diagram of the diaphragm and its contents.
Professor John Waterlow, first director of the TMRU
Capacity Building - so what is required?

• Systemic capacity – more than just numbers

• Problem solvers

• Focus on quality & professional standards

• Demonstrable competency

• Education & training – fit for purpose

• Collaboration & networking

• Leadership
Communities of Practice:

Potentially better practice (Oxford-Vermont Model)
Context specific experience

1. Facility based clinical care: severe complicated: Paediatric lead (within IMCI)

2. Locally produced Therapeutic and Supplementary foods: Food Technology Lead

3. Uncomplicated SAM, MAM: Public Health Nutrition lead

4. Food Security: Agriculture, marketing lead

5. Body composition, growth, development Nutritional scientist lead