CRITICAL CARE WITHOUT WALLS IN INDONESIA

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Demand for critical care services is increasing worldwide and there are large variation in ICU bed provision between countries.

The problem is with limited ICU bed lead of rejection of ICU admission.

Bed availability also, depend on the increasing number of ICU discharges that are delayed due to the a shortage of general ward beds.
Intensive Care Medicine is one of the main elements in modern healthcare systems and High cost.

Its difficult decisions for transfer patients with non clinical reason, How to transfer the unstable patients to another centre. The transfer itself can be associated with adverse or worse outcome.
• In Indonesia
  – it’s not easy and expensive to set up more bed space of ICU with the equipment to support critically ill patients
  – lack of trained nursing staff / trained critical care medical specialists
LEARN FROM WORLDWIDE
HOSPITAL OUTCOMES

• Adverse outcomes due to delayed resuscitation one of the most important aims to changing role of hospitals.

• The concept, moving outside of the walls of the intensive care unit suggests an option to improved hospital outcomes.
MORTALITY IN ICU

Mortality rate higher in ICU for
– patient delayed recognition and management
– delayed resuscitation
– heart attack (from outside of hospital / revered from general wards)

more of that its preventable cases.
UK STUDY
(Charing Cross Hospital)

- 18.8% from the ward,
- 7.4% from ED,
- 73.8% from theatre suite.
• Dr Vladimir Kvetan—director critical care medicine over past decade had innovation,

• Teams of critical care specialists are dispatched to the bedsides of potentially critical patients before they are brought to the ICU to determine what kind of care they really need and where hospital that can best be provided.
MONTEFIORE HOSPITAL
(1200 hospital bed in New York)

• They reduce its overall mortality rate from 3.5% in 1997 to 1.8% in 2009.

• **Every 4 hours they are asking: Is this patient benefiting from ICU care.** When dr Kvetan realized that many patients in ICU didn’t really need such intense care.

• They need faster and better evaluation before they got to ICU.
Montefiore has critical care consult teams that can be summoned by any physician who wants a potentially critical patients evaluated.

The team help determine what kind of care the patient need and where that can best be provided, whether its in the CU, in an intermediate unit on a regular floor or in palliative care program.
WHAT WE LEARNT
THE FUNDAMENTAL FACTORS DETERMINING OUTCOMES

• Delayed admission to ICU, think about the idea about the golden hours after major trauma the highest chance of preventing death

• For sepsis patients, early recognition of pathology and implementation of therapies. Such fluid resuscitation and adequate antibiotics.

• Accepted gold standard for a variety condition such as myocardial infarction, stroke etc
• What's the important think;

Interventions and the timely instigation to organ support, not always in the ICU can be in ED or operating suite.

• For example if patients pending for ICU admission and on board in operating suite, managed by ICU specialist and feasible for all treatment required
THINK ABOUT CRITICAL PATIENTS

• How to begin to think and act outside for all critical care professional not only waiting patient at risk with irreversible organ dysfunction delivered to them inside four walls.

• It's important to have special training to avoid unnecessary delayeds in treatment with pottentially life threatening and prevent of organ dysfunction
WHAT WE NEED -> SOLUTION

- Required to allow the **early detection** of severity (acute and potentially acute patients) in **any location within the hospital** and **intervention** can be given before damage become establish.

More **Training in the detection of warning signs** and the initially required actions

**Nurses** → they **spend more time with the patient** and responsible for **taking the vital sign** → recognize the early detection of acute and potentially severe condition, Doctors response in advance.
HOW TO DEVELOPED WARNING SIGN

• Developed the definition of alarm or severity criteria → as a trigger warning sign

• These criteria are a combination of clinical and laboratory values
HOW TO BUILD THE CRITERIA

The criteria must have sufficient sensitivity
Must be simple to obtain
Should not increase the workload
The criteria must be stable and concise

EXAMPLE

National Early Warning Score (NEWS)
Standardising the assessment of acute-illness severity in the NHS
National Early Warning Score

The NEWS, like many existing EWS systems, is based on a simple scoring system in which a score is allocated to physiological measurements already undertaken when patients present to, or are being monitored in hospital. Six simple physiological parameters form the basis of the scoring system:

i) respiratory rate
ii) oxygen saturations
iii) temperature
iv) systolic blood pressure
v) pulse rate
vi) level of consciousness.

Respiratory Rate
SpO2
Temperature
Syst BP
Pulse rate
Level of consciousness
### Chart 4: Clinical response to NEWS triggers

<table>
<thead>
<tr>
<th>NEWS SCORE</th>
<th>FREQUENCY OF MONITORING</th>
<th>CLINICAL RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>12 hourly</td>
<td>- Continue routine NEWS monitoring with every set of observations</td>
</tr>
<tr>
<td>Total: 1-4</td>
<td>4-6 hourly</td>
<td>- Inform registered nurse who must assess the patient;</td>
</tr>
<tr>
<td>Total: 5 or more or 3 in one parameter</td>
<td>Minimal 1 hourly</td>
<td>- Registered nurse to urgently inform the medical team caring for the patient;</td>
</tr>
<tr>
<td>Total: 7 or more</td>
<td>Continuous monitoring</td>
<td>- Urgent assessment by a clinician with core competencies to assess acutely ill patients;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Clinical care in an environment with monitoring facilities;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Registered nurse to immediately inform the medical team caring for the patient – this should be at least at Specialist Registrar level;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Emergency assessment by a clinical team with critical care competencies, which also includes a practitioners with advanced airway skills;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Consider transfer of Clinical care to a level 2 or 3 care facility, i.e. higher dependency or ITU;</td>
</tr>
</tbody>
</table>

Royal College of Physicians

Training for Innovation
THE IMPLEMENTATION

The implementation in hospital suggest with:

- create the rule or strategies,
- create the team and the urgent care code in hospital (CPR code, Acute coronary syndrome code, sepsis code etc)
- continues training for hospital healthcare staff outside the ICU and the nurses.
INDONESIA
Distribution and density of population/ km² (2004)

Jakarta
15.888

Luas 8.201.72 km²
Total hospital 2,432 (100%), General Hospital 90% year 2015
The implementation outside the hospital;

- Training for healthcare providers of critical care in Indonesia

- Training for healthcare providers of critical care in Indonesia begin in 2000 without focused.

- We training for GP, nurses, MFR but we need the innovation for early detection and early management.
CONCLUSION
IMPLEMENTATION – INNOVATION - TRAINING

• Critical care without wall can be implemented by development of a system based on
  – Innovation the management procedures (early detection, early resuscitation/ early intervention) its key role with multidiciplinary approach with rapid response team to prevent critical patient refer to ICU as a new service in hospital
  – Continuous training in the detection of severity.
• Efficient management system afterwards
Thank you