Lean Management

KAIZEN Training of Trainers
Objectives of the session

At the end of the session, trainees are able to:

1) Understand the philosophy on lean management
2) Describe the relation between 5S-KAIZEN and Lean management
3) Describe what is lean tools
4) Describe the importance of thinking and acting in lean management for health care improvement in Tanzania
Environment surrounding health services in TZ

- Although Tanzanian health sector has made significant progress over the last several years, there are many significant challenges that still need to be addressed, including:
  - Health resources (HRH, financial, commodities…) shortage
  - Low quality of health services
  - Low reliability of the public health facility

However, we cannot stop providing health services to the community
What should we do for improvement of the situation?
Think “out of box” and break through
Answer is …

“Lean Management”
## What is the difference between Kaizen and Lean?

<table>
<thead>
<tr>
<th></th>
<th>KAIZEN</th>
<th>Lean Management</th>
<th>Six Sigma</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Origin</strong></td>
<td>Japanese TQC and Toyota Production system</td>
<td>management philosophy developed from Toyota Production System (TPS)</td>
<td>set of techniques and tools for process improvement. Developed by Motorola in 1986.</td>
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<tr>
<td><strong>Definition</strong></td>
<td>A problem solving process. focuses on eliminating waste, improving productivity, and achieving sustained continual improvement in targeted activities and processes of an organization.</td>
<td>focused on improving process speed and quality through reduction of process wastes.</td>
<td>a disciplined, data-driven approach and methodology for eliminating defects</td>
</tr>
<tr>
<td><strong>Program/activities driven by</strong></td>
<td><strong>Bottom to top (Bottom up approach)</strong></td>
<td><strong>Top to bottom (Top down approach)</strong></td>
<td>Top to bottom (Top down approach)</td>
</tr>
<tr>
<td><strong>Implementation structure</strong></td>
<td>Small group activities (QC circle / QIT / WIT)</td>
<td>Lean Teams Problem-Solving and Self Directed Work Teams are the most common types</td>
<td>Black, Green, Yellow belts</td>
</tr>
<tr>
<td><strong>Tools used for the approach</strong></td>
<td>Use QC 7 tools and New QC 7 tools</td>
<td>Lean Tools (5S, Kanban, Andon, JIT, TPM, etc.)</td>
<td>DMAIC, Statistical approach</td>
</tr>
<tr>
<td><strong>Developed/Conceptualized by</strong></td>
<td>Masaaki Imai and Toyota Motors</td>
<td>Womack, Jones and Roos, MIT</td>
<td>Bill Smith at Motorola</td>
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**KAIZEN** is a problem solving process that focuses on eliminating waste, improving productivity, and achieving sustained continual improvement in targeted activities and processes of an organization. It is a disciplined, data-driven approach and methodology for eliminating defects.

**Lean Management** is focused on improving process speed and quality through reduction of process wastes.

**Six Sigma** is a set of techniques and tools for process improvement. Developed by Motorola in 1986.
Two ways communication and improve organization

**KAIZEN approach**
From **bottom to top**

Workers should have positive mindset, and trying to make workplace and services better ("KAIZEN mind")

**Lean Management**
From **top to bottom**

Managers need to know "Lean management" to guide workers for Improvement of work flow and productivity
What is “Lean thinking”?  
Basic concept for Lean management

• A business methodology which aims to provide a new way to think about how to organize human activities to deliver more benefits to society and value to individuals while eliminating waste.

Simple definition is:

“Becoming ‘lean’ is a process of eliminating waste with the goal of creating value.”
How can we eliminate “wastes”?  
Different types of waste in your organization
7 types of wastes in work place

- **Over production**
  Creating more material or information or tests or treatment than needed

- **Inventory**
  More material or information than needed

- **Rework**
  Repetition or correction of a process

- **Waiting**
  People or items that wait for a work cycle to be completed

- **Transportation**
  Unnecessary movement between processes

- **Motion**
  Unnecessary movement with a process

- **Over processing**
  Processing beyond the standard
| **Muri** | Any activity asking unreasonable stress or effort from personnel, material or equipment. In short: **OVERBURDEN**  
For people, Muri means: a too heavy mental- or physical burden.  
For machinery Muri means: expecting a machine to do more than it is capable of- or has been designed to do. |
| -------- |---------------------------------------------------------------------------------------------------------------|
| **Mura** | Any variation leading to unbalanced situations. In short: **UNEVENNESS**, inconsistent, irregular.  
Mura exists when workflow is out of balance and workload is inconsistent and not incompliance with the standard. |
| **Muda** | Any activity in your process that does not add value. MUDA is not creating value for the customer. In short: **WASTE**  
Type I muda: Non-value-added tasks which seem to be essential. Business conditions need to be changed to eliminate this type of waste.  
Type II muda: Non-value-added tasks which can be eliminated immediately. |
What should be used for elimination of wastes?
Lean Principles

1. Define Value
   Specify what creates value from the customers perspective

2. Map Value Stream
   Identify all steps across the whole value stream

3. Create Flow
   Make those actions that create value flow

4. Establish Pull System
   Only make what is pulled by the customer just-in-time

5. Pursuit Perfection
   Strive for perfection by continually removing successive layers of waste
Lean Principles
Mental Model for lean thinking

<table>
<thead>
<tr>
<th>Lean Principles</th>
<th>What should be done</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Define Value</td>
<td>Define value from a patient’s perspective. Try to understand their health and non-health expectations. How patients’ experience could be improved.</td>
</tr>
<tr>
<td>2) Map Value Stream</td>
<td>Evaluate how all the steps of a process or procedure to provide services in the health facility. Then, eliminate any steps that do not contribute to performance, productivity or safety of the health facility.</td>
</tr>
<tr>
<td>3) Create Flow</td>
<td>Eliminate waste between steps of a process and create smooth workflow for high efficiency</td>
</tr>
<tr>
<td>4) Establish Pull system</td>
<td>Allow the patient to receive or request services if and when need.</td>
</tr>
<tr>
<td>5) Pursuit Perfection</td>
<td>Continuously adapt to an ever-changing environment and patients’ needs in order to deliver high quality of health services.</td>
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</table>
An example of Define Value

Long waiting time for consultancy?

Good communication and explanation of treatment?
An example of map value stream

“Process of seen patients at OPD”

Registrati
on of
patients

Entering
Information into
HMS

Looking
for
patient
file from
shelf

Handover
the file to
the
patient

Asking
the
patient to
go and
wait at
OPD

Measure
vital sign
of the
patient

Are all the steps necessary?
Are there any steps can be eliminated or change for better?
An example of create “flow”

Process of seen patients at OPD

Registration of patients
Entering Information into HMS
Looking for patient file from shelf
Handover the file to the patient
Asking the patient to go and wait at OPD
Measure vital sign of the patient

Registration can be divided into 2 lanes:
1) Registration of new patients, and
2) Registration of returning patients for smooth registration
How can we apply Lean Principles?
Use “Lean Tools”

- Lean tools are essential for accelerating the practice of lean management.
- There are over 50 lean tools that organization can adopt for lean management.
- Lean tools can be selected based on the characteristic of organization and services provided.
- It is important to know how to use each lean tool.

Possible to obtain lots of lean tools from: http://www.systems2win.com/solutions/lean.htm
### Continuous improvement

- Eliminate waste
- Simplify everything
- Create flow

### Patient focused

### Lean tools

<table>
<thead>
<tr>
<th>Pull system (Kanban)</th>
<th>Quick –set up</th>
<th>Just In Time</th>
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<tbody>
<tr>
<td>Mistake-Proofing (Poka-yoke)</td>
<td>Point of use storage</td>
<td>Batch size reduction</td>
</tr>
<tr>
<td>Standardized work</td>
<td>Takt Time</td>
<td>Problem solving process (KAIZEN process)</td>
</tr>
<tr>
<td>Total Productive Maintenance</td>
<td>Visual control</td>
<td>Stopping the line</td>
</tr>
<tr>
<td>5S approach</td>
<td>Value Stream Mapping</td>
<td>Workplace layout</td>
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*Note that tools in the blue box are taught in 5S training*
Wrap up: Lean process

1. Identify the problems, needs, and expectations of patients.
2. Review the current situation and process of the services provided.
3. Try to eliminate wastes and unnecessary procedure with lean tools.
4. Establish mechanism of “Pull system” (demand driven).
5. Try to improve the situation continuously and maintain high quality of services.
Lean management and 5S-KAIZEN-TQM Approach

**Highly Reliable Organization (HRO)**

**Total Quality Management**

**KAIZEN**

**5-S**

**Positive attitude**

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**Lean Management**

Leadership and commitment of hospital management

**Positive mindset for improvement of quality among frontline workers**

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Quality of services and management

Leadership and team work

Wastes

Working environment
Achieve “Lean” with “KAIZEN”

Continues Quality Improvement and open quality spiral concepts achieve “Lean management”
Thank you for listening!
any question?