

Fixing Healthcare Delivery
and Fixing Healthcare
Delivery 2.0 by University of
Florida by Dr Frederick S.
Southwick, MD

Course Description

100,000 patients die annually because of preventable medical errors, and over 1 million patients suffer life-changing injuries. Despite the calls to action medical errors continue at the rate of 1 out of 10 patients. How can those of us who help to deliver care and those of us that receive care help to prevent harm?



Course Description

There are 5 fundamental areas each of us needs to understand and use to fix healthcare delivery:

1. Apply the principles of high performing manufacturers and athletic teams to continually improve our processes.
2. We all need to learn how lead and be part of multidisciplinary teams that include patients and coordinate the care they receive.
3. The human brain continually makes errors. Certain conditions increase the likelihood of errors, and these need to be avoided. Systems can be designed that force the right behavior, and second checks can help caregivers provide the right care at the right time and in the right place.
4. We all need to become effective leaders. Most importantly we must practice adaptive leadership, that is, leadership that promotes a true change in the way things are done.
5. Finally we all can utilize the campaign methods of successful politicians and advocacy groups to change the attitudes of our fellow caregivers and patients, and thereby change the culture of our healthcare systems.

During this 13- module course we will be provided with the tools to accomplish all 5 of these goals, and as an individual you can truly make a difference.



Broad Objective:

The broad objective of this course is to apply the principles of high performing manufacturers and athletic teams to continually improve healthcare system. And to learn manufacturing principles of the Toyota Production System in detail.



Objectives of the Course

Specific Objectives:

- To learn the concept of value stream, workflow diagrams and 80/20 used in manufacturing, and to apply it to patient care.
- To learn about the 8 ways of waste reduction in healthcare.
- To discuss how athletic principles can be used to encourage teamwork, improve efficiency and increase the quality of patient care.
- To launch and coach a team, and to manage the complex dynamics of teams. Finally we will discuss how to create a self-improving team.
- To discuss the consequences of medical errors, and to learn need three key tools to determine the causes of medical errors and to fix them,
- To learn Root cause analysis, Driver Diagrams, and PDSA cycles.
- To discuss the issue of small errors and our tendency to ignore and workaround them.

Specific Objectives

- To learn about concept of reliability and it's need to dramatically improve the reliability in health care.
- To discuss the need in healthcare for adaptive leadership.
- To learn how to overcome our natural immunity to change.
- To learn about the 4 principles of TPS
- To categorize 8 forms of waste and allowing everyone on the front lines to recognize waste and work to remove it.
- To introduction to tools which will help us to effectively design standardized work such as the spaghetti diagram and the Time Observation Sheet.
- To learn about concepts of Value stream mapping.
- To use the Time Observation Sheets to fill out Value Stream Map, including determining WIP (work in progress)

LEARNING METHODOLOGY:

Course Component	Description	Required or not	% Required to Pass
Video lectures	Recorded Video Lectures were used to teach the concepts of the Course. The lectures were delivered by Dr. Frederick S. Southwick, MD	Required	NA
Case Study Readings	Various case studies were provided related to healthcare, to help us analyse and apply the concepts of the course.	Required	NA
Discussions	Discussion Group interactions was the part of the course, to help students interact with the fellow course mates.	Required	NA
Practice Quizzes	There was a practise quiz after every module which helped in	Recommended, but not required	NA
Graded Quizzes	Graded quiz was a mandatory test after every Unit.	Yes	80% on each quiz
Peer Graded Assignment	6 peer graded assignment were part of the course, in which the evaulation is done by fellow coursemates.	Yes	80% or above

COURSE CONTENTS

WEEK	HOURS	MODULE NAME	MODULE CONTENTS
1	1	Introduction to Healthcare Delivery	• Introduction • Who was caring for Mary? • Quality, Safety and Healthcare Delivery System • Systems and Quality
2	2	Applying Manufacturing Principles to Improve Healthcare	• Applying Manufacturing Principles to Improve Healthcare Overview • Lessons we can learn from Industry I • Value Streams Digging Deeper • Lessons we can learn from Industry Part II • Lessons we can learn from Industry Part III
3	2	Healthcare Teamwork Requires	• Healthcare requires Teamwork Overview • Teamwork in Healthcare: How well do we work in teams? • Athletic Principles in Healthcare • Launching and Coaching Healthcare teams • Overview of term STEEPS

COURSE CONTENTS

WEEK	HOURS	MODULE NAME	MODULE CONTENTS
4	3	Understanding and Preventing Human Error Part I	• Understanding and Preventing Human Error Part I Overview • Medical Errors the Human Toll • To Err is Human • PDSA Cycle • Little Problems Workarounds
5	2	Understanding and Preventing Human Error Part II	• Understanding and Preventing Human Error Part II • How do we know if a Change is an Improvement Part I • Run Charts • How do we know if a Change is an Improvement Part II • How Reliable is Healthcare? • How can we reduce Human Error? • What Happens when a patient is harmed
6	2	We all Can Lead: Becoming an Adaptive Leader	• We all can Lead: Becoming an Adaptive Leader Overview • Who Should Lead? • Adaptive Leaders: A necessity for Fixing Healthcare Delivery • Practice Adaptive Leadership

COURSE CONTENTS

WEEK	HOURS	MODULE NAME	MODULE CONTENTS
7	2	How Organizing People can Drive Change in Healthcare Delivery	• How Organizing People can Drive Change in Healthcare Delivery Overview • What can Samuel Adams teach us About Fixing Healthcare Delivery? • Organizing in Healthcare: The Early Phase • One on Ones and Personal Narrative • Leadership, Strategy, Tactics & Action
8	2	Immunity to Change, Examples of Successful Patient Care Initiatives, and Final Summary	• Immunity to Change, examples of Successful Patient Care Initiatives and Final Summary Overview • Immunity to Change • Summing it all up • What can I do?
9	3	Introduction to Applying TPS or Lean-to Healthcare	• Why Toyota Production System? • What are the fundamental Principles of TPS? • How does a Health System Implement TPS? • How and why did Denver Health Adopt Lean?

COURSE CONTENTS

WEEK	HOURS	MODULE NAME	MODULE CONTENTS
10	3	Waste Reduction	• Removing Waste: The Best way to Reduce Cost • 5S • Reducing waste in Diagnostic Testing (Part 1) • Reducing waste in Diagnostic Testing (Part 2) • Reducing waste in Diagnostic Testing (Part 3)
11	3	Strandized Work and preparing for Value Stream Mapping	• Strandized Work (Part 1) • Strandized Work (Part 2) • Strandized Work (Part 3) • Strandized Work (Part 4)
12	3	Value Stream & Process Mapping, RIEs, and Leveling Flow	• Value Streams (Part 1) • Value Streams (Part 2) • Process Mapping • Rapid Improvement Events (RIE) • Levelling Flow (Part 1) • Levelling Flow (Part 2)

COURSE CONTENTS

WEEK	HOURS	MODULE NAME	MODULE CONTENTS
13	3	Error Proofing and Visual Controls	• Error Proofing (Part 1) • Error Proofing (Part 2) • Error Proofing (Part 3) • Visual Controls • Using Key Process Indicators

KEY LEARNINGS OF THE COURSE



Quality in Healthcare:

- When we talk about quality in Healthcare, we need to ask the questions like how reliable is the treatment we are giving to the patient? How long will it last?
- And quality should be measured through the eyes of the beholder. Customer satisfaction should be of utmost importance in the healthcare.



Systems role in Quality:

Systems play a very important role in improving the quality. So, we define System, as an Interdependent group of items, people or process working together towards a common purpose. Systems can be divided into four types, which is given in the next slide



STEEPS FRAMEWORK

SAFE

- Safety of a patient must be the top priority of a healthcare organization

TIMELY

- Timely and prompt attention benefits healthcare system as well as patient

EFFECTIVE

- There should be no over use or underuse

EFFICIENT

- A healthcare system should be made in a way that it constant improves itself with time

EQUITABLE

- Race, gender, caste, creed should not restrict any person to get healthcare services

PATIENT CENTERED

- A healthcare organization should keep patient's culture in mind, patient should play an active role in making decisions about their own care.

TYPES OF SYSTEM

Micro Systems

- It refers to a system where there is a single physician, one parttime nurse and an appointment clerk
- It usually refers to standalone clinics where there is not much complexities in the system

Simple Systems

- In this system only few interrelated components are there.
- Electronic Health Records in an example of Simple Systems

More Complex Systems

- In this system many components and steps are there.
- For example: A patient who has gone to physician further refers him to a specialist

Most Complex Systems

- In this type of system, many interrelated components are there
- For example: ER Transfer to the ICU, ER and ICU team

STEEPS FRAMEWORK TO IMPROVE SYSTEMS IN HEALTHCARE

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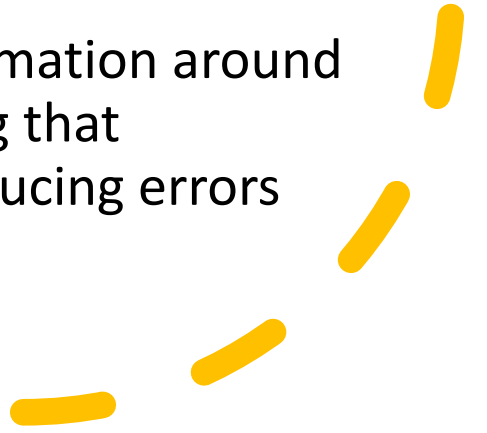
- A healthcare organization should keep patient's culture in mind, patient should play an active role in making decisions about their own care.

Teamwork in Healthcare: How well do we work in teams and applying Athletic Principles in Healthcare

- When we talk about teamwork in healthcare, it is very poor. It is very difficult to get a multidisciplinary team in healthcare system to work together. We can improve teamwork by applying athletic principles to healthcare teams:



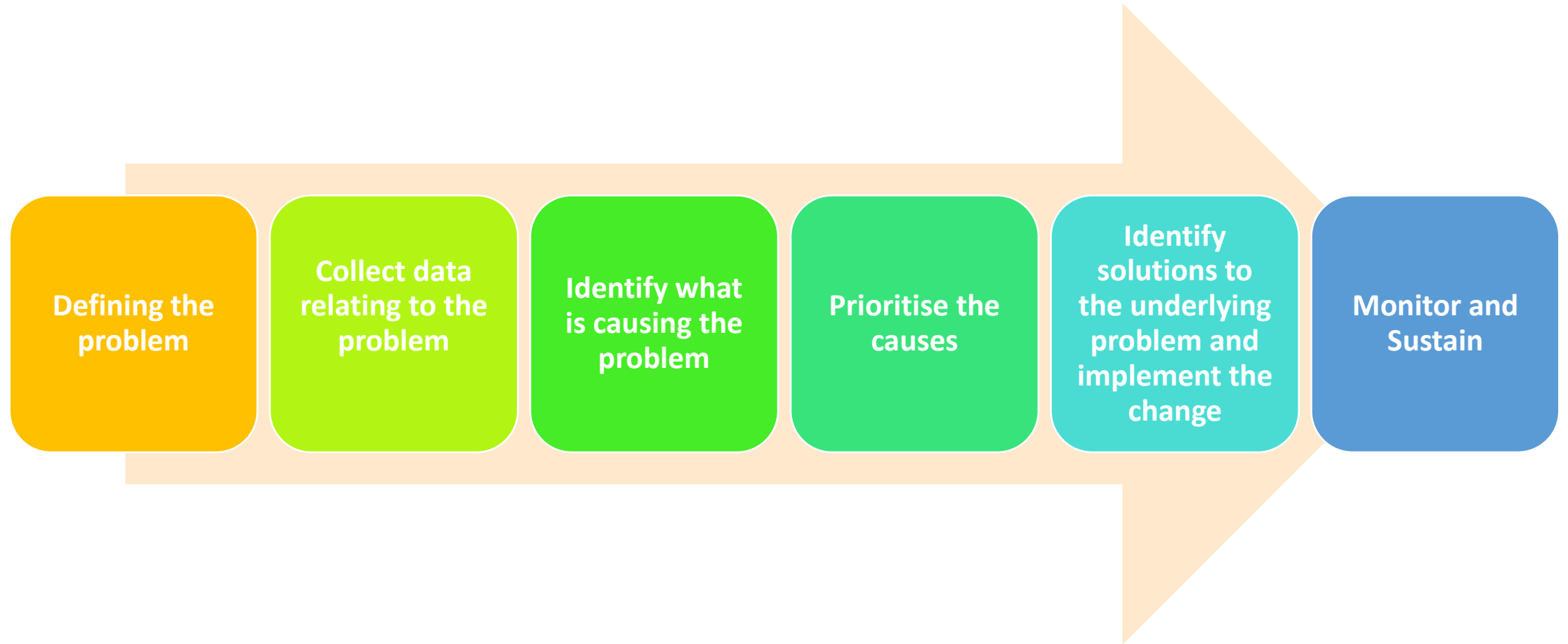
Athletic principles that can improve healthcare delivery are:

- Playbooks (Protocols): A proper SOP should be made for every patient, and the leader of the team should be the patient, the decision of the patient should be final, in the type of treatment that they want
 - Whose passing and receiving (customer- supplier relationships): Patient should be made aware of what treatment they are getting, and their consent should be taken at every step.
 - Game Films (Continual Improvement): Every healthcare organization should work towards continual improvement; they should ask after every process that what was done better and what could be done better.
 - Huddle: There should be a huddle like formation around the patient, with every member repeating that treatment protocol, which can help in reducing errors
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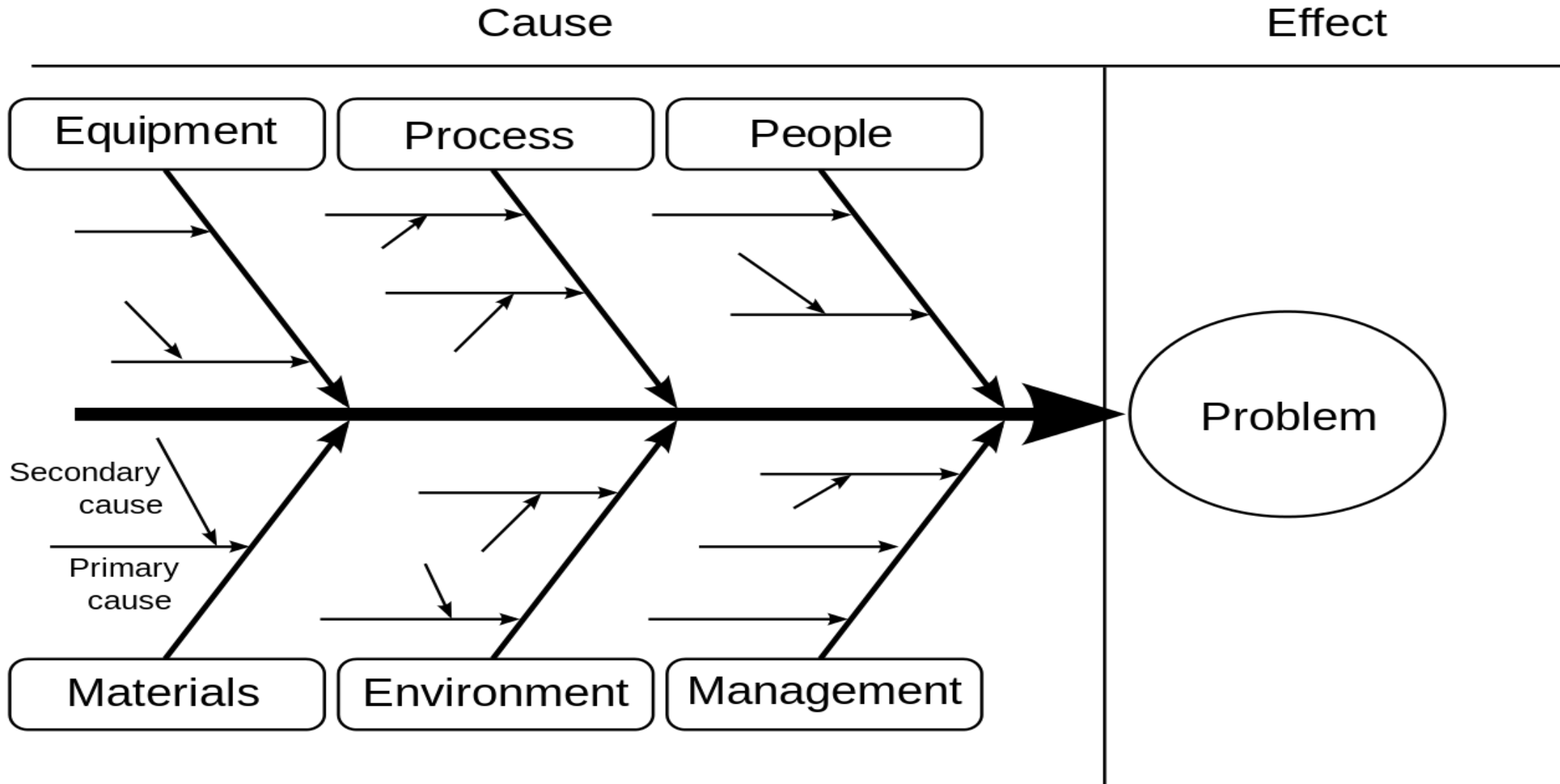


ERROR IN HEALTHCARE

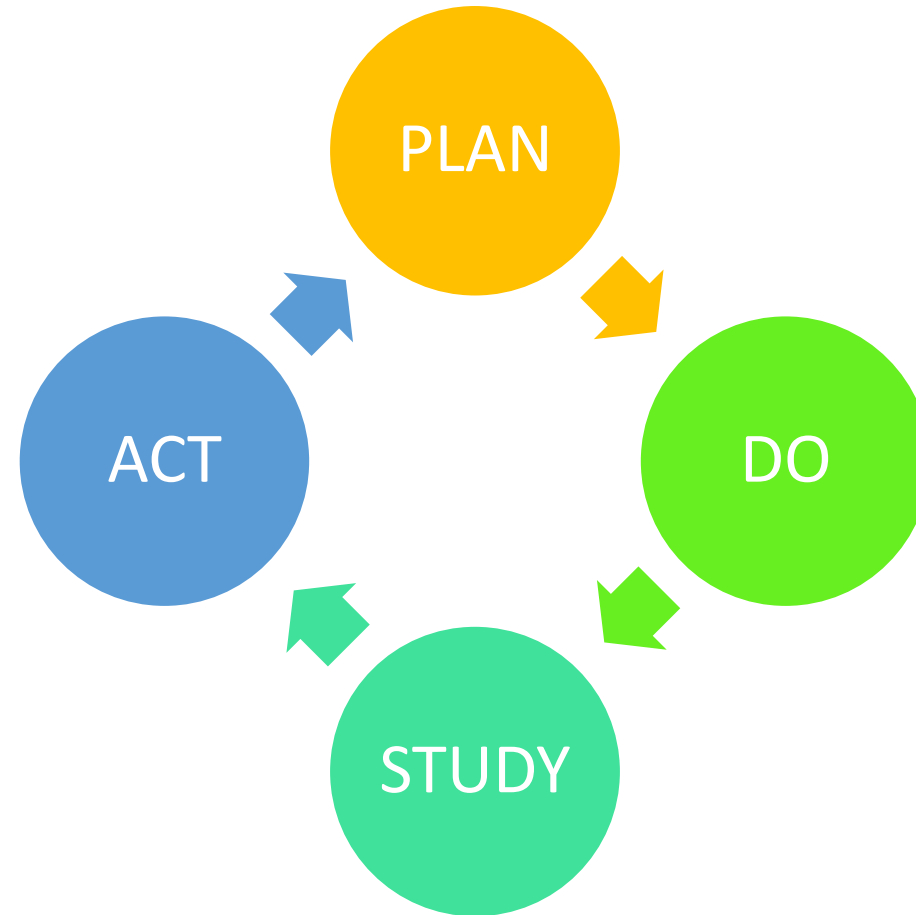
ROOT CAUSE ANALYSIS:



DRIVER DIAGRAM/ FISH BONE DIAGRAM

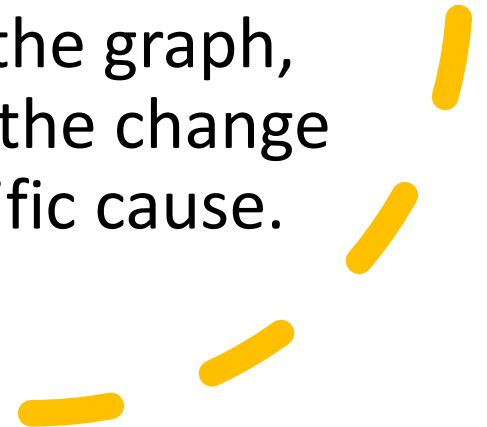


PLAN-DO-STUDY-ACT CYCLES

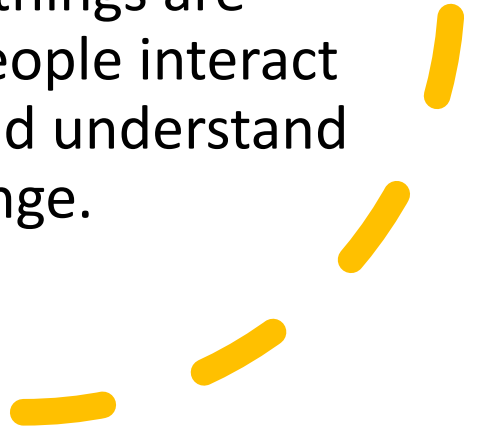


RUN CHARTS

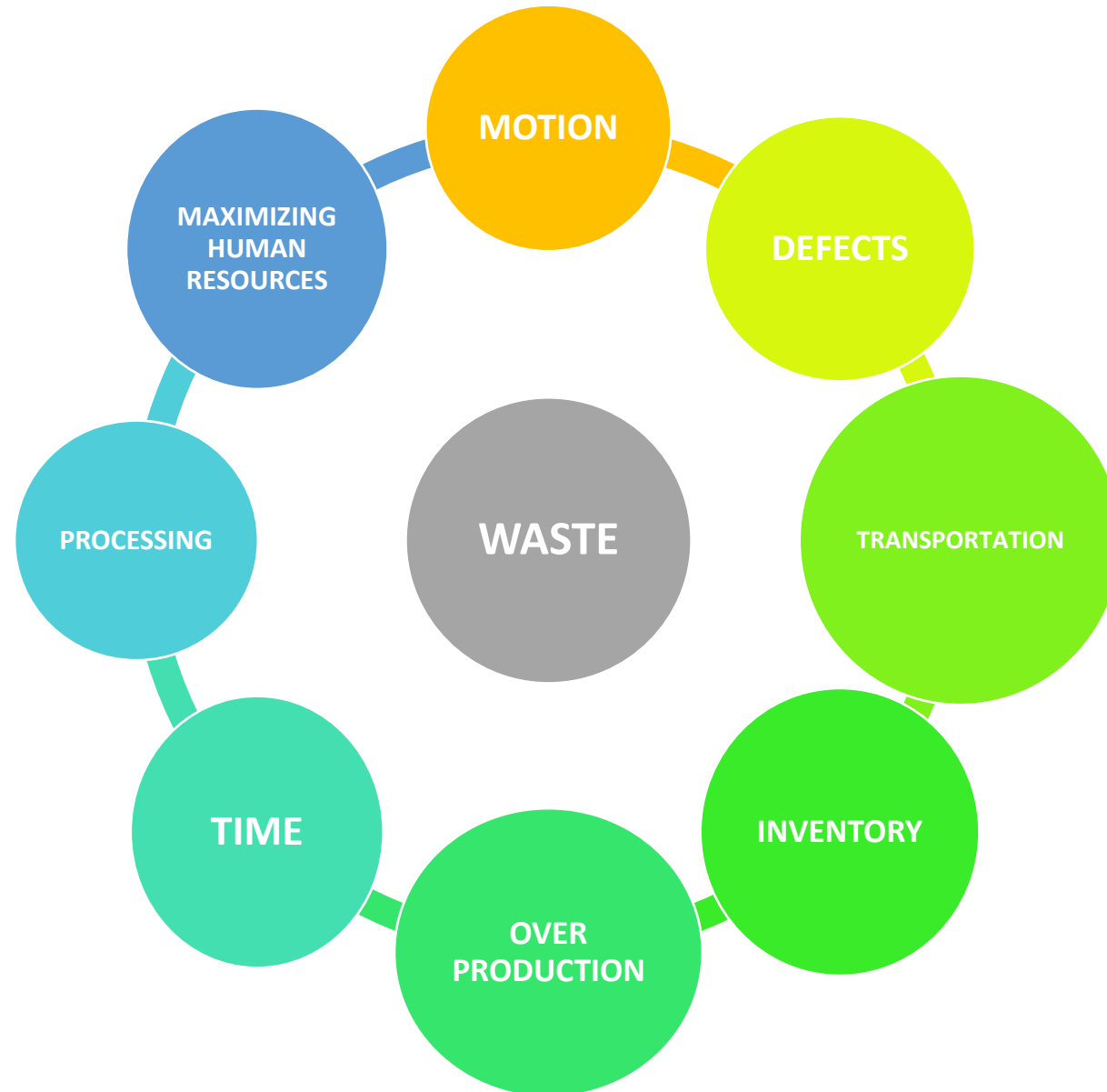
- The use of run charts to differentiate random or common cause from specific cause variation.
- A run chart, which is also known as a run-sequence plot, is a graph that displays observed data in a time sequence. The data displayed represent some aspect of the output or performance of a manufacturing or other business process. It is therefore a form of line chart. By observing the graph, we can determine that whether the change is due to common cause or specific cause.



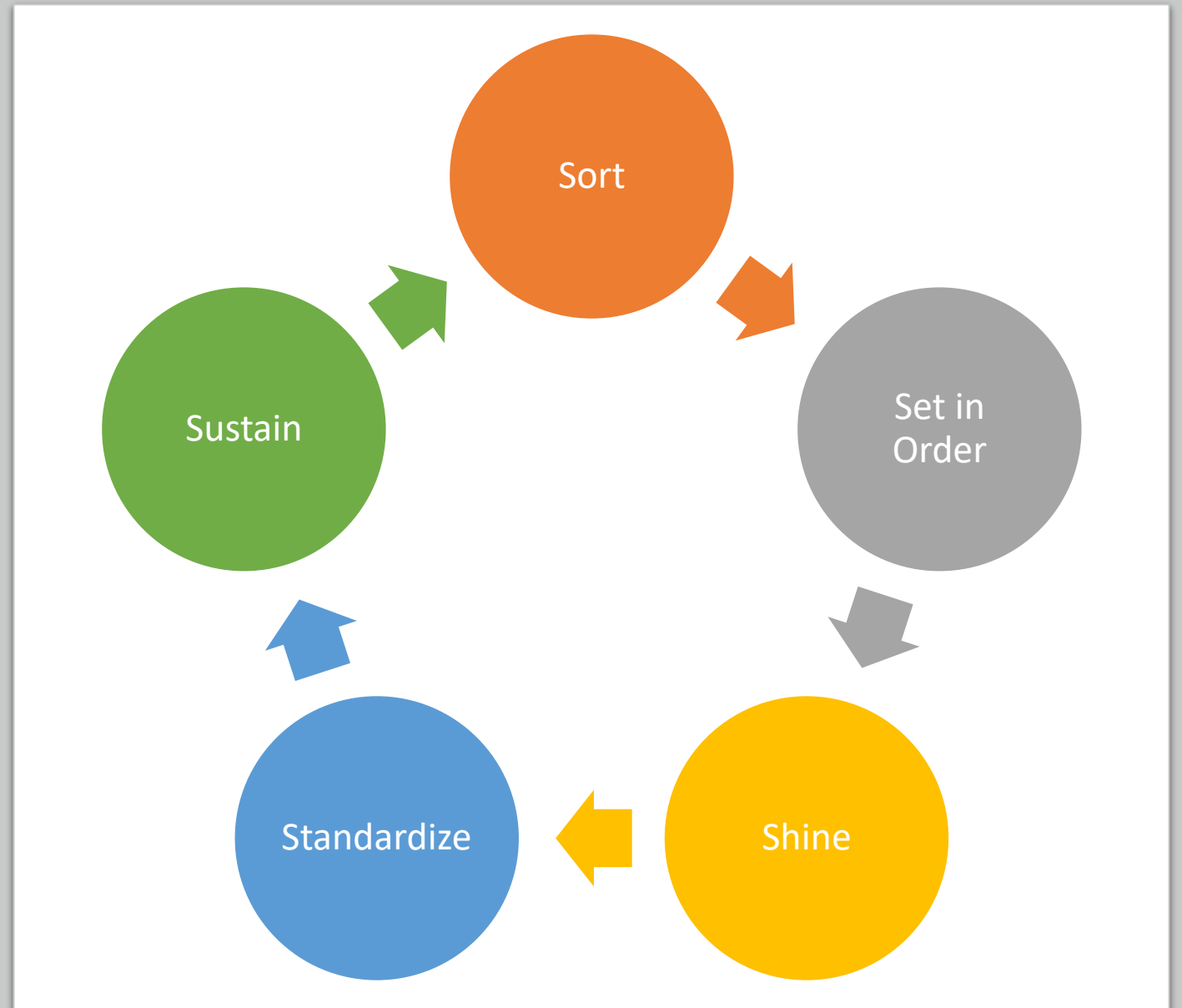
FOUR PRINCIPLES OF TPS

- A system is an interdependent group of items, people or processes working together to achieve a common purpose
 - The importance of understanding variation because everything we observe varies.
 - The third component of this system is building knowledge. When creating improvement plans, the expert must have a deep knowledge on how a system function.
 - The fourth and final component of this system, is the human side of change. Before implementing changes in the way things are done, we must understand how people interact with each other and the system and understand how they will react to specific change.
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WASTE IN HEALTHCARE



5S STEPS TO REDUCE WASTE



Value Stream Mapping

It is a process, also known as "material- and information-flow mapping", which is a method used for analyzing the current state and designing a future state for the series of events that take a product or service from the beginning of the specific process until it reaches the customer. It is a visual tool that displays all critical steps in a specific process and easily quantifies the time and volume taken at each stage.



Visual Control

It is a business management technique in which information is communicated by using visual signals instead of texts or other written instructions. The design is deliberate in allowing quick recognition of the information being communicated, to increase efficiency and clarity.





THANK YOU