

Tools for Healthcare

Service Cycle Time

Kitty Corbo

Acme

2013-Jul-22 : 17:43:33

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Applet Introduction

Applet Details								
Applet Title	Cycle Time							
Description	Service Cycle Time							
Objective	Sample example for Service Cycle Time							
Abstract	Cycle time is an important method to study delays in a system of service delivery.							
Team Leader	Kitty Corbo							
Commencement Date	03-Apr-2007							
Expected Completion Date	29-Jun-2007							
Completion Date								
Status	Not Completed							
Team Name	CycleTime Team							
Team Members	<table border="1"><tbody><tr><td>1</td><td>IR00110</td><td>Shahulk Tamin</td></tr><tr><td>2</td><td>IR0006</td><td>Azrin Othman</td></tr></tbody></table>		1	IR00110	Shahulk Tamin	2	IR0006	Azrin Othman
1	IR00110	Shahulk Tamin						
2	IR0006	Azrin Othman						

Setup






No.	Description
1	Patient Name
2	Start
3	Sign In
4	Triage by Nurse
5	Exam by Doctor
6	Bed Requested
7	Bed Request Time
8	Bed Assigned Time
9	Patient Assigned to Bed

Specification Limit	
USL	200.00
LSL	0.00

Group Size	3
Random Samples	500

Date From	01-Mar-2007
Date Change	30-Mar-2007
Date To	30-Apr-2007

Process

	1 Doctor
1	Dr. Allan Lin
2	Dr. Brian
3	Dr. Collin
4	Dr. David
5	Dr. Elaine
	2 Diagnosis
1	UTI
2	Insomnia
3	Gouty Arthritis
4	Fever of Unk Origin
5	Myocardial Ischemia
	3 Bed Type
1	Med
2	Surg
3	Tele
4	Pedia
5	ICU
	4 Room No.
1	Room A
2	Room B
3	Room C
4	Room D
5	Room E
	5 Delay
1	No Doctor
2	No Room
3	Lab closed
4	Patient Late
5	Others

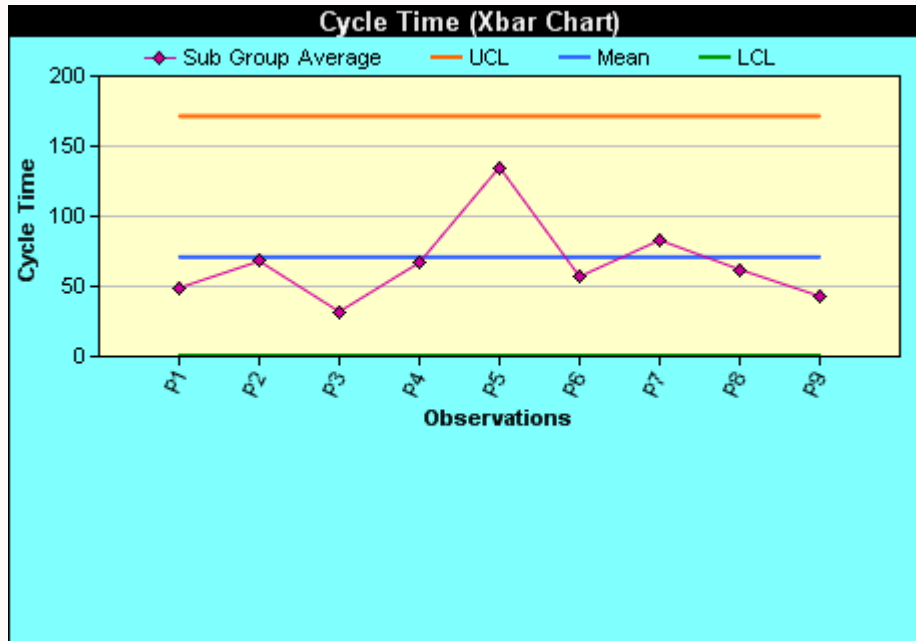
Data Collection

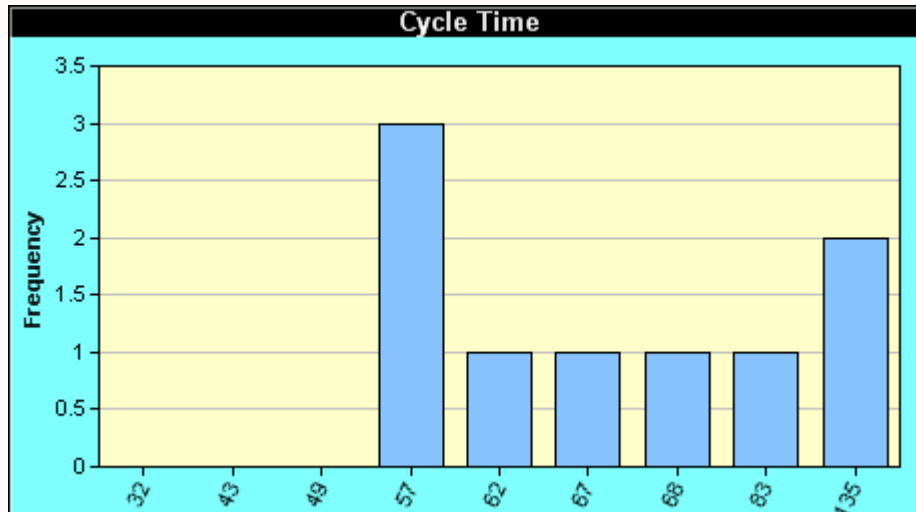
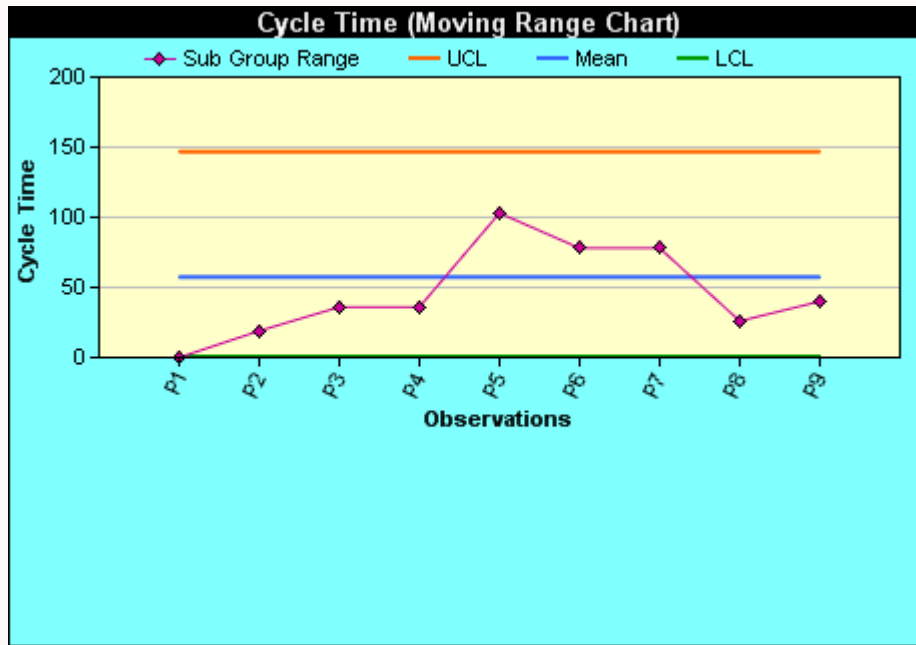
Data Collection Row Number From 1 To 1

Data Code	DT0001
Patient Name	P1
Start	22-Mar-2007 11:17 AM
Sign In	22-Mar-2007 11:25 AM
Triage by Nurse	22-Mar-2007 11:26 AM
Exam by Doctor	22-Mar-2007 11:30 AM
Bed Requested	22-Mar-2007 11:41 AM
Bed Request Time	22-Mar-2007 11:54 AM
Bed Assigned Time	22-Mar-2007 12:02 PM
Patient Assigned to Bed	22-Mar-2007 12:06 PM
Doctor	Dr. Allan Lin
Diagnosis	Fever of Unk Origin
Bed Type	Surg
Room No.	Room B
Delay	No Room

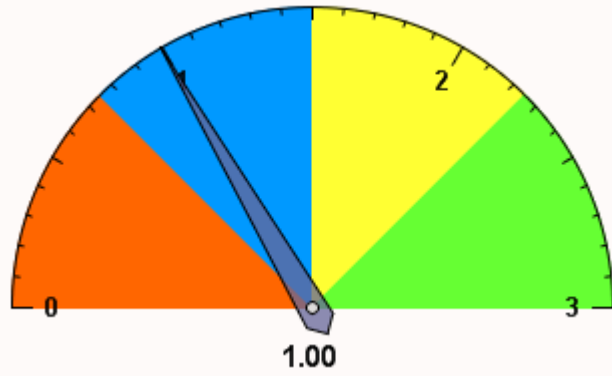
Current Process

Time Period : (01-Mar-2007 to 30-Mar-2007)

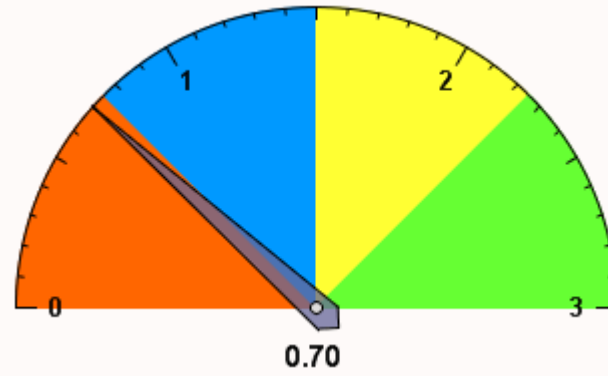




Cp Graph

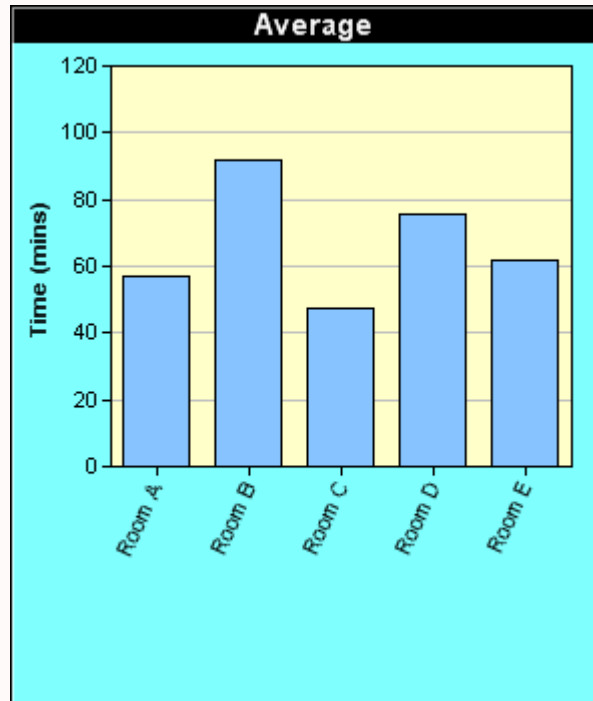
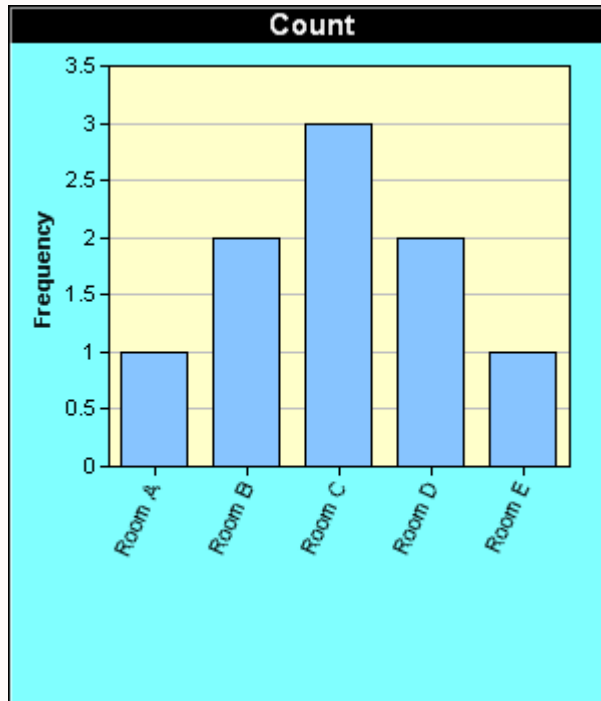


Cpk Graph



Before Pareto

Select Process : Room No. Time Period : (01-Mar-2007 to 30-Mar-2007)



Before Cycle Time

Time Period : (01-Mar-2007 to 30-Mar-2007)

No.	Process	Mean	Stdev	Duration	Process Cycle Time						
1	Sign In	15.667	8.485	15.667	←→						
2	Triage by Nurse	8.889	7.865	24.556		←→					
3	Exam by Doctor	7.556	6.710	32.111			←→				
4	Bed Requested	8.111	4.372	40.222				←→			
5	Bed Request Time	8.111	8.908	48.333					←→		
6	Bed Assigned Time	9.444	5.681	57.778						←→	
7	Patient Assigned to Bed	8.444	7.667	66.222							←→

Before Cycle Time Analysis

Time Period : (01-Mar-2007 to 30-Mar-2007)

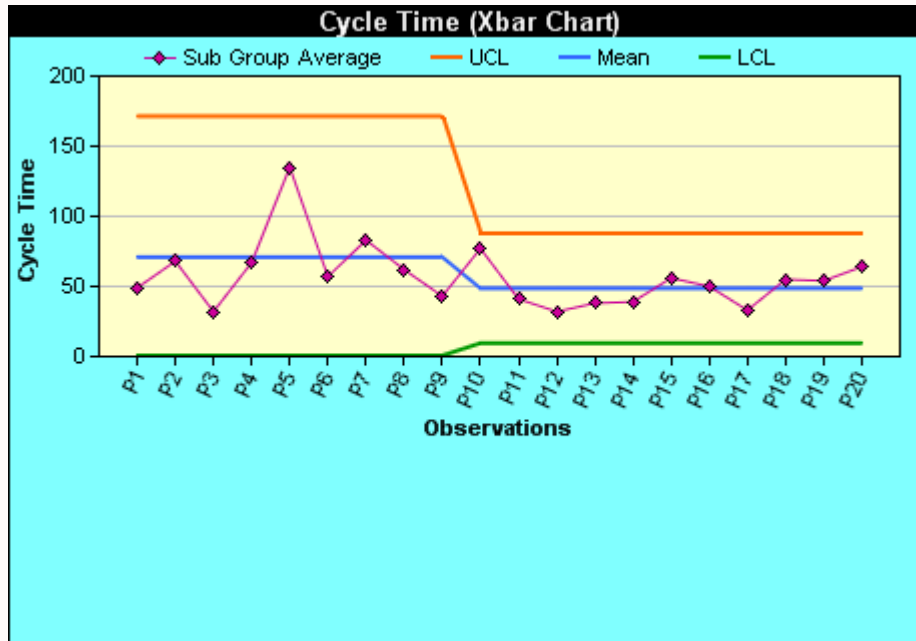
No.	Process Steps	Start	Elapsed	Bar Graph of Times	Comments
1	Start	0.000	0.000		
2	Sign In	15.667	15.667		Computer not available
3	Triage by Nurse	8.889	24.556		Waiting
4	Exam by Doctor	7.556	32.111		Doctor Not Arrived
5	Bed Requested	8.111	40.222		Information not send
6	Bed Request Time	8.111	48.333		Incorrect bed number
7	Bed Assigned Time	9.444	57.778		Wrong Patient
8	Patient Assigned to Bed	8.444	66.222		Waiting
Total			66.222		

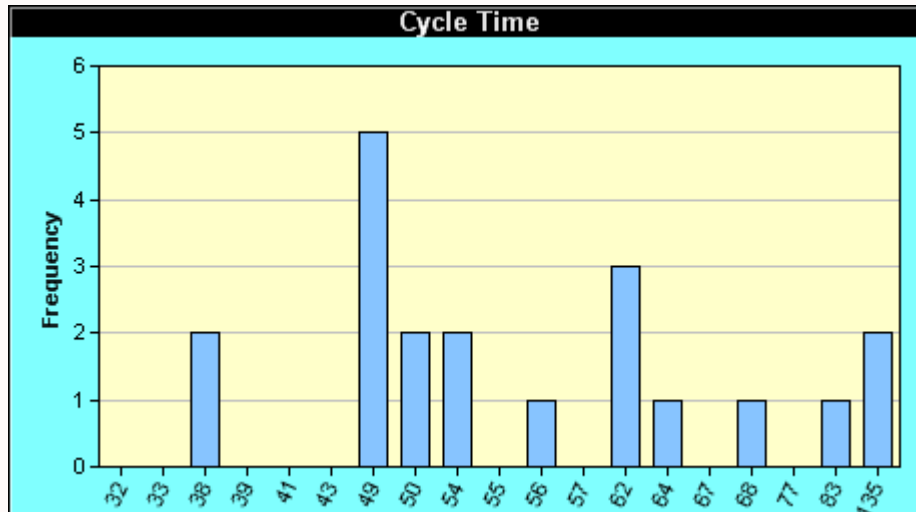
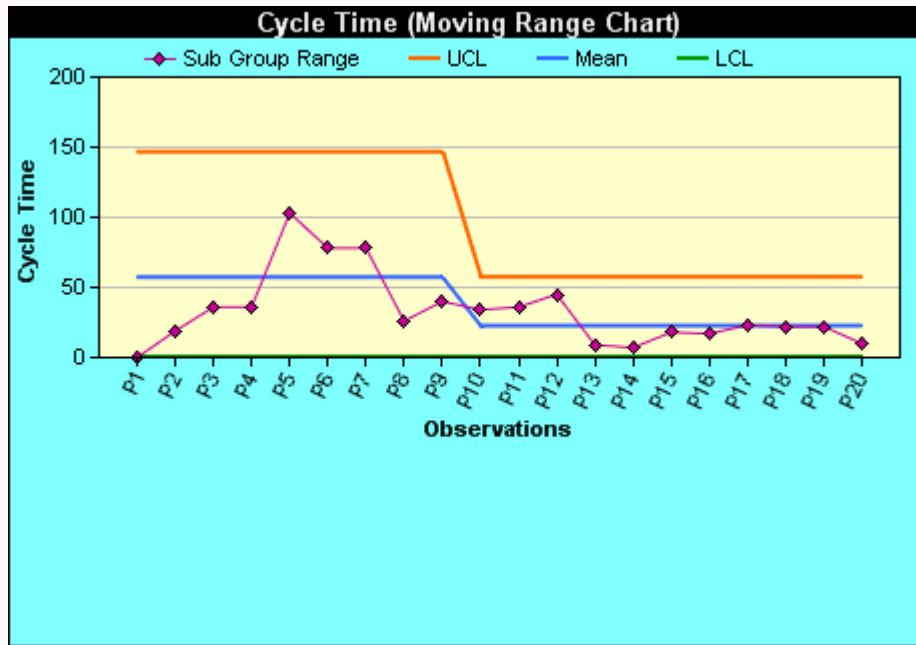
Retrieve files quickly

				Jul - 2013
Activity	From Date	To Date	No. of Days	31 We
Punctuality	5/8/2007	5/19/2007	12	
Late Doctors	05/08/2007	05/10/2007	3	
Schedule patients				
Remind patients of time	05/11/2007	05/17/2007	7	
Inform patients via SMS	05/16/2007	05/19/2007	4	
Breaks	5/13/2007	5/22/2007	10	
Staggered breaks	05/13/2007	05/20/2007	8	
Staff should keep to break times	05/14/2007	05/18/2007	5	
Patients should be told of their times	05/14/2007	05/22/2007	9	
Consultation	5/19/2007	5/23/2007	5	
Laboratory results must be inhand	05/19/2007	05/23/2007	5	
Use electronic records	5/21/2007	05/25/2007	5	
Retrieve files quickly				

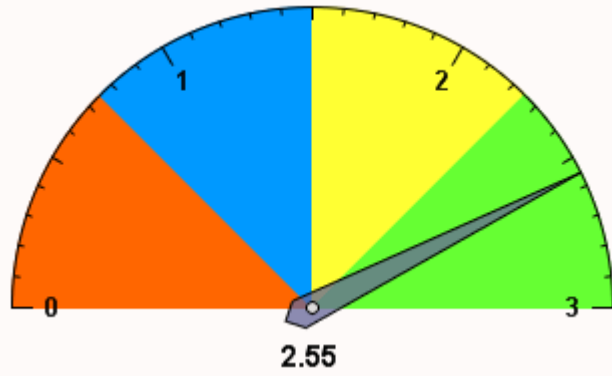
Before After Comparison Process

Before Time Period : (01-Mar-2007 to 30-Mar-2007) After Time Period : (30-Mar-2007 to 01-May-2007)

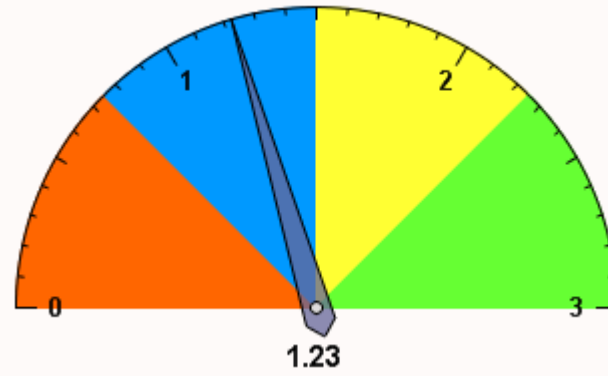




Cp Graph

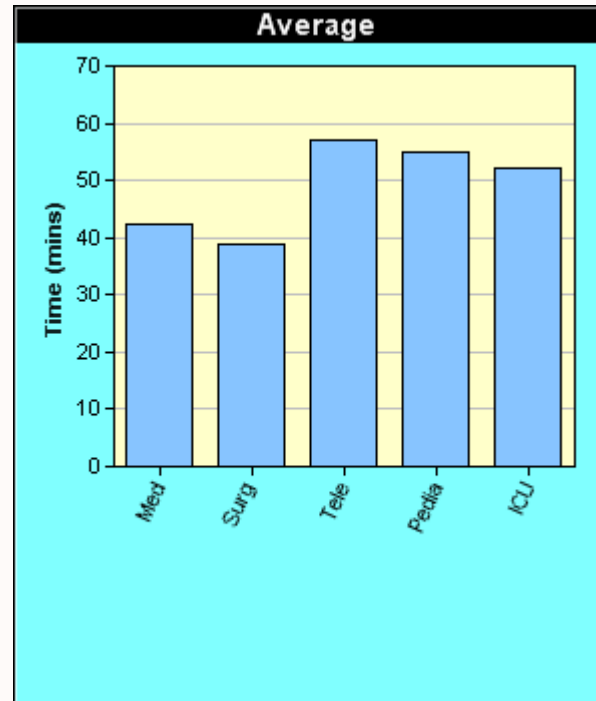
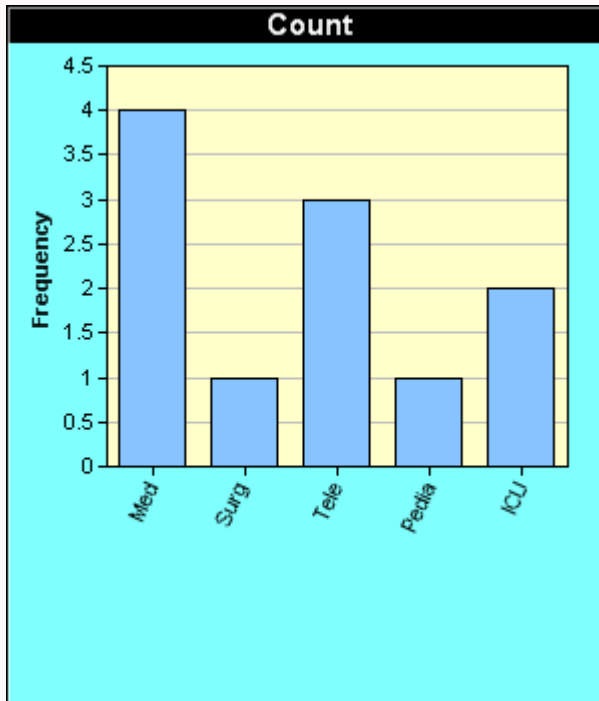


Cpk Graph



After Pareto

Select Process : Bed Type Time Period : (30-Mar-2007 to 01-May-2007)



After Cycle Time

Time Period : (30-Mar-2007 to 01-May-2007)

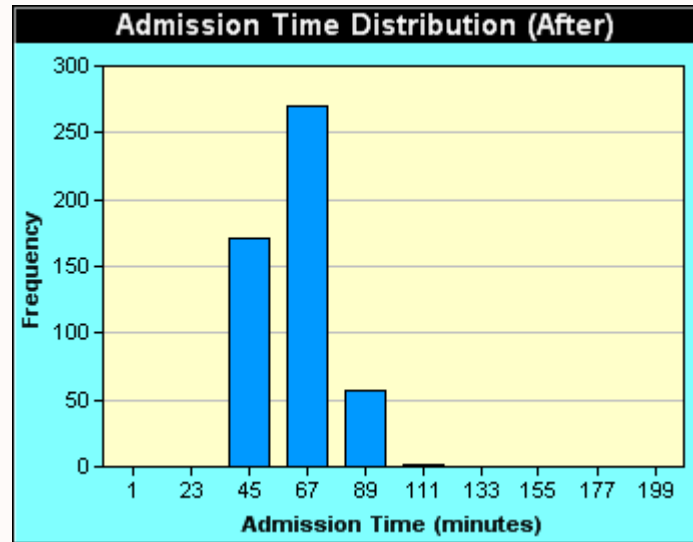
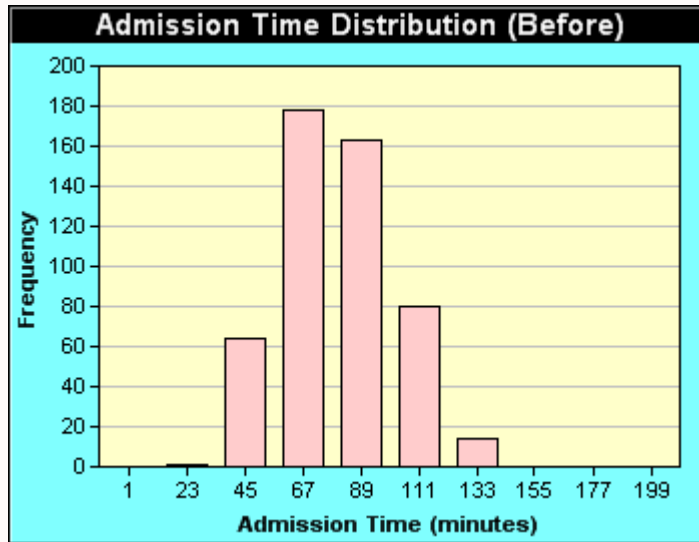
No.	Process	Mean	Stdev	Duration	Process Cycle Time						
1	Sign In	6.455	4.275	6.455	↔						
2	Triage by Nurse	5.818	2.228	12.273		↔					
3	Exam by Doctor	6.273	3.133	18.545			↔				
4	Bed Requested	8.273	4.650	26.818				↔			
5	Bed Request Time	7.182	5.154	34.000					↔		
6	Bed Assigned Time	7.455	5.484	41.455						↔	
7	Patient Assigned to Bed	7.545	4.458	49.000							↔

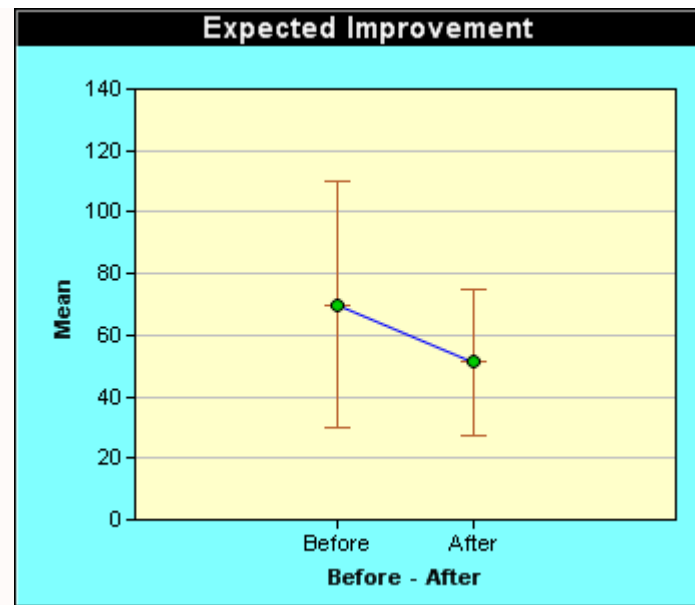
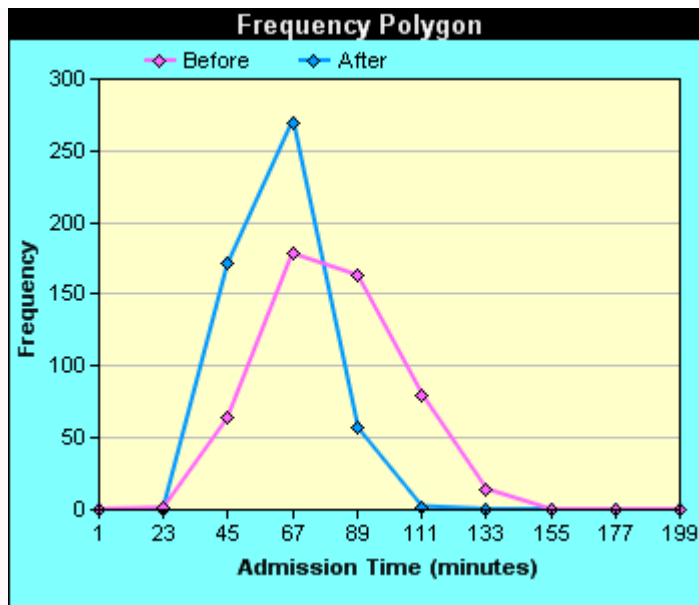
Cycle Time Analysis

Before Time Period : (01-Mar-2007 to 30-Mar-2007) After Time Period : (30-Mar-2007 to 01-May-2007)

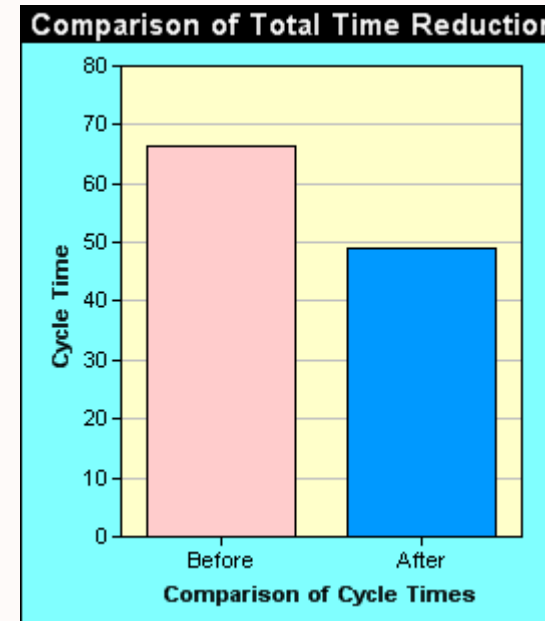
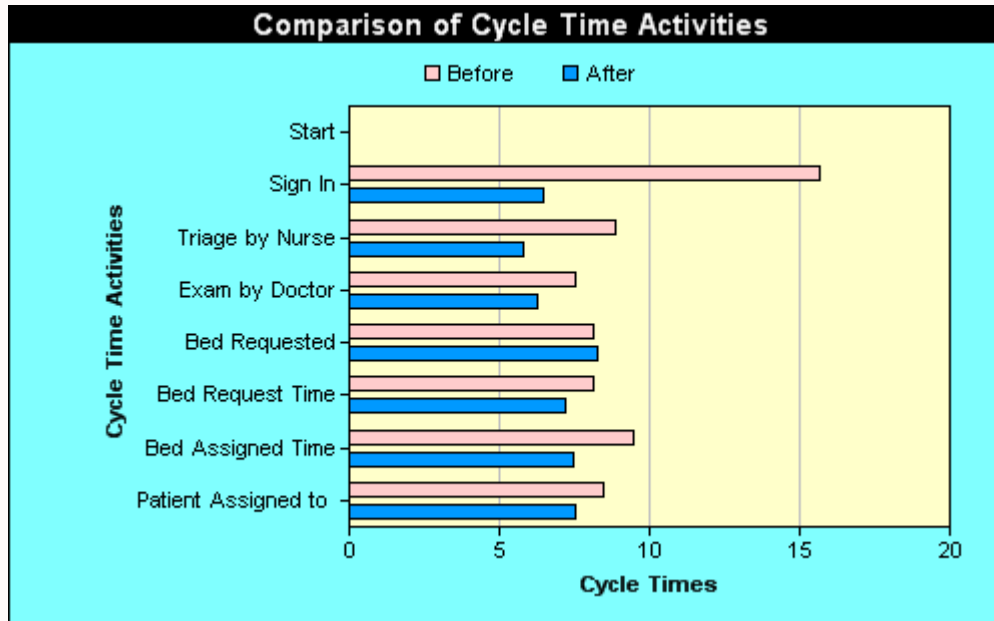
No.	Process Steps	Start	Elapsed	Bar Graph of Times	Comments
1	Start	0.000	0.000		
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3	Triage by Nurse	8.889	24.556		Waiting
4	Exam by Doctor	7.556	32.111		Doctor Not Arrived
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6	Bed Request Time	8.111	48.333		Incorrect bed number
7	Bed Assigned Time	9.444	57.778		Wrong Patient
8	Patient Assigned to Bed	8.444	66.222		Waiting
Total			66.222		
1	Start	0.000	0.000		Setup
2	Sign In	6.455	6.455		Setup
3	Triage by Nurse	5.818	12.273		Waiting
4	Exam by Doctor	6.273	18.545		Doctor not arrived
5	Bed Requested	8.273	26.818		Information not send
6	Bed Request Time	7.182	34.000		In correct bed Number
7	Bed Assigned Time	7.455	41.455		Wrong Patient
8	Patient Assigned to Bed	7.545	49.000		Waiting
Total			49.000		

Expectation





Improvement



Summary

Comments

Cycle Time analysis is very important to the Healthcare service.

It is not only that patients wait for doctors.

Visitors to patients wait for information about their sick relatives, they wait for meals in the cafeteria, etc.

Almost everyday, doctors themselves wait for records, test results, equipment availability, etc.

Everywhere where there are many chairs arranged for patients (and clients) to sit, there is waiting.

Clearly reducing Cycle Time is very important to patients as well as Healthcare staff.

Observations

Waiting is similar to traffic jam. Nobody likes traffic jams.

Patients, clients, doctors and Healthcare staff who wait for something are wasting their resources.

Waiting times sink the cost advantage of Healthcare operations. Reducing waiting times is highly profitable.

Lesson Learnt

It is very, very important to reduce waiting times.

One way to study waiting times is to use ICT-M.

Summary

Management should seriously consider reducing waiting times in all aspects in all departments.

Next Action

Management to make a decision on moving forward with ICT methods of making work easier, faster and better.