

Case Study

Herrestad Clinic

Uddevalla, Sweden

Patient Clinic Visit Process

September 2003 – April, 2004

Process Owner: Dr. Per Kjellson

Project Sponsor: Irene Svenningsson

Lean Practitioners:

Paula Braun

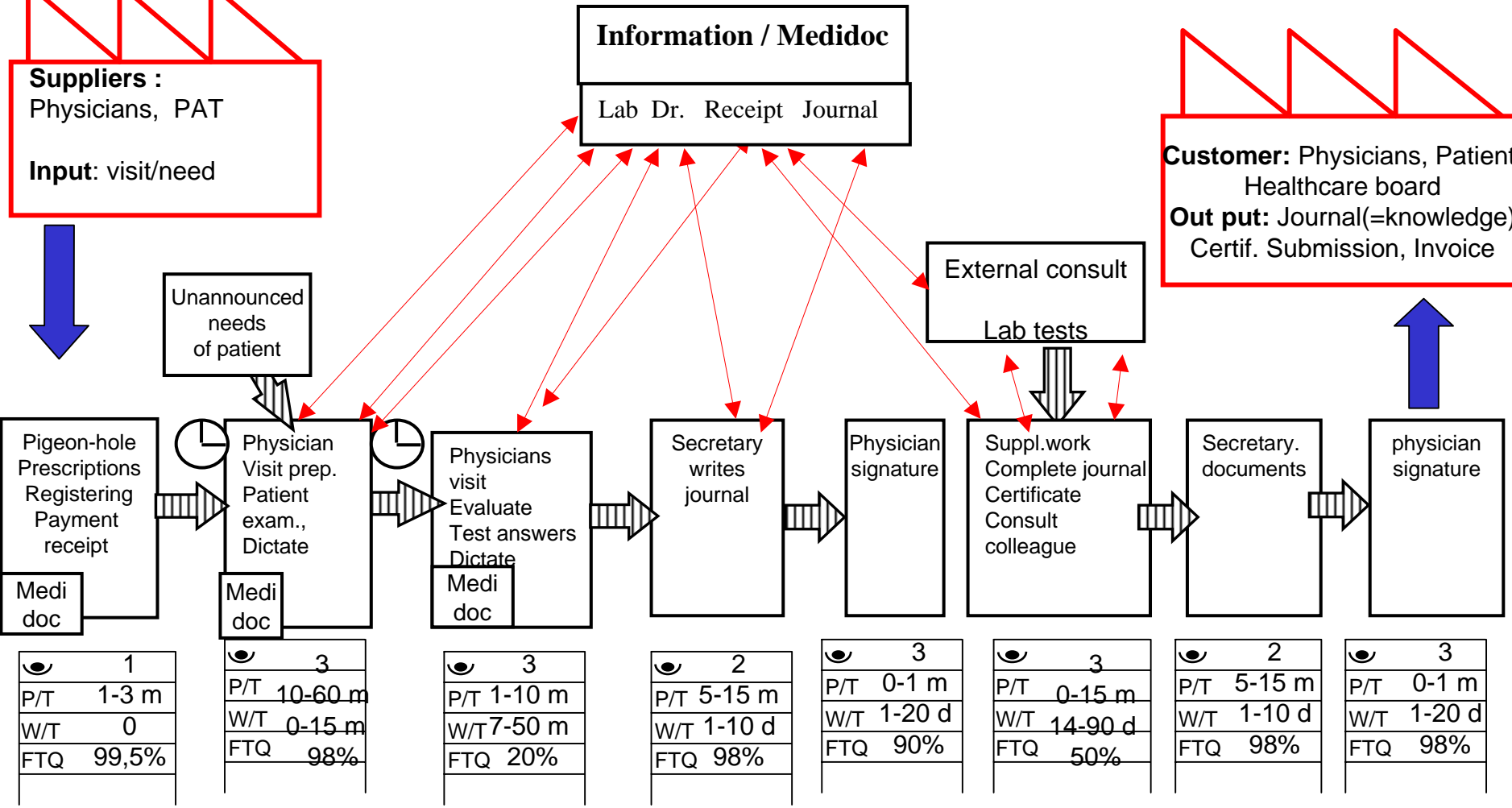
Peder Sjogreen

Robert Kessiakoff

John Long

Herrestad Patient Clinic Visit Process

Current State Map



Current State Metrics
P/T = 21-120 min. (average: 71)
W/T = 18-150 days (average: 84)
FTQ = 10%

Root Cause Analysis

Waste Identified	Root Cause	Improvement Idea / Solution
Rework	<p>Secretary rework due to unclear dictation, and requirement that physician proof-read and approve before signing. Physician often sees patient twice each visit to review lab test results.</p>	<p>Journals written by physician immediately after patient visit. Eliminate dictation, proof-reading and hand-over for signature. Lab tests done before physician sees patient. Simplified invitation letters.</p>
Motion	<p>Secretary fetches dictation tapes piling up for typing in physician's office. Secretaries must find physicians to correct dictation errors for summary report.</p>	<p>Eliminate these process steps.</p>
Inventory	<p>Dictation tapes piling up in batches for typing. Journals waiting to be signed</p>	<p>Institute one-piece flow to eliminate stock of dictation tapes.</p>
Over-production	<p>Patient often sees physician before and after lab tests.</p>	<p>Lab tests done before physician visit.</p>
Waiting	<p>Patient waiting for lab tests.</p>	<p>Lab needs test taking calendar which enables sorting according to priorities to decrease waiting and backlog.</p>

Herrestad Patient Medical Clinic Visit Process Future State Map

Suppliers :
Physicians, PAT

Input: visit/need

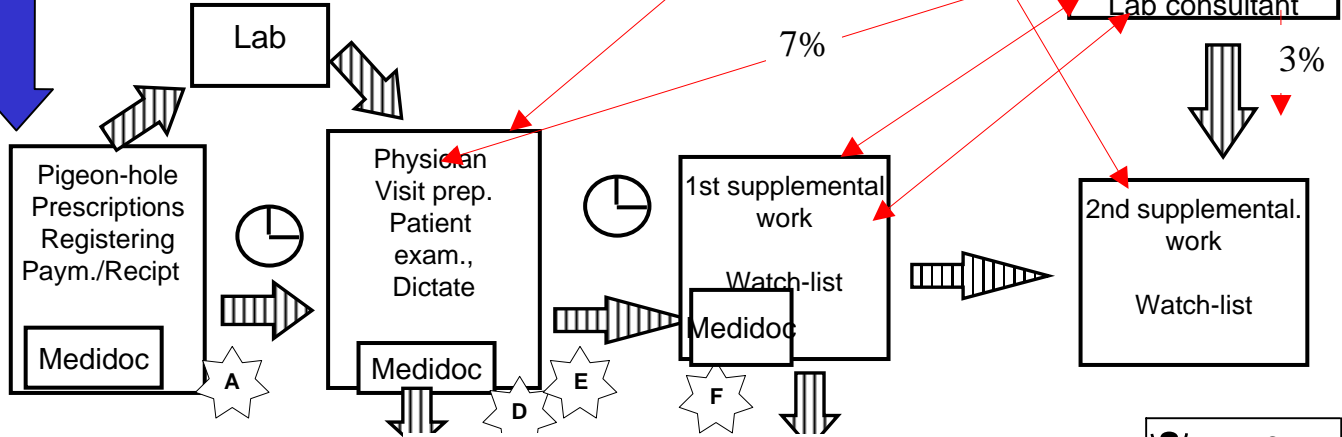
Information / Medidoc

Lab Dr Receipt Journal

External
Lab consultant

Customer: Physicians, Patient
Healthcare board

Out put: Journal(=knowledge)
Certif., Submissions, Invoice



👁️	1
P/T	11m
W/T	0
FTQ	99,5%

👁️	3
P/T	11 m
W/T	0-15 m
FTQ	90%

👁️	3
P/T	0,5 m
W/T	1-14 d
FTQ	9%

👁️	3
P/T	0,5 m
W/T	14-90 d
FTQ	1%

Future State Metrics :

P/T: 23 min

W/T: 15-104 days (mean 60)

FTQ = 90%

- Kaizen activities**
- A) create standard forms
 - B) create forms for labs
 - C) improve lab-equipment
 - D) simplify journals; checklists
 - E) doctors write journal
 - F) watch-list

Data Metrics

Attribute/metric	Current State Performance	Future State Goal	Actual Result
Process time (minutes)	22-120 (average=71)	23	6 – 65 (average = 35.5)
Wait time	Internal = 2-30 days (average: 16) Total = 18-150 min (average: 84)	Internal = 0-15 min (average: 7.5) Total = 15-104 days (average: 60)	90% Internal = 1-15 min Total 1-90 days (average: 45)
First time quality	10 %	90 %	90 %
Number of process steps	5-8	2-3	3
Number of patient visits per month	650	750	850

Implementation Plan

- **Standard forms**
- **Lab tests done before office visit**
- **Test-calendar for laboratories to improve planning**
- **Checklists for physician journal-writing**
- **Watch-list for external consultations**

Learnings/ Teaching

- **The goal of the Project was to to create a better, less stressful workplace. The result was more productivity, less stress and a 24 % increase in patients visits.**
- **Lean metrics used to measure Current State performance, set Future State goals and give an systems view of the process.**
- **Cross functional workgroups doing Value Steam Mapping and Kaizen Events increased understanding, co-operation and collaboration.**
- **One-piece flow reduced rework, wait time and number of process steps.**
- **A lab calendar leveled work load and reduced wait time for lab results.**