

# **Leadership Challenges with TQM Deployment**

**Francine Crockett**

**VP Supply Chain Management**

**University Health System**

What was the situation that caused your organization to utilize a quality systems approach?

- Patient wait time of 1 hour 21 minutes
- Low patient satisfaction scores
- Need to increase patient throughput
- Add value to the patient experience
- Need to eliminate waste
- Need to streamline process
- Need for sustainable improvement

What quality systems methodology did you implement?

- Lean Six Sigma
- DMAIC (Define, Measure, Analyze, Implement, Control)
- Kaizan Event
- Spaghetti Diagram
- Value Stream Mapping
- Metrics Board

What have been your greatest challenges?

- Senior Leadership Buy-in (VPs)
- Leadership expectation of quick results
- Staff understanding Lean Concept
- Team comprised from different sites
- Doctors step out of their role and listen to staff
- Departmental support (i.e. IT, Facilities, Legal, Communications)

What are you doing/have done to overcome those challenges?

- Developed a Charter
- Brought in an outside Consultant
- Scheduled a training session for Sr. Leadership
- Process owners own the process
- Developed Action Plan
- Developed a Metrics Board

What results have you achieved/expect to achieve thus far?

- Expect to reduce wait times to 45 mins
- Approximately 75% of action items are completed
- Approaching 60 day consultant review, 90 day to follow
- Present final report to CEO and Sr. Leadership
- Replicate new process to other sites

# Leadership Challenges with TQM Deployment

John Donnelly

Administrative Director, Supply Chain  
Virginia Mason Medical Center

What was the situation that caused your organization to utilize a quality systems approach?

- Need for a management method to make real and measurable improvements in:
  - Safety
  - Quality
  - Service
  - Staff Satisfaction

What quality systems methodology did you implement?

- Toyota Production System which we call the Virginia Mason Production System

What have been your greatest challenges?

- Cultural Change
- Resistance
- Empowering the people doing the work to make change

What are you doing/have done to overcome those challenges?

- Leadership presence
- Education across the Organization

What results have you achieved/expect to achieve thus far?

- Implementation of Patient Safety Alert system
- Quality improvements
- Decreased LOS where appropriate
- Increased patient satisfaction
- Revenue Cycle improvements
- Improved Patient access

# *Achievements in Reprocessing*

*Dennis A Robb  
Senior Vice President  
Health Alliance*



# Reprocessing of “Single Use Devices”

- Reprocessing is re-manufacturing
- FDA regulates medical device industry
  - FDA 510K process applies
  - Required to report product failure
  - FDA determined scientific equivalency
- Every product is sterilized and tested
- Benefits both environment & bottom line



Physician Leadership



Clinical Planning Meetings



A few Surgical Advisory members



OR Clinical Leads take Manufacturing Site Tours

# Hospital “Throw Away” Mentality

- Easy
- Convenient
- Acceptable because hospitals are different
- Our history
- Little cost accountability



**Wasteful/  
harmful  
byproduct**

# 6σ: Data Driven Methodology

Define

M

Quality, Safety,  
Service and Price

What is our savings opportunity?

Operational Metrics:

Business Metric – Reprocessing Compliance

Process Metric – Supply acquisition costs

Quality Metric – Each item must be at least

FY '07	July '06					
	SCD	EP Cath	OR	Q/U	Total	est lbs
Christ	\$ 4,489	\$ 10,225	\$ 19,159	\$ 625	\$ 34,499	196
Fort Hamilton	\$ 126		\$ 2,049	\$ 30	\$ 2,205	18
Jewish	\$ 2,785	\$ 168	\$ 4,519	\$ 3,799	\$ 11,271	133
St Luke West	\$ 871		\$ 1,618	\$ 122	\$ 2,612	43
St Luke East	\$ 137		\$ 937	\$ 337	\$ 1,411	18
University	\$ 1,612	\$ 3,435	\$ 4,605	\$ 4,141	\$ 13,693	8
<b>Total</b>	<b>\$ 9,921</b>	<b>\$ 13,828</b>	<b>\$ 32,887</b>	<b>\$ 9,064</b>	<b>\$ 65,691</b>	<b>416</b>

Note: Ascend experienced down time on their SCD line in July. Numbers should be made up in August.

Current Impact				
	Savings	FY Target	% of Target	est lbs
Christ	\$ 76,585	\$ 343,268	22%	2,471
Fort Hamilton	\$ 6,300	\$ 52,361	12%	528
Jewish	\$ 27,428	\$ 124,145	22%	1,758
St Luke West	\$ 6,010	\$ 37,271	16%	418
St Luke East	\$ 3,960	\$ 37,834	9%	534
University	\$ 30,873	\$ 294,869	10%	2,059
<b>Total</b>	<b>\$ 160,756</b>	<b>\$ 889,747</b>	<b>17%</b>	<b>7,768</b>

Target %      17%

FY07 Savings Targets					
	SCD	EP Cath	OR	Q/U	Total
Christ	\$ 78,864	\$ 161,947	\$ 96,000	\$ 6,857	\$ 343,268
Fort Hamilton	\$ 16,879	\$ -	\$ 24,873	\$ 10,810	\$ 52,361
Jewish	\$ 62,960	\$ 4,206	\$ 46,703	\$ 10,276	\$ 124,145
St Luke West	\$ 17,889	\$ -	\$ 15,952	\$ 3,630	\$ 37,271
St Luke East	\$ 16,468	\$ -	\$ 18,074	\$ 3,302	\$ 37,834
University	\$ 49,927	\$ 44,905	\$ 179,775	\$ 20,262	\$ 294,869
<b>Total</b>	<b>\$ 242,576</b>	<b>\$ 211,058</b>	<b>\$ 381,378</b>	<b>\$ 54,736</b>	<b>\$ 889,747</b>

Note: CH & JH docs are currently not using harmonics catpels which will result in an adjustment to their OR savings as we redistribute harmonics to other hospitals

FY '07	YTD Compiled					
	SCD	EP Cath	OR	Q/U	Total	est lbs
Christ	\$ 11,759	\$ 23,164	\$ 38,989	\$ 2,652	\$ 76,585	\$ 498
Fort Hamilton	\$ 2,016	\$ -	\$ 3,920	\$ 363	\$ 6,300	\$ 88
Jewish	\$ 9,904	\$ 931	\$ 12,352	\$ 4,181	\$ 27,428	\$ 405
St Luke West	\$ 1,799	\$ -	\$ 3,952	\$ 259	\$ 6,010	\$ 94
St Luke East	\$ 1,084	\$ -	\$ 1,933	\$ 544	\$ 3,560	\$ 64
University	\$ 6,591	\$ 5,596	\$ 13,727	\$ 4,959	\$ 30,873	\$ 217
<b>Total</b>	<b>\$ 33,254</b>	<b>\$ 29,691</b>	<b>\$ 74,853</b>	<b>\$ 12,968</b>	<b>\$ 160,756</b>	<b>\$ 1,368</b>

Per Month Numbers to make Target					
	SCD	EP Cath	OR	Q/U	Total
Christ	\$ 6,886	\$ 13,878	\$ 5,703	\$ 401	\$ 26,868
Fort Hamilton	\$ 1,486	\$ -	\$ 2,065	\$ 1,025	\$ 4,606
Jewish	\$ 5,300	\$ 328	\$ 3,435	\$ 610	\$ 9,673
St Luke West	\$ 1,589	\$ -	\$ 1,200	\$ 337	\$ 3,126
St Luke East	\$ 1,537	\$ -	\$ 1,614	\$ 276	\$ 3,427
University	\$ 4,334	\$ 3,931	\$ 16,805	\$ 1,530	\$ 26,400
<b>Total</b>	<b>\$ 20,332</b>	<b>\$ 18,137</b>	<b>\$ 30,652</b>	<b>\$ 4,178</b>	<b>\$ 73,898</b>

27	Lap Clamps - Cold	Reprocessed			31	\$ 45.00	\$ 148.50		
28	Lap Dissectors - Hot	New	6	2	3	70.75	\$ 191.03	\$ 340	\$ 425
29	Lap Dissectors - Hot	Reprocessed			3	\$ 45.00	\$ 148.50		
30	Lap Scissors/Shears - Hot	New	252	63	113	88.50	\$ 10,035.90	\$ 16,273	\$ 22,302
31	Lap Scissors/Shears - Hot	Reprocessed			139	\$ 45.00	\$ 6,237.00		
32	Less Than 8mm Burrs	New	308	77	139	\$ 72.17	\$ 10,002.76	\$ 12,544	\$ 22,228
33	Less Than 8mm Burrs	Reprocessed			169	\$ 15.00	\$ 2,541.00		
34	Ortho Trocar Devices	New	15R	40	71	\$ 41.38	\$ 2,947.12	\$ 4,746	\$ 6,538

Ready      Presentation2      Sum=1345000      NUM

# 6σ: Data Driven Methodology



## Do Not Reprocess List

- Clinical Analysis
- - Surgical, Medical, and Cardiac
- A Worked with IS&T, Compliance and Billing to create Charging Process
- -
- C Trained requisitioners on Ascent's WEB tracking system (ePAM)
- -
- - Assessed Fall out reports
- -
- - Monthly Report Outs

What structure & resources are needed to ensure quality and efficiency?

What tracking devices & communication mechanisms?

How can the improvements be sustained?

# Initiative Rollout

- Verbal, written and face-to-face communication
- On-site training
- Weekly monitoring



**Device Sterility and Integrity – con't**  
**Congress Passes & President Signs Legislation (October 2002)**

**Device Sterility and Integrity**

- ◆ Sterilization method:
  - 100% EtO
- ◆ Sterilizers are validated according to AAMI/ANSI/ISO 11135:1994, the recognized standard
  - Overkill Method of Validation
    - Mapping, Sub-lethal doses, Half Cycles, D
  - Biological Indicators
    - *Bacillus subtilis* var. *niger*
    - Tortuous path
    - Zero Tolerance

**Reprocessing Single Use**

Category	SCD	EP Can	DR	OU	Total	est lbs
July-07	\$ 4,480	\$ 0,026	\$ 4,190	\$ 2,305	\$ 11,001	400
Christ	\$ 2,788	\$ 68	\$ 2,856	\$ 1,591	\$ 5,303	19
Fort Hamilton	\$ 32	\$ 1,793	\$ 1,825	\$ 1,012	\$ 4,662	16
Lehigh	\$ 32	\$ 1,793	\$ 1,825	\$ 1,012	\$ 4,662	16
St Luke West	\$ 32	\$ 1,793	\$ 1,825	\$ 1,012	\$ 4,662	16
St Luke East	\$ 32	\$ 1,793	\$ 1,825	\$ 1,012	\$ 4,662	16
University	\$ 32	\$ 1,793	\$ 1,825	\$ 1,012	\$ 4,662	16
Total	\$ 4,924	\$ 2,687	\$ 7,611	\$ 6,881	\$ 21,093	216

Note: Percent experienced down time on their SCD line is only. Numbers should be made up in August.

Category	SCD	EP Can	DR	OU	Total	est lbs
August-07	\$ 7,310	\$ 12,226	\$ 19,513	\$ 2,088	\$ 41,137	262
Christ	\$ 1,393	\$ 763	\$ 2,156	\$ 224	\$ 4,536	70
Fort Hamilton	\$ 1,793	\$ 763	\$ 2,556	\$ 224	\$ 5,336	72
Lehigh	\$ 1,793	\$ 763	\$ 2,556	\$ 224	\$ 5,336	72
St Luke West	\$ 1,793	\$ 763	\$ 2,556	\$ 224	\$ 5,336	72
St Luke East	\$ 1,793	\$ 763	\$ 2,556	\$ 224	\$ 5,336	72
University	\$ 1,793	\$ 763	\$ 2,556	\$ 224	\$ 5,336	72
Total	\$ 12,522	\$ 30,804	\$ 43,368	\$ 4,592	\$ 91,286	520

Note: CH & JH does are currently not using harmonic cages which will result in an adjustment.

Best DR savings as we redistribute harmonics to other hospital

Category	SCD	EP Can	DR	OU	Total	est lbs
FY-07	\$ 11,704	\$ 22,104	\$ 33,200	\$ 3,662	\$ 70,670	482
Christ	\$ 2,788	\$ 68	\$ 2,856	\$ 1,591	\$ 5,303	19
Fort Hamilton	\$ 32	\$ 1,793	\$ 1,825	\$ 1,012	\$ 4,662	16
Lehigh	\$ 32	\$ 1,793	\$ 1,825	\$ 1,012	\$ 4,662	16
St Luke West	\$ 32	\$ 1,793	\$ 1,825	\$ 1,012	\$ 4,662	16
St Luke East	\$ 32	\$ 1,793	\$ 1,825	\$ 1,012	\$ 4,662	16
University	\$ 32	\$ 1,793	\$ 1,825	\$ 1,012	\$ 4,662	16
Total	\$ 12,522	\$ 30,804	\$ 43,368	\$ 4,592	\$ 91,286	520

**Percent Excess**

Category	SCD	EP Can	DR	OU	Total	est lbs
Christ	\$ 4,880	\$ 16,827	\$ 21,707	\$ 2,400	\$ 45,814	289
Fort Hamilton	\$ 4,880	\$ 16,827	\$ 21,707	\$ 2,400	\$ 45,814	289
Lehigh	\$ 4,880	\$ 16,827	\$ 21,707	\$ 2,400	\$ 45,814	289
St Luke West	\$ 4,880	\$ 16,827	\$ 21,707	\$ 2,400	\$ 45,814	289
St Luke East	\$ 4,880	\$ 16,827	\$ 21,707	\$ 2,400	\$ 45,814	289
University	\$ 4,880	\$ 16,827	\$ 21,707	\$ 2,400	\$ 45,814	289
Total	\$ 29,280	\$ 101,168	\$ 132,748	\$ 14,400	\$ 277,596	1,751

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Lehigh	\$ 4,880	\$ 16,827	\$ 21,707	\$ 2,400	\$ 45,814	289
St Luke West	\$ 4,880	\$ 16,827	\$ 21,707	\$ 2,400	\$ 45,814	289
St Luke East	\$ 4,880	\$ 16,827	\$ 21,707	\$ 2,400	\$ 45,814	289
University	\$ 4,880	\$ 16,827	\$ 21,707	\$ 2,400	\$ 45,814	289
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St Luke West	\$ 4,880	\$ 16,827	\$ 21,707	\$ 2,400	\$ 45,814	289
St Luke East	\$ 4,880	\$ 16,827	\$ 21,707	\$ 2,400	\$ 45,814	289
University	\$ 4,880	\$ 16,827	\$ 21,707	\$ 2,400	\$ 45,814	289
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# Quality and Safety Criteria

- Patient injuries: zero
- Product reviews
  - Pneumatic compression sleeves
  - Harmonic scalpels

Max ID 00 00:03a Chris Bleisch 510-737-2525 P-1

**PRODUCT COMPLAINT REPORT**

Complaint number: (FOR QA USE ONLY)

ASCENT  
MEDICAL SYSTEMS

Facility name: St. Luke's Hospital Account # (optional) \_\_\_\_\_  
 Contact name: Jill Blinn DR. DM. MS. Title: Director  
 Address: 3139 Auburn Ave Phone: 410-516-1447  
 Dept/Floor: \_\_\_\_\_ Email: ASCENT@slu.edu  
 City/State: \_\_\_\_\_ State: PA Zip: 15219

Name: Chris Bleisch Date notified of complaint: 5-18-06  
 Date filing report: 5-18-06 Title: Asst

Physician User: \_\_\_\_\_ Procedure Type: \_\_\_\_\_  
 Serious injury or death occurred:  Yes  No Procedure Date: \_\_\_\_\_  
 Event occurred:  Pre-op  Intra-op  Post-op  Unknown  
 Detailed description of the incident: did not test

Date of Use	Original Location	Device Type	Device Identifier	Serial Number	Lot Number	Qty	Returned
1) 4/19/06	OR 3000	Choice free tie: B 5		LC 5 03 274		1	1
2)		Choice free tie					
3)		Choice free tie					
4)		Choice free tie					
5)		Choice free tie					

Product was used for intended purposes:  Yes  No  Unknown  
 Customer requests (attach) to be investigated:  Yes  No  N/A  
 Customer response requested:  None  Verbal  Written  None delivered by: \_\_\_\_\_  
 Date form received by QA: \_\_\_\_\_ Date product received by QA: \_\_\_\_\_

A200-3 Rev. A 01/04/06 CONFIDENTIAL Page 1 of 1

## Health Alliance - FY09 Reprocessing Savings Report

FY '09	Q1: July - September '08					
	SCD	EP Cath	OR	O/U	Total	est lbs
Fort Hamilton	\$ 1,744	\$ -	\$ 6,740	\$ 1,548	\$ 10,032	716
Jewish	\$ 4,768	\$ 9,019	\$ 72,185	\$ 1,277	\$ 87,249	2,884
St Luke West	\$ 2,096	\$ -	\$ 25,983	\$ 532	\$ 28,611	880
St Luke East	\$ 1,120	\$ -	\$ 14,625	\$ 1,659	\$ 17,404	571
University	\$ 5,320	\$ 24,426	\$ 89,487	\$ 1,741	\$ 120,973	3,611
Drake	\$ 48	\$ -	\$ -	\$ -	\$ 48	-
<b>Total</b>	<b>\$ 15,096</b>	<b>\$ 33,445</b>	<b>\$ 209,021</b>	<b>\$ 6,756</b>	<b>\$ 264,318</b>	<b>8,662</b>

	Impact			
	Savings	FY Target	% of Target	est lbs
Fort Hamilton	\$ 31,807	\$ 22,261	143%	2,464
Jewish	\$ 302,606	\$ 177,903	170%	9,934
St Luke West	\$ 124,192	\$ 25,129	494%	3,400
St Luke East	\$ 63,661	\$ 14,182	449%	2,292
University	\$ 435,881	\$ 268,817	162%	11,650
Drake & WCMC	\$ 148	\$ 72	206%	22
<b>Total</b>	<b>\$ 958,295</b>	<b>\$ 508,363</b>	<b>189%</b>	<b>29,762</b>

FY '09	Q2: October - December '08					
	SCD	EP Cath	OR	O/U	Total	est lbs
Fort Hamilton	\$ 1,048	\$ -	\$ 3,466	\$ -	\$ 4,514	518
Jewish	\$ 4,040	\$ 9,214	\$ 82,345	\$ 1,039	\$ 96,639	2,625
St Luke West	\$ 2,056	\$ -	\$ 47,807	\$ 331	\$ 50,194	1,149
St Luke East	\$ 1,128	\$ -	\$ 8,663	\$ 163	\$ 9,955	447
University	\$ 7,080	\$ 17,793	\$ 66,427	\$ 12,122	\$ 103,422	2,274
Drake	\$ -	\$ -	\$ -	\$ -	\$ -	-
<b>Total</b>	<b>\$ 15,352</b>	<b>\$ 27,007</b>	<b>\$ 208,709</b>	<b>\$ 13,655</b>	<b>\$ 264,723</b>	<b>7,013</b>

	FY09 Savings Targets				
	SCD	EP Cath	OR	O/U	Total
Fort Hamilton	\$ 5,245	\$ -	\$ 13,847	\$ 3,169	\$ 22,261
Jewish	\$ 11,667	\$ 13,574	\$ 123,107	\$ 29,555	\$ 177,903
St Luke West	\$ 887	\$ -	\$ 20,415	\$ 3,827	\$ 25,129
St Luke East	\$ 1,840	\$ -	\$ 11,919	\$ 423	\$ 14,182
University	\$ 11,718	\$ 43,588	\$ 193,699	\$ 19,812	\$ 268,817
Drake & WCMC	\$ 72	\$ -	\$ -	\$ -	\$ 72
<b>Total</b>	<b>\$ 31,429</b>	<b>\$ 57,162</b>	<b>\$ 362,986</b>	<b>\$ 56,786</b>	<b>\$ 508,363</b>

FY '09	Q3: January - March '09					
	SCD	EP Cath	OR	O/U	Total	est lbs
Fort Hamilton	\$ 696	\$ -	\$ 8,760	\$ 1,182	\$ 10,638	572
Jewish	\$ 3,544	\$ 3,113	\$ 52,551	\$ 6,888	\$ 66,097	1,971
St Luke West	\$ 1,280	\$ -	\$ 39,214	\$ -	\$ 40,494	598
St Luke East	\$ 1,624	\$ 696	\$ 13,650	\$ 1,919	\$ 17,889	702
University	\$ 7,616	\$ 14,789	\$ 103,218	\$ 9,608	\$ 135,230	2,903
Drake	\$ -	\$ -	\$ -	\$ -	\$ -	-
<b>Total</b>	<b>\$ 14,760</b>	<b>\$ 18,598</b>	<b>\$ 217,393</b>	<b>\$ 19,597</b>	<b>\$ 270,348</b>	<b>6,746</b>

FY '09	Q4: April - June '09					
	SCD	EP Cath	OR	O/U	Total	est lbs
Fort Hamilton	\$ 744	\$ -	\$ 5,879	\$ -	\$ 6,623	658
Jewish	\$ 2,704	\$ 2,887	\$ 47,030	\$ -	\$ 52,621	2,454
St Luke West	\$ 1,520	\$ -	\$ 3,373	\$ -	\$ 4,893	773
St Luke East	\$ 1,778	\$ -	\$ 16,635	\$ -	\$ 18,413	572
University	\$ 9,032	\$ 17,141	\$ 38,236	\$ 11,847	\$ 76,255	2,862
West Chester	\$ 76	\$ -	\$ -	\$ -	\$ 76	22
Drake	\$ 24	\$ -	\$ -	\$ -	\$ 24	-
<b>Total</b>	<b>\$ 15,878</b>	<b>\$ 20,028</b>	<b>\$ 111,153</b>	<b>\$ 11,847</b>	<b>\$ 158,906</b>	<b>7,341</b>

FY '09	YTD Total					
	SCD	EP Cath	OR	O/U	Total	est lbs
Fort Hamilton	\$ 4,232	\$ -	\$ 24,846	\$ 2,730	\$ 31,807	2,464
Jewish	\$ 15,056	\$ 24,234	\$ 254,112	\$ 9,204	\$ 302,606	9,934
St Luke West	\$ 6,952	\$ -	\$ 116,378	\$ 863	\$ 124,192	3,400
St Luke East	\$ 5,650	\$ 696	\$ 53,574	\$ 3,741	\$ 63,661	2,292
University	\$ 29,048	\$ 74,148	\$ 297,367	\$ 35,318	\$ 435,881	11,650
West Chester	\$ 76	\$ -	\$ -	\$ -	\$ 76	22
Drake	\$ 72	\$ -	\$ -	\$ -	\$ 72	-
<b>Total</b>	<b>\$ 45,208</b>	<b>\$ 79,050</b>	<b>\$ 635,123</b>	<b>\$ 40,008</b>	<b>\$ 958,295</b>	<b>29,762</b>

Data Dictionary  
 SCD = Compression Sleeves  
 O/U = Open and unused items