

The Jacksonville Kaizen Production System
Naval Hospital Jacksonville Florida

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INTRODUCTION

The Military Healthcare System and its Military Treatment Facilities are constantly seeking new and innovative ways to deal with the current economic crisis. The proposed federal budget for Fiscal Years 12-16 predict a \$78B decrease in defense spending with a substantial portion coming from healthcare. Naval Hospital Jacksonville (NHJAX) understanding the urgency of the situation and the need for transformation in healthcare, developed the "Jacksonville Kaizen Production System (JKPS)." The JKPS is administered under the auspices of the newly formed Kaizen Production Office (KPO). The ongoing goal of the KPO is to facilitate "Kaizen," or continuous process improvement, throughout the enterprise with all 2500 members participating. Each member is empowered and encouraged to facilitate change in their workspace; our motto is, *"If You See It, You Own It."* Although JKPS borrows from quantifiable and proven management systems such as Lean Six Sigma (LSS), The Toyota Production System and the Virginia Mason Production System, it is different.

The JKPS with hands on executive leadership involvement wholly incorporates the spirit and intent of the MHS Quadruple aim. Unleashing the synergy of all command members in a concerted effort to eliminate the seven wastes in healthcare, which are:

- (1) Confusion – Primarily due to poor communication.
- (2) Motion/Conveyance – Unnecessary and redundant Motion. By the patient and staff members.
- (3) Waiting – Waiting for people, services or equipment.
- (4) Overprocessing – Unnecessary Processes or operations traditionally accepted as necessary i.e. lab/studies.
- (5) Inventory – Excessive amounts.
- (6) Defects – Costs associated with defects in processes i.e. RCAs.
- (7) Overproduction – Producing what is unnecessary i.e. paperwork.

We will ensure readiness, maximize population health, decrease per capita costs and enhance the experience of our patients. Our goal is to not to simply cut costs, but to improve efficiencies in our clinical and administrative processes, while providing our patients with an optimal experience. Ultimately, we will decrease financial expenditure and human energy expenditure by 20%

METHODS

The KPO and JKPS were new initiatives of NHJAX starting in April 2011. Originally chartered by the Commanding Officer (CO) as the Process Transformation Team (PTT). As a show of commitment to the ideal of continuous process improvement the Commanding Officer appointed a Special Assistant for Process Transformation (SAPT) and a team of twelve individuals, both military and civilian, to serve as the

initial PTT. This team set out to develop the JKPS and KPO. Subsequently, the commands organizational structure for process improvement was developed to include a system of reporting and tracking. The PTT was given an initial budget of approximately \$25K to conduct research and travel in the development of the JKPS.

Organizational Structure:



Ultimately, by command instruction the PTT became the KPO. The Kaizen Council is the reporting body for all command process improvement activities. The JKPS became the standard approach to process improvement for the command.

Kaizen Production Office – Established to facilitate “Kaizen” or continuous process improvement throughout the enterprise. Responsibilities include:

- (1) Develop, implement and continuously evaluate the JKPS.
- (2) Review administrative processes to maximize meeting efficiency, streamline the flow of paperwork, and empower decision making at the lowest level.

- (3) Review clinical processes to reduce human motion/energy expenditure, increase efficient use of patient time, and minimize physical resource waste.
- (4) Review and monitor JKPS activities at all levels of the command.
- (5) Prioritize improvement projects to ensure alignment with the Command Strategic Plan.
- (6) Provide Guidance, support and education to Departmental and Directorate Kaizen Officers.

Comprised of:

- (1) SAPT
- (2) Head, Quality Management Department
- (3) Command Lean Six Sigma Black Belt
- (4) Seven members of the command
 - Two additional LSS Black belts
 - One Senior Enlisted Member
 - One Family Medicine Resident
 - The remaining 3 members must be E-7 or above, GS-9 or above, O-3 or above

Kaizen Council – An interdisciplinary forum responsible for the review of command-wide JKPS projects, to include LSS projects, which are identified, designed and managed through collaborative teams in accordance with priorities established by command leadership. Responsibilities include:

- (1) Assist the CO in maintaining a comprehensive, safe, and cost-efficient system for monitoring and improving the quality of patient care, outcomes, and services.
- (2) Coordinate activities that reflect NHJAX strategic goals and objectives with a focus on continuous sustainment.
- (3) Oversight and review of hospital-wide and interdisciplinary process improvement activities focused on quality and safety.
- (4) Identify training needs to continuously evaluate the effectiveness of the JKPS.

Comprised of:

- (1) SAPT
- (2) Head, Quality Management Department
- (3) Directorate Kaizen Officers - one member from each of the commands
Directorates – E-7 or above, GS-9 or above, O-3 or above

Departmental Kaizen Officers – Facilitate “Kaizen” activities at the Departmental level. Must be E-6 or above, GS-7 or above, O-3 or above. Responsibilities include:

- (1) Support the department head in all JKPS activities such as identifying opportunities for process improvement.
- (2) Assist department staff in applying the JKPS tools to reduce waste and improve the healthcare experience at the department level.
- (3) Provide routine reports on status of Kaizen projects to the Directorate KO.
- (4) Communicate project status to all departmental staff via status boards.

Reporting

All JKPS activities are reported via the Kaizen Newspaper from Departmental KO's to Directorate KO's.

Department _____ Newspaper

Notes:

Types of Waste: Confusion, Motion/Conveyance, Defects, Inventory, Waiting, Overproduction, Over Processing

Status: Document all projects - success and failures! Highlight the completed portions of the PDCA cycle in green. If the project was aborted, highlight the "PDCA" block in red.

No	Type of Waste	Problem & Root Cause	Improvement	Who	When	Status	
						Plan	Do
		Root Cause:	Estimated Cost Savings:			Act	Check
						Plan	Do
		Root Cause:	Estimated Cost Savings:			Act	Check
						Plan	Do
		Root Cause:	Estimated Cost Savings:			Act	Check
						Plan	Do
		Root Cause:	Estimated Cost Savings:			Act	Check
						Plan	Do
		Root Cause:	Estimated Cost Savings:			Act	Check
						Plan	Do
		Root Cause:	Estimated Cost Savings:			Act	Check

All Completed Rapid Improvement Events (RIE) (see tools) will be reported on the Kaizen Improvement Snapshot (KISS) form

PROCESS:

1. BACKGROUND

2. CURRENT CONDITIONS

Current State Value Stream Map:

Problems/Cause:

3. GOALS/TARGETS

4. ANALYSIS

5. IMPROVEMENT PLAN

Cause	Improvement	Description	Benefit	Responsible/support

Future State Value Stream Map:

6. METRICS

Metric (Units of measurement)	Baseline	Target	30 days yy/mm/dd	60 days yy/mm/dd	90 Days yy/mm/dd	% Change
Inventory - Dollar value of supplies on the shelf waiting to be used.		\$_____				
Productivity - Productivity gain as calculated in FTE's.		___FTEs				
Floor Space - Square footage utilized in the process.		___Sq. Ft.				
Lead Time - Time measured in mins or secs as appropriate to the process studied		___Hrs. (min/sec)				
People Distance - Distance measured in feet or steps traveled (staff and/or patients)		___ Ft. (or steps)				
Product Distance - Distance measured in feet traveled by the parts in the process		___ Ft.				

Setup Time – Time spent preparing to provide the next product or service		—Hrs. (min/second)				
7. RESULTS						

Education/Training – Over a two-week period all members of the command were trained on the JKPS. Specifically the following tools and their use was emphasized:

- (1) 5S
- (2) Mistake Proofing “Poke Yoke”
- (3) Visual Work Place Rules
- (4) Value Stream Mapping
- (5) Spaghetti Diagrams
- (6) SOAR Diagrams
- (7) Status Boards
- (8) Affinity Diagrams
- (9) Rapid Improvement Events

RESULTS

Although the implementation of JKPS is in its infancy it has produced excellent results thus far. The concept and application is two fold. First, there is the concept of projects being undertaken at the departmental and directorate level. The KPO provides education and guidance. Many of the projects fall under the traditional “Just Do It” label of LSS. The concept has been embraced and many projects are underway. Secondly, the KPO office oversees all projects, but more importantly manages command level JKPS projects.

The KPO has begun two command level projects. One titled “Project Green”, whose goal is to:

- (1) Eliminate excess printers/computers
- (2) Decrease printing enterprise wide

This LSS Green Belt project although only partially complete has produced a cost avoidance/saving of over \$500K as calculated by our budget office. The anticipated savings is nearly \$1M total.

The second command level project that is just underway is also a LSS Green Belt project. Its goal is to standardize our pre-operative process and centralize it in one location.

JKPS is a change in our culture, and with any culture change there are barriers. It has been our goal to tackle this barrier with an excellent educational program and training plan. Our Staff Education and Training Department has been instrumental in the implementation of the training plan. As previously mentioned all members of the command, both military and civilian, have been trained in the JKPS. There have been informational briefs since its inception. Another key to our success has been strong leadership and executive "buy-in." This has been instrumental in removing barriers at lower levels.

CONCLUSION

Implementing a new program that changes the culture of an organization is always difficult. However, one that is beneficial to our patients and key to the survival of an organization is worthwhile. We have built a program that is sustainable in that it builds on extremely successful, evidence based systems i.e. Toyota Production System, Lean Six Sigma and the Virginia Mason Production System. We have embedded the JKPS in our DNA via training, instruction and early successes. By empowering all members of the command with the JKPS tools it will become our culture. The JKPS is extremely replicable and exportable to other MTFS which is ultimately our goal.