



Making Notre Dame Better Every Day:

Continuous Improvement Efforts that Yield Impactful Results

ACC Fiscal Officers Conference – May 1, 2018

Presenter: Carol Mullaney, Sr. Director of Sustainability & Continuous Improvement



- Overview of Notre Dame's Continuous Improvement program
- Examples of Continuous Improvement Achievements in Finance

What is **Lean Six Sigma** ?



Notre Dame's Continuous Improvement Program



- Internal training of staff and faculty
- Process improvement project work (broad Lean Six Sigma approach)
- Facilitation of department/team improvement efforts

Our Story – The Beginning

University of Notre Dame > Leadership > President

OFFICE OF THE
PRESIDENT
REV. JOHN I. JENKINS, C.S.C.

About the Office **Vision and Goals** Communications University Administration Multimedia Gallery

Vision and Goals

In an effort to achieve its overall aspiration of becoming a preeminent research university with a distinctive Catholic mission and an unsurpassed undergraduate education, the University of Notre Dame strives to meet five institutional goals:

1. Offer an unsurpassed undergraduate education
2. Become a preeminent research university
3. Ensure that the University's Catholic character informs all its endeavors
4. Create a sustainable culture of continuous improvement and service excellence to support the University's mission
5. Communicate strategically to internal and external constituents

Restated University Goals

I. Ensure that our Catholic character informs all our endeavors

II. Offer an unsurpassed undergraduate education that nurtures the formation of mind, body, and spirit

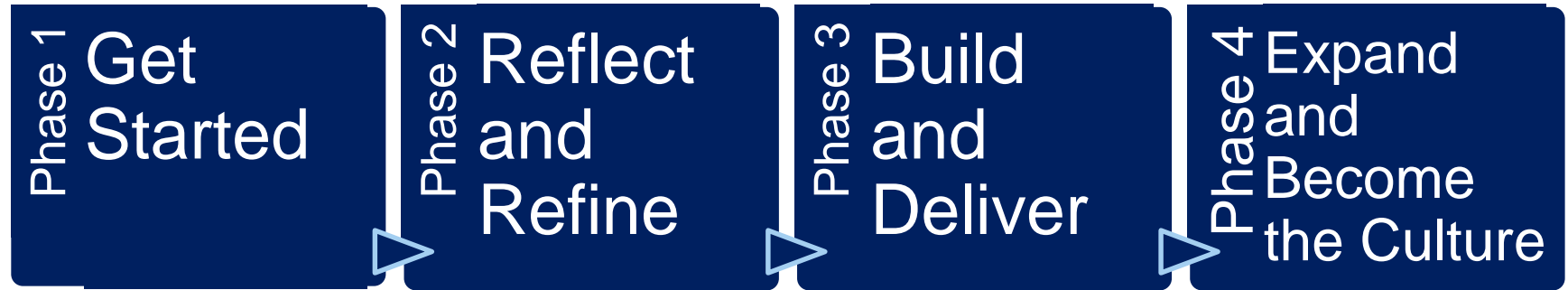


III. Advance human understanding through scholarship, research, and post-baccalaureate programs that seek to heal, unify, and enlighten

IV. Foster the University's mission through superb stewardship of its human, physical, and financial resources

V. Engage in external collaborations that extend and deepen Notre Dame's impact

What We've Done (2010-Present)

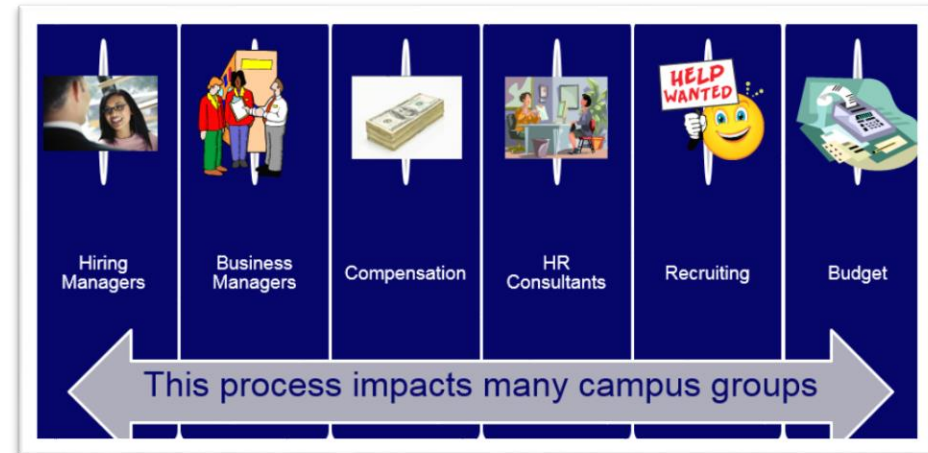


- Established Advisory Committee
 - Interviewed key leaders
 - Benchmarked other organizations
 - Hired consultant
 - Established Office of CI and Green Belt program
 - Started pilot projects
 - Began training leaders & project teams
- Completed pilot projects
 - Reflected . . .
 - Refined approach
 - Hired CI experience
 - Developed blended learning training program
 - Created Green Belt Program “rhythm”
- Celebrated and communicated successes
 - Developed scorecards
 - Improved project selection and scoping
 - Broadened reach across campus
 - Launched initial Black Belt projects
- Diversification of Problem-Solving Approaches
 - Black / Green / Yellow Belt Projects
 - Process Design
 - Rapid Process Improvement (Kaizen events; “Move-It!” sessions)
 - Consulting Engagements

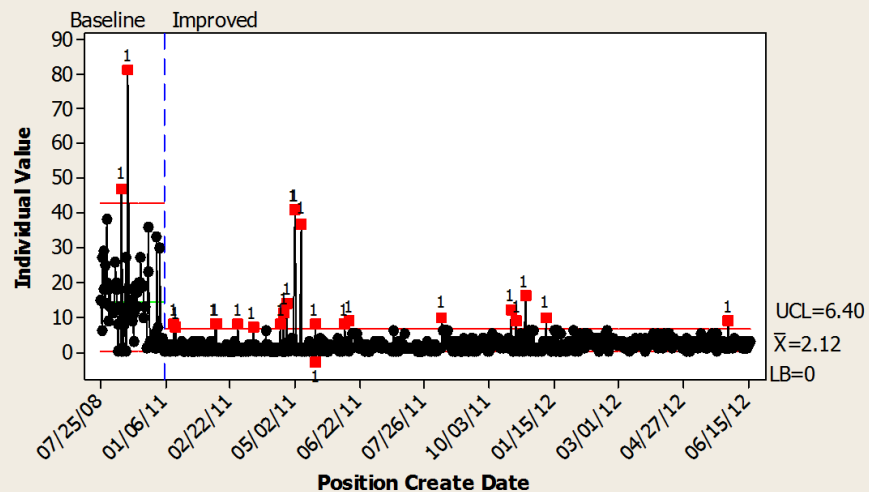
Project Examples – Finance Division

Staff Position Creation Project (2011)

- One of our first projects
- Launched based upon ImproveND feedback from managers
- Process shared by Office of Budget and HR
- Average turnaround time reduced from 14.5 days to 2.12 days



I Chart of E2E Cycle Time by Phase - Staff Position Management Process
Baseline vs. Improved



"Under the new format I have received a response within 24 to 48 hours from the time I distributed the form to the comp team. This is incredible turnaround...used to take weeks."

Customer Feedback –
Mary Ellen Koepfle

Subrecipient Monitoring (2012)

- Developed control plan and process to meet the requirements of the OMB A-133 compliance supplement.
- Understanding and quantification of the risk connected to research subcontracts via a control system, which includes:
 - Standardized method to quantify and evaluate risk through subcontract audits and sampling/review techniques to include cost category risk assessments
 - Processes to continuously evaluate and mitigate risk
 - Staffing resources dedicated to monitoring and controlling the processes
 - Mitigation strategies matrix to be used when entering into high-risk subcontracts
 - Risk reduction factor to apply to high-risk subcontracts after mitigation/monitoring has occurred
- Enhanced working relationship between RSPA and Office of Research

Prior Experience with Sub	Location		A-133 Performed	Audit Findings			FDP School		Private / University/ Governmental		Mitigation Strategy		
	Weighted Value 10%	Weighted Value 20%		Value 10%	Y/N	Weighted Value 30%	Y/N	Weighted Value 5%	Weighted Value 10%	100%			
1	10	Mature	3	N/A	1	Not Provided	3	N	3	University	1	4.00	Transaction Review
1	10	Developing	10	N/A	1	Not Provided	3	N	3	Governmental	1	5.40	Transaction Review
1	10	Developing	10	N/A	1	Not Provided	3	N	3	University	1	4.60	Transaction Review
12	1	Domestic	1	Y	1	Material	10	Y	1	University	1	3.70	Transaction Review
1	10	Mature	3	N/A	1	Not Provided	3	N	3	Private	5	3.80	Transaction Review
2	7	Developing	10	N/A	1	Not Provided	3	N	3	Private	5	4.70	Transaction Review
2	7	Developing	10	N/A	1	Not Provided	3	N	3	Private	5	4.50	Transaction Review
2	7	Domestic	1	Y	1	Significant	5	Y	1	University	1	3.00	Deemed low risk. No mitigating strategy necessary.
2	7	Domestic	1	Y	1	Significant	5	Y	1	University	1	3.20	Deemed low risk. No mitigating strategy necessary.
1	10	Domestic	1	N/A	1	Not Provided	3	N	3	Private	5	3.40	Deemed low risk. No mitigating strategy necessary.
2	7	Domestic	1	Y	1	Significant	5	Y	1	University	1	3.20	Deemed low risk. No mitigating strategy necessary.

1099 Preparation (2012)

- Project launched because the preparation of annual 1099s was a bottleneck
 - Required ~200 hours of Tax Dept time in Dec-Jan timeframe
 - Rework: 23% of forms needed correction
- Example of great teamwork



- Time required for processing reduced by 77%
- Rework reduced from 23.2% to 6%
- First year: Printing of 1099s moved from Jan. 28 to Jan. 13
- Tax Dept resources shifted to more value-added activities
- Better coordination between Tax, A/P and BPAS

VOID CORRECTED

PAYER'S name, street address, city or town, state or province, country, ZIP or foreign postal code, and telephone no.		1 Rents \$	OMB No. 1545-0115 2018	Miscellaneous Income
		2 Royalties \$	Form 1099-MISC	
		3 Other income \$	4 Federal income tax withheld \$	Copy 1 For State Tax Department
PAYER'S TIN	RECIPIENT'S TIN	5 Fishing boat proceeds \$	6 Medical and health care payments \$	
RECIPIENT'S name		7 Nonemployee compensation \$	8 Substitute payments in lieu of dividends or interest \$	
Street address (including apt. no.)		9 Payer made direct sales of \$5,000 or more of consumer products to a buyer (recipient) for resale <input type="checkbox"/>	10 Crop insurance proceeds \$	
City or town, state or province, country, and ZIP or foreign postal code		11	12	
Account number (see instructions)	FATCA filing requirement <input type="checkbox"/>	13 Excess golden parachute payments \$	14 Gross proceeds paid to an attorney \$	
15a Section 409A deferrals \$	15b Section 409A income \$	16 State tax withheld \$	17 State/Payer's state no.	18 State income \$

Form 1099-MISC www.irs.gov/Form1099MISC Department of the Treasury - Internal Revenue Service

Data Access (2012)




Background:

- Manage access for approximately 2,200 Banner Finance system users
- Significant increase in volume (approximately 100%) of requests from FY09-FY12
- Must meet annual outside audit review requirement
- Early staff retirement within BPAS

Results:

Accuracy of Banner Access Rights		Timeliness		
		Baseline	Improved	
From 78%	To 100%	Access Removal	Average 47 days	Within 2 business days
Electronic Form		Access Changes	?	Notification out to business manager within 1 business day
➤ Easier submission for requestors.		Time Savings		
➤ Automated approval.		<ul style="list-style-type: none"> • BPAS team able to absorb responsibilities handled previously by employee who took early retirement. • Improvements resulted in reduction of staff hours managing access by 8 hours per week (= 400 hours / year) 		
➤ More efficient processing for BPAS.				
➤ Standardized request for access process.				
➤ Controls to meet audit requirements.				

Moveable Equipment Inventory (2014)

Project Goal	Before (Baseline – FY13)		After (Control Phase – Feb 1 – Aug 30, 2014)
For the top 10 departments, reduce physical inventory resource time to complete inventory to within one month.	Little to no controls around the cycle time for physical inventory per department		>90% of departmental inventories completed within a 30-day time period
Improve notification to Plant Fund of disposals within fiscal year from 4% to 75%.	4% - FY12 36% - FY13		84.4%
Reduce cycle time for the O-tag process (from equipment receipt to tagging) from an average of 213 calendar days to 90 or fewer days.	Mean = 213 days Median = 201 days (Calendar Days) 9% tagged within 90 days		Mean = 65 days Median = 51 days (Calendar days) 72% tagged within 90 days

...PRINTER, GOLF CART, MICROCHIP, PITCHING MACHINE,
MICROSCOPE, OR OTHER VALUABLE EQUIPMENT?



Payment Requests (2018)



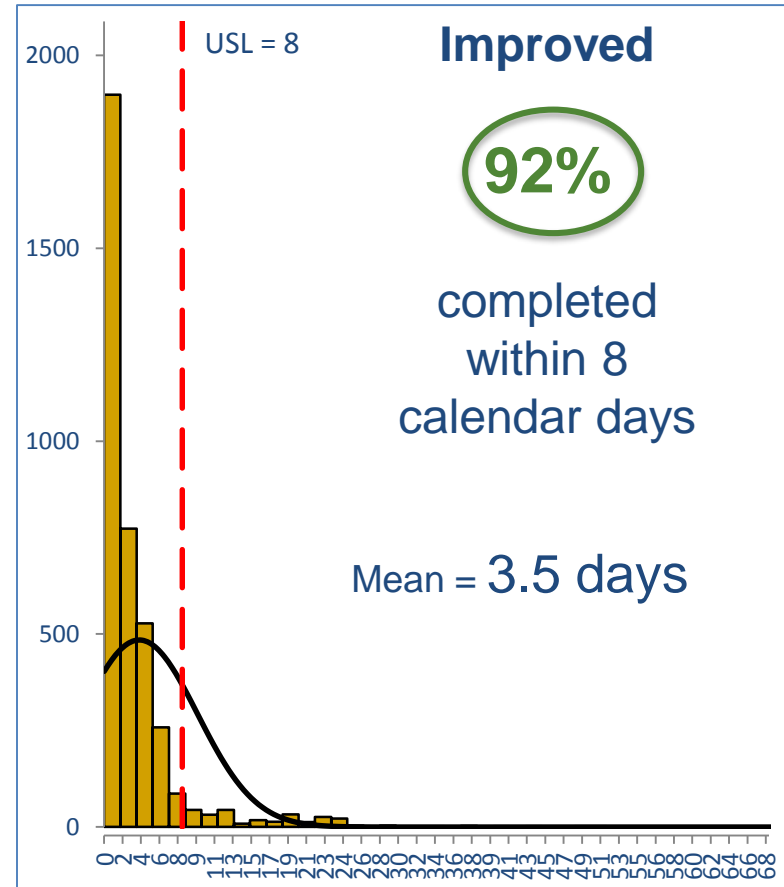
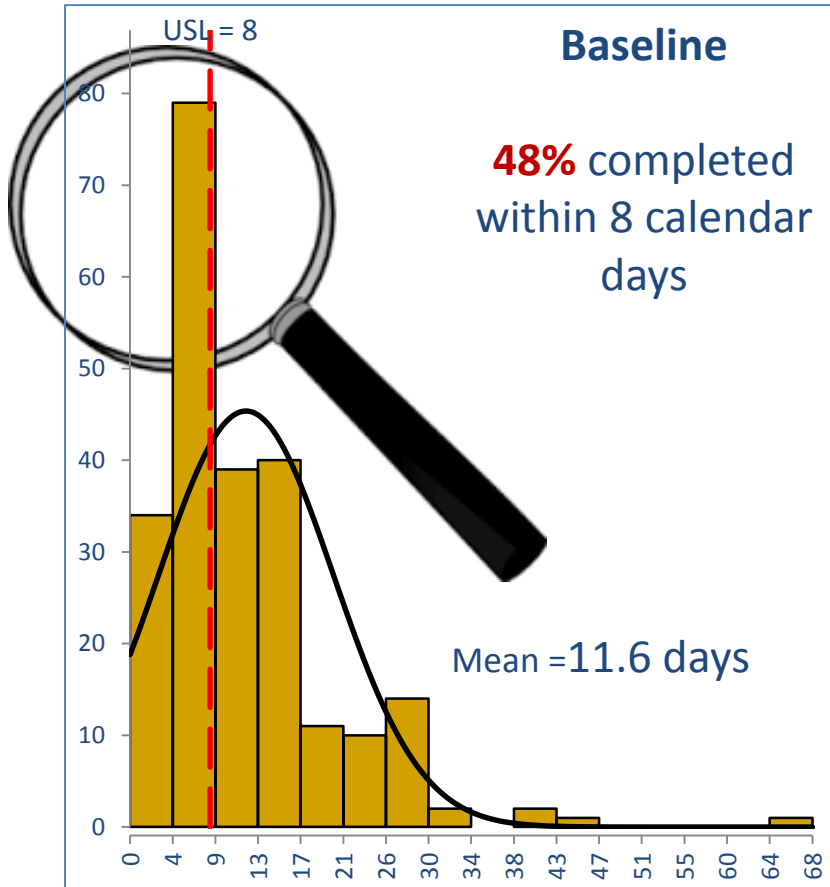
Background:

- Approximately 40,000 check requisitions (companies) annually
- Approximately 6,000 Non-Employee payments (NEPs-individuals) annually
- Touches almost every unit on campus.

Problems:

- Paper intensive
 - Each form with only a one sheet attachment is 31 feet annually (92,000 sheets)
- Overall process length too long
- No clear visibility for end users and process owners
- Opportunity for error
 - No tracking (“where’s my form?”)
 - No FOAPAL Validation
 - No automated signature validation

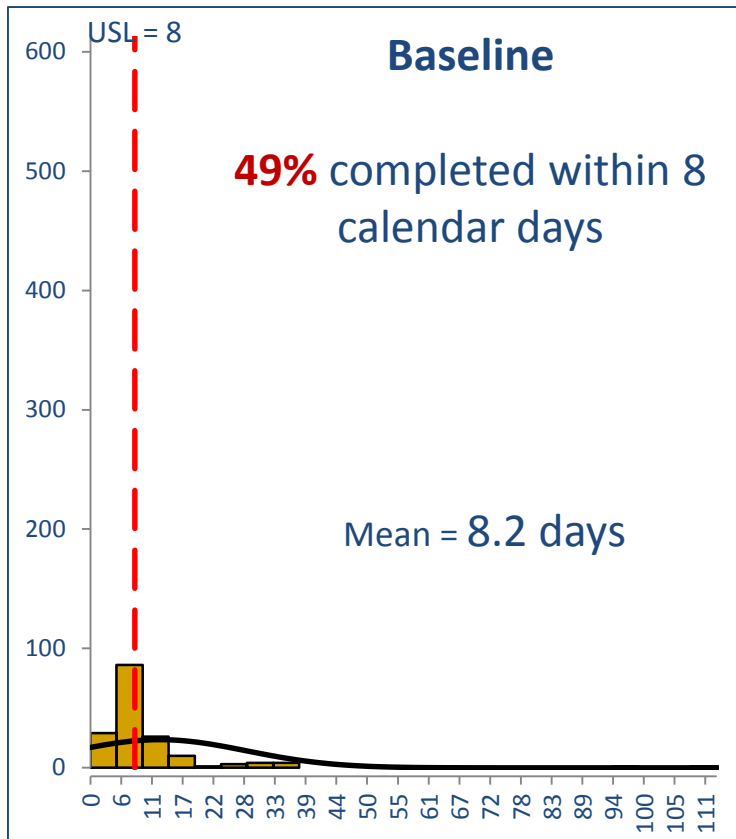
Check Requisition Results – Improved Process Capability: End-to-End Cycle Time



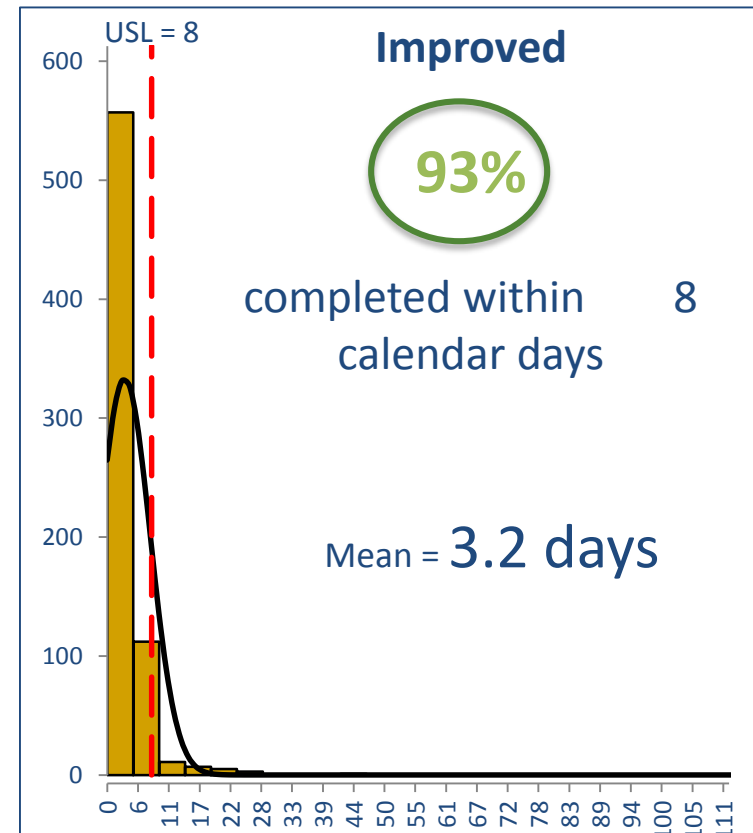
Central office processing within 3 days went from **32%** to **88%**.

Rework decreased from **5%** to **1.8%**.

NEPS Results – Improved Process Capability: End-to-End Cycle Time



166 Sample – FY2013



696 Transactions 10/11/17– 12/19/17

Also, central office processing within 3 days went from **23%** to **87%**

Research Transactions – Allowability, Allocability & Reasonableness (Current)

Validated Root Causes	Solutions
<ul style="list-style-type: none"> BuyND/TravelIND systems don't prompt users to obtain correct documentation 	<ul style="list-style-type: none"> Quick reference guides Conduct research-specific training Cost principles training module
<ul style="list-style-type: none"> Some users lack knowledge of what is required(documentation) when submitting transactions 	<ul style="list-style-type: none"> Quick reference guides Conduct research-specific training Cost principles training module
<ul style="list-style-type: none"> Lack of consistency across the university in understanding and applying of AAR and documentation needs 	<ul style="list-style-type: none"> Allowability Panel Research Expenditure Policy Group
<ul style="list-style-type: none"> A need to simplify understanding of AAR for the campus community 	<ul style="list-style-type: none"> Cost principles training module Quick reference guides
<ul style="list-style-type: none"> Need to continue to improve on effectively resolving questions of AAR in a timely and consistent way 	<ul style="list-style-type: none"> Allowability Panel Research Expenditure Policy Group
<ul style="list-style-type: none"> No place today to capture, store, & search decisions regarding AAR to foster a culture of using precedence and consistency 	<ul style="list-style-type: none"> Google Groups/Website Allowability Panel

Labor Distribution Process (2015)

Why We Did This Project

The Labor Distribution Change (LDC) process reclassifies a labor expense, either past or future, from one FOAPAL to another.



Problems:

- Paper-based process using campus mail
- Unclear roles and inconsistent routing
- Multiple errors and rework
- Cycle time too long for customers

Goals:

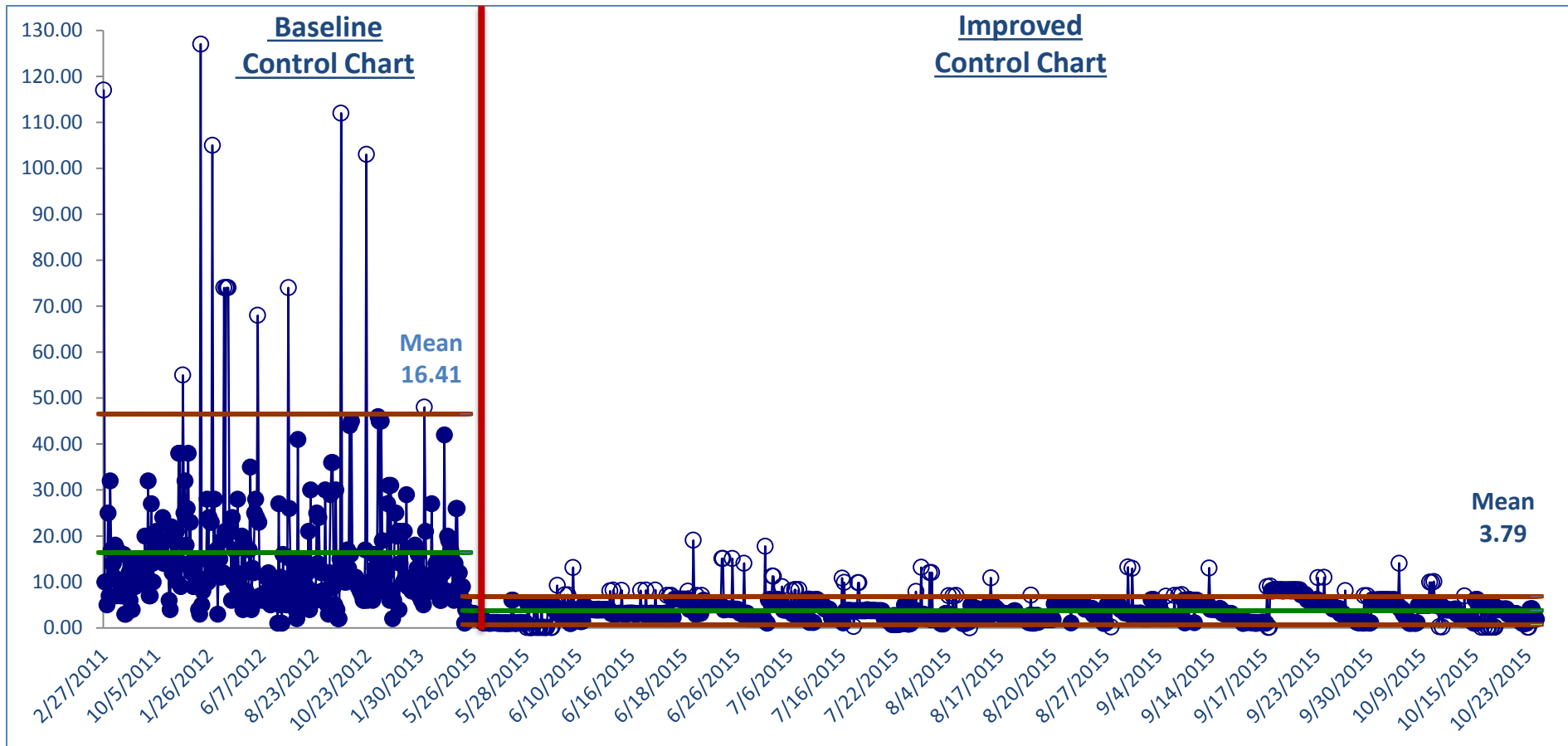
- Reduce cycle time from **53% in less than 15 work days to 95%.**
- Reduce rework/errors from **32% to 5% or less.**
- Reduce touch time from **1.5 hours per request to 30 min or less.**

What We Did

Root Causes	Solutions Implemented
Inconsistent Routing	<p>Created new process:</p> <ul style="list-style-type: none"> • One routing flow for all employee groups • Removed unnecessary handoffs and approvals • Identified specific criteria for RSPA review <p>Implemented custom electronic solution:</p> <ul style="list-style-type: none"> • Eliminates paper request form • Provides single data source • Error-proofs required fields • Method for notifications and tracking
Rework/Errors	
Unnecessary/Inconsistent Approvals	
Inadequate Form/Instructions	

Financial Toolkit - Labor Distribution Change

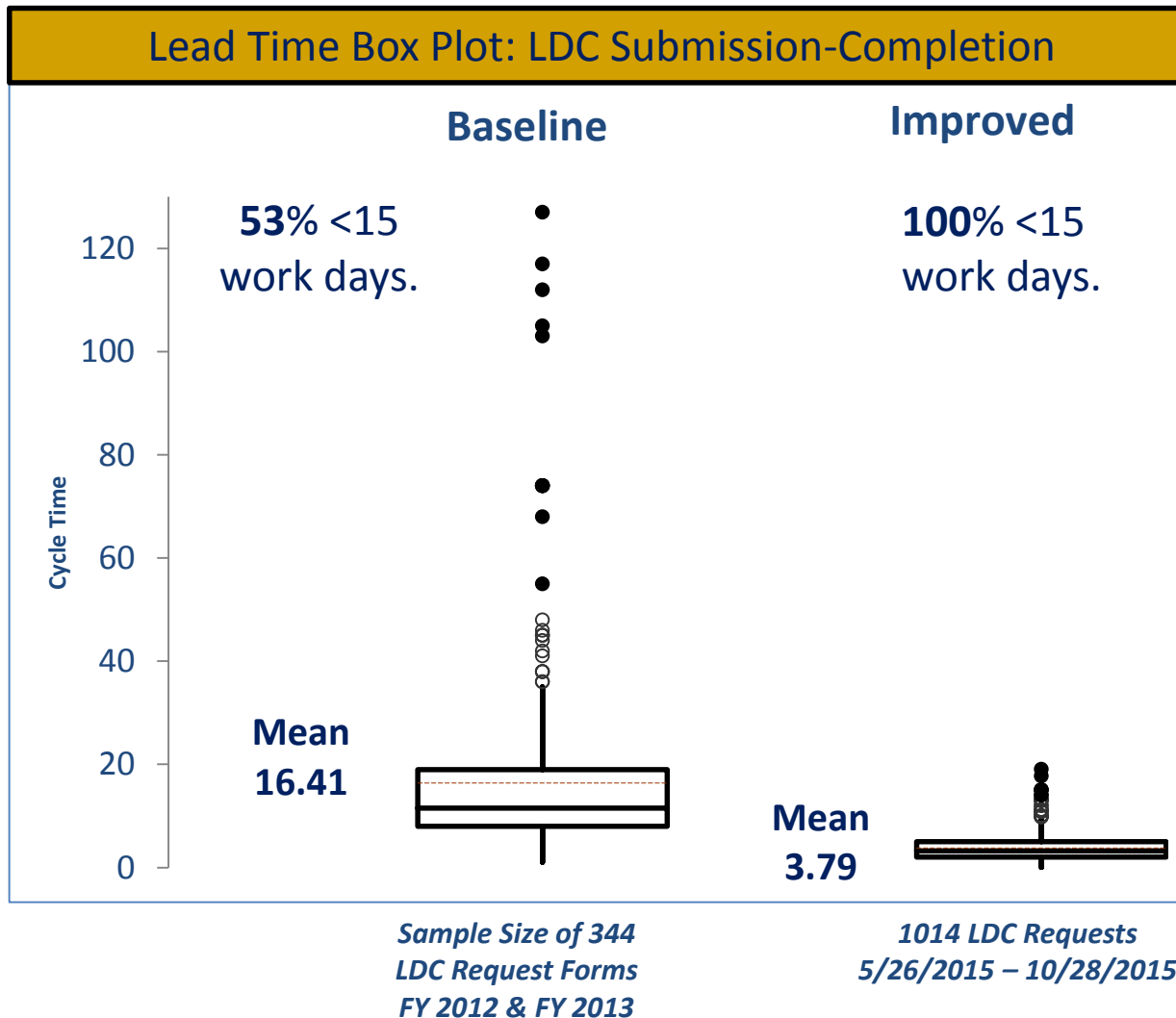
Results – Improved Process Stability



Total Days: Submission-Completion
FY 2012-FY 2013
Random Sample – 344 LDC Requests

Total Days: Submission-Completion
5/26/2015-10/28/2015
1014 LDC Requests

Results – Lead Time Reduced

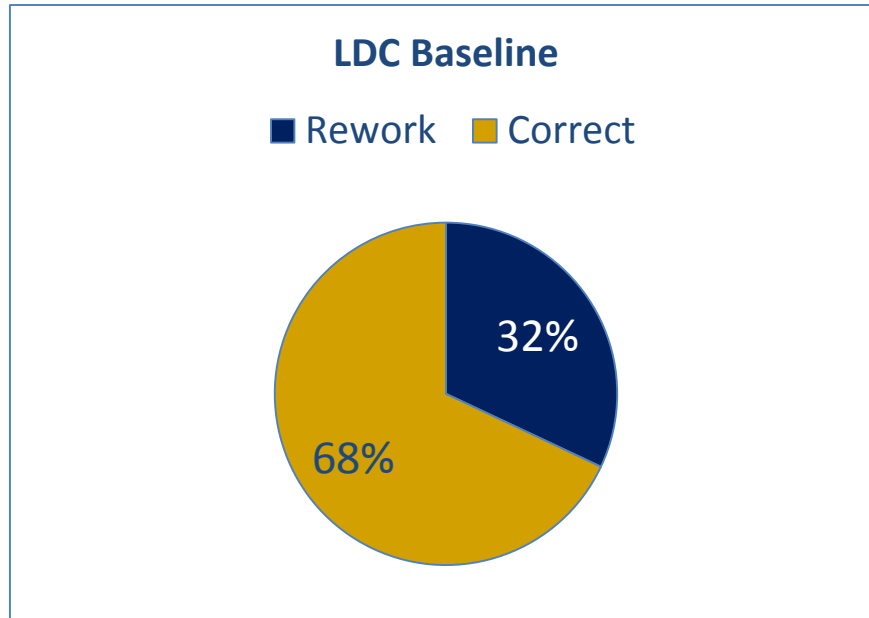


Average Lead
 Time Reduced
 by 77%

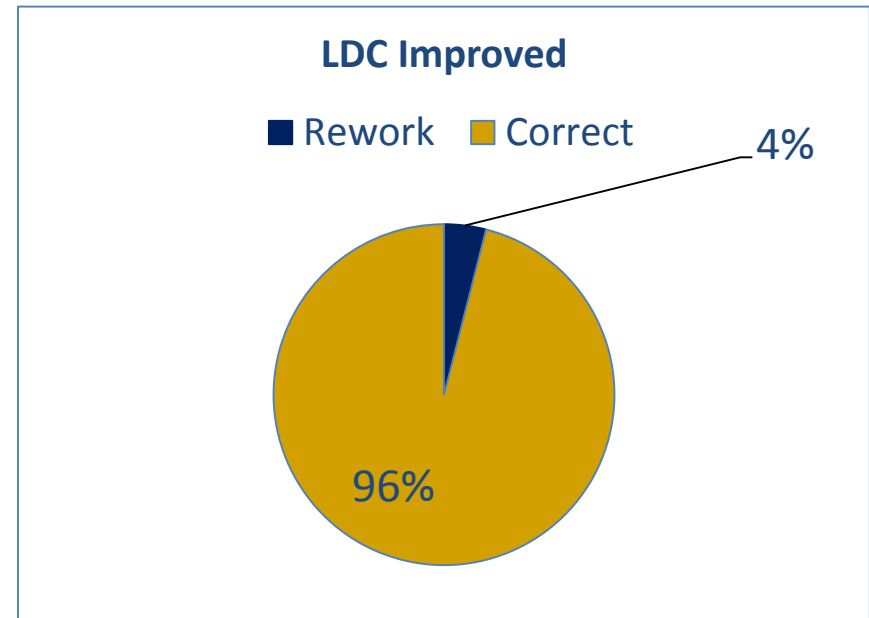
Range Reduced
 by 109 Work
 Days

Results – Rework Reduced

Reduced rework in process from 32% to **4.07%***.



*Sample Size of 344
 LDC Request Forms
 FY 2012 & FY 2013*

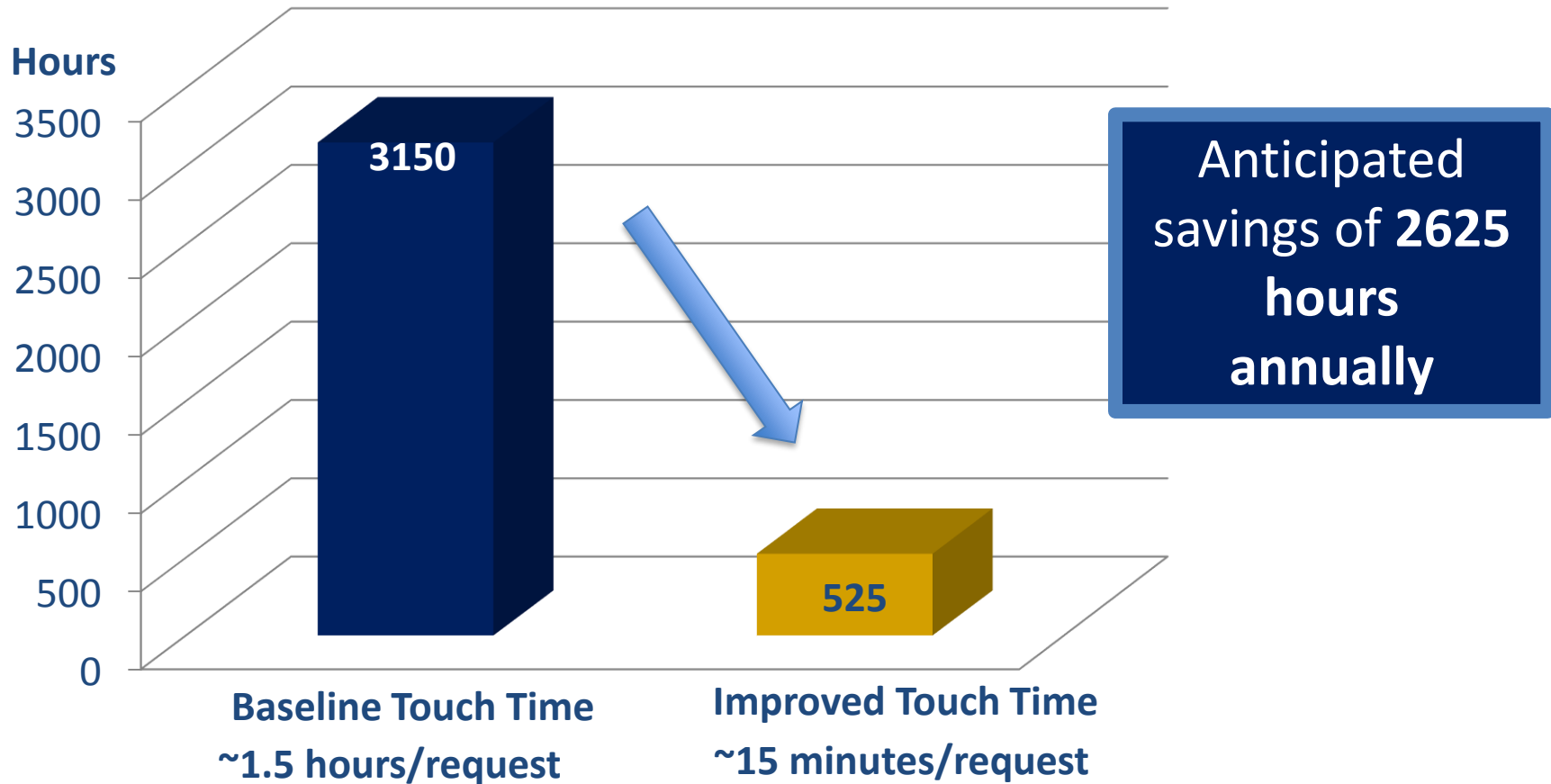


*1014 LDC Requests
 5/26/2015-10/28/2015*

****Improved number represents any LDC “returned for correction” and in majority of cases was initiated by the original submitter***

Results – Recovered Time

Based on ~ 2100 LDC Requests Annually



About NCCI

NCCI is the Network for Change and Continuous Innovation: Higher Education's Network for Change Leadership. NCCI was founded in 1999 by national leaders in continuous improvement, organizational development, planning, quality, institutional effectiveness and related areas. Our vision is to position higher education institutions to be agile, lifelong learning models to transform lives and communities around the world. It is a non-profit association, dedicated to improving higher education nationally and internationally by providing a collaborative professional network for change leaders.



ACC Institutions that are Current NCCI Members
(Membership is Institutional; Anyone from a Member Institution can Participate in Programs)



Questions?

Feel free to contact me if you have any
follow-up questions:

Carol Mullaney

Mullaney.13@nd.edu

574-631-1293