2015 APHL™ ANNUAL MEETING

and ninth government environmental laboratory conference

Performance Driven — Racing to Results

APHL™

Ensuring Sustainability: Tools to Improve Systems and Processes

- Denise Lopez, MS, PHM II - Tulare Co, CA
- Karen Stephani – Albany, NY
- Grace Kubin, Ph.D. – Austin, TX

2015 APHL™ ANNUAL MEETING
and ninth government environmental laboratory conference

SPEAKER DISCLOSURE

The Coaching Relationship - A Developmental Opportunity that Drives Results

APHL adheres to established standards regarding industry support of continuing education for healthcare professionals. The following disclosures of personal financial relationships with commercial interests within the last 12 months as relative to this presentation have been made by the speaker(s):

All speakers in this session have nothing to disclose.

APHL ASSOCIATION OF PUBLIC HEALTH LABORATORIES™

Analysis. Answers. Action.

www.aphl.org

Engage, Empower, Excite

Using Lean to Strengthen Your Organization

Objectives

- By the end of this presentation, participants will be able to:
  - Define and discuss the role of The Experts in continuous improvement
  - Define and discuss the role of The Visionaries in continuous improvement
  - Discuss key Lean principles to problem solving
  - Discuss 3 elements of the Lean Daily Management System
  - Explain how Lean tools and principles can help accelerate and harmonize improvement efforts at all levels

A Real World Example

- Standard Work - how are we doing this?
  - Job aid, check-list, etc, that is posted
  - Lab staff supposed to keep it current (very important!)
- *Problem*:
  - Covered in post-its or hand-written notes
    - No one updates the actual electronic document
- What are your ideas?
  - Jot down 1 or 2 (for your own reference later in the presentation)

Show of hands

- Scientists or technicians that work on the bench?
- People that perform sample accessioning, testing, etc?

PART 1 - THE EXPERTS

The People that Perform the Processes

The Experts

- The people that perform a given process
  - Know how the process is actually being done
  - Can see where the problems are
  - Have the best ideas for how to solve them
  - Are the ones who can take effective action

The Experts are the key to EFFECTIVE change

Process Is Not Visible

- Process hard to follow
- If workers have to memorize how to do it
  - Knowledge is not easily shared
  - Mental energy is spent on recall
  - Changes mean breaking habits
  - Results will be inconsistent

Blame the process, not the person

Process Is Visible

- Process easy to follow
- There are visible process controls built in
  - Knowledge is easily shared
  - Mental energy is spent on innovation
  - Following the visible process becomes the habit
  - Results will be consistent

The Real World Example

- *Problem*:
  - Covered in post-its or hand-written notes
    - No one updates the actual electronic document
- Ideas:
  - Did they focus on controlling the process or the people?
  - Seek to fully understand the way the process is being done?
  - Engage the experts in finding out what can be improved, made easier, eliminated, or made more visible about the process?

The Real World Example cont'd

- *Solution that didn't work for us*:
  - Control the people through disempowering:
    - Make it mandatory
    - Tie in consequences for non-compliance, etc.
    - Remove post-its
- *Solution that worked for us*:
  - Control the process, empower the people:
    - Got their in-put as the experts
    - Devised a solution even faster and easier than writing on a post-it!
      - Numbered desktop short-cuts and set documents to track changes

Problems come from processes.
Solutions come from people.

A Problem

- Understand how the process is being done (the current state)
- Engage the experts in identifying:
  - Steps that can be eliminated, made easier
  - Opportunities to make things more visible
- Together, develop a new way to do things (a future state)
- Pilot the new way, capture data
- Use the data to decide how to proceed

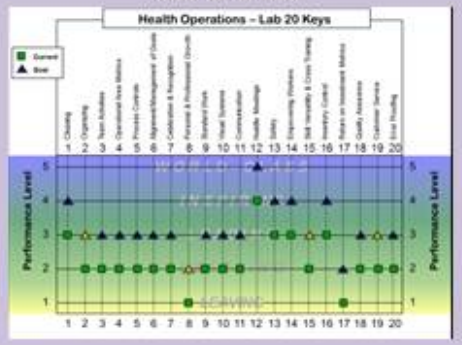
Let the data drive the decisions.

Lean Daily Management System

- Plan, Do, Check, Adjust/Act
  - Continuous improvement approach
- Huddle Meetings
  - 10 minute daily (AM) stand-up meetings
- Primary Visual Display Board

PVD Board

20 KEYS



Volunteer team leads on current action plans (thank you!)
Judy: Customer Service
Peggy: Skill & Versatility Matrix
Denise: Personal & Prof. Growth
Lisa: Organizing

VOC / HOT-BUTTON LIST

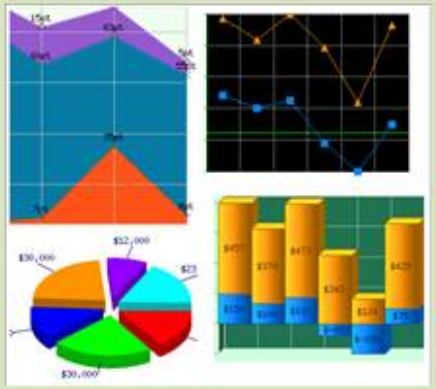
- *Who is the customer, what do they need?*
- *Question assumptions!*
- *Is there a better way?*

SAFETY

- *Air handling system down – No BSL-3*
  - *Visual reminder already in place*
- *Safety September kick-off in 6 days!*
- *Submit your safety slogans for consideration (prizes!)*
  - *"Hands to Face? Not in this space!"*
  - *"Be a PPE Hero! (not Patient Zero)""*

IN-PROGRESS (KAIZEN / PILOTS / BLITZES)

OPERATIONAL METRICS



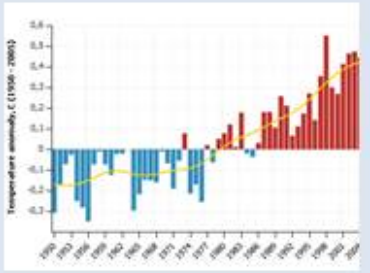
INSPECTIONS (AND PARTIES)!

- *September 30th – ELAP Inspection*
  - *Checklist done by 9/18*
- *September 10th – "Metrics Accomplished!" Party*

SUCCESS

August high-impact projects:

- *$2,000 hard savings annually in inventory (team lead Cynthia; also: PC, MS, HL, VC - thank you!)*
- *$3,000 waste removed QFT procedure (team lead Ha; also: CB & JE - thank you!)*



OPERATIONAL UDATES

- *DI Water out; Tech in at 11am to repair; Flasks in Media Prep room – conserve please!*
- *Check that contract is current before calling for on-site service (Thanks Roxanne!)*
- *Please have e-time done by 4pm (early Pay period)*

Local/Regional/Nat'l/Int'l Updates

- *A. aegytpi confirmed in Tulare Co Other south valley counties*
- *Potential local LTCF Norovirus Outbreak*
  - *Samples will be coming in all week*
  - *Batch control critical for first samples, (not critical once outbreak has been confirmed)*

Huddle Meetings

- Where the magic happens!
- Every morning, same time
- 5-10 ideal size
- Enable work to be done as a team:
  - Staff are engaged in finding solutions
  - Staff are empowered to take effective action
- Simulated huddle meeting at round table tomorrow morning
- Gives workers a platform to voice ideas to shape the work that they do

A workforce that is engaged and empowered is invested. This is a workforce that will go the extra mile, for each other and for their organization.

PART 2 - THE VISIONARIES

The Laboratory's Leaders

Laboratory's Leaders

- Ensuring the laboratory's efforts harmonize with:
  - Organization's Vision, Mission, Strategic Plan
  - Public Health Laboratory Core Functions
  - Accreditation standards
  - Regulatory standards
- And do it in a way that is sustainable and makes the best use of resources
- The Experts are the key to EFFECTIVE change
- The laboratory's leaders are the key to MEANINGFUL change

Executive Steering Committee

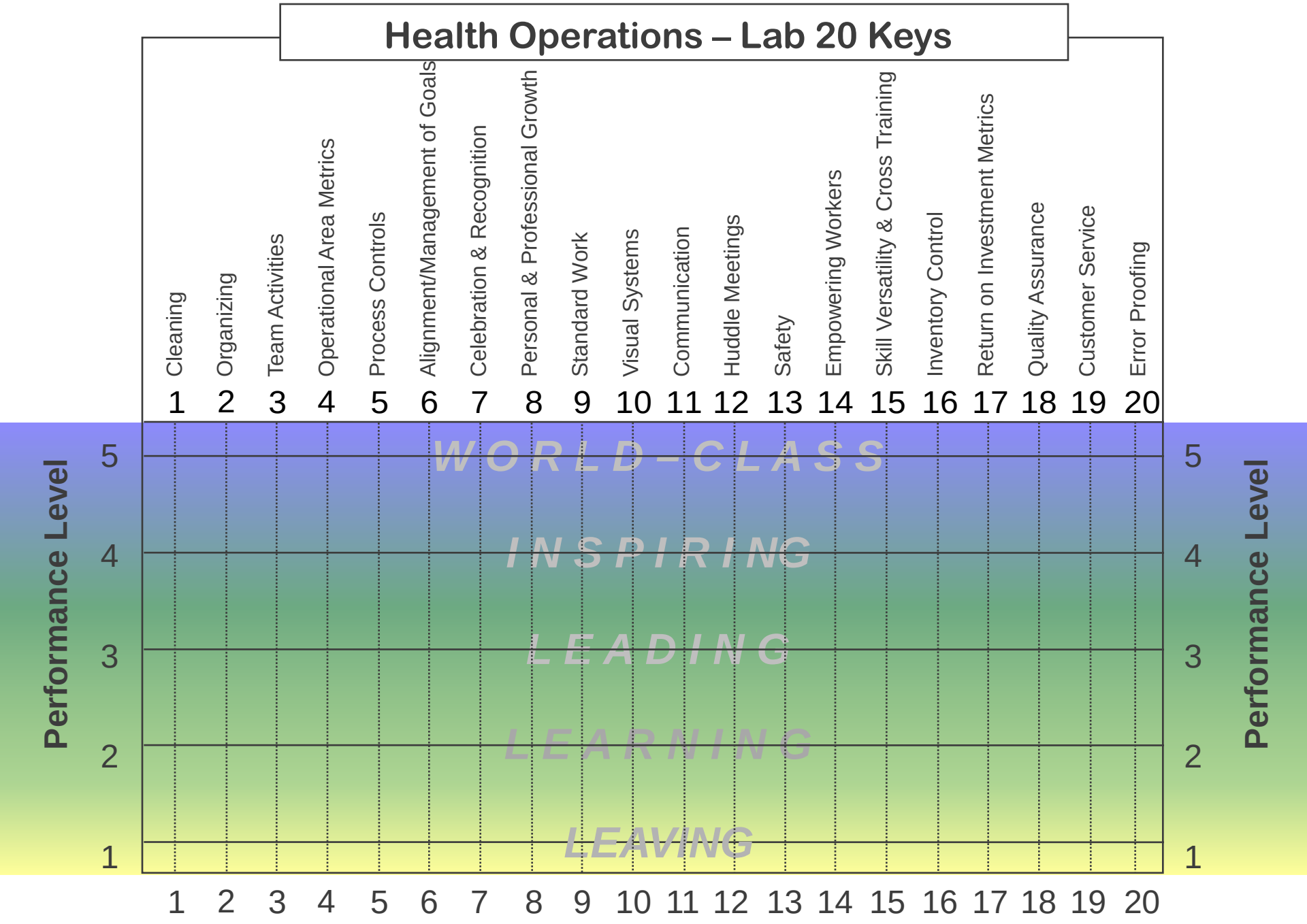
- Higher-level administrators
- Give guidance and direction
- Remove roadblocks and barriers

Scope/scale of Lean efforts ↔ ESC

20 Keys – Harmonizing Efforts

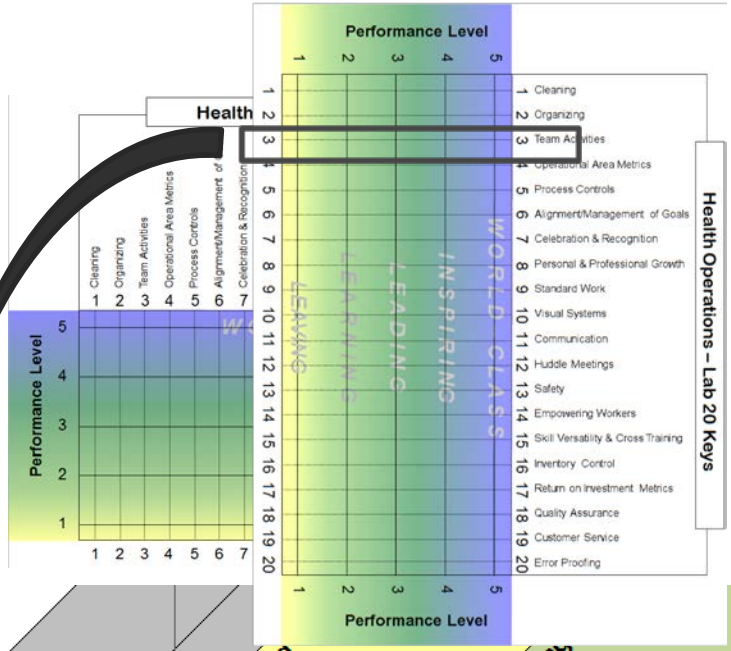
- Laboratory operations:
  - Processes:
    - Safety
    - Cleanliness
    - Organization
    - Quality Control
    - Data quality & capture
  - That rely on people:
    - Communication
    - Skill Versatility
    - Personal & Professional Growth
    - Teamwork

Health Operations – Lab 20 Keys



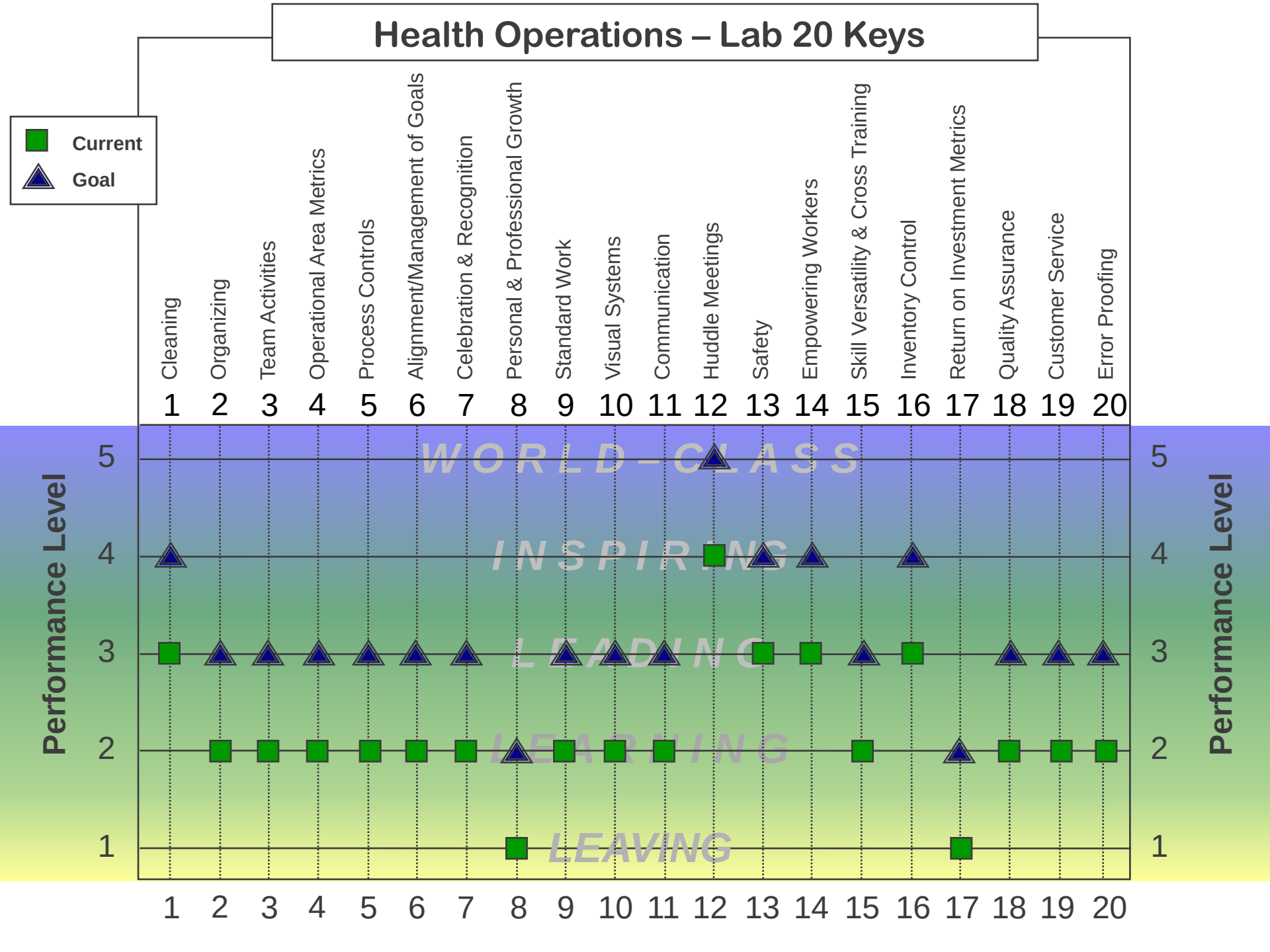
Source: Adapted from Lab 20 Keys by Becton Dickinson

20 Keys – Harmonizing Efforts



Key	No.	Leaving	Learning	Leading	Inspiring	World-Class	
Team Activities	3	Employees are not generally formed into teams to address specific issues. Individuals do work how they each think is best, rather than by collectively determining the best solution and letting the data drive the decisions. Supervisor manages areas by directing individuals. Individuals bring problems to the supervisor for solving.	Structured efforts begin to focus staff into work groups (WG) to address common issues. There is at least 3 improvements implemented and completed per month (IICPM) by each work group and decisions have some supporting data. Staff never bring problems to the supervisor without at least 2 recommended solutions. WGs begin identifying team building exercises to perform on a regular basis.	Independently, WGs bring issues forward as a group. Issues brought to the supervisor's attention have already been discussed with all applicable WG members and the WGs proposed solutions are provided. 5 IICPM and all decisions have some supporting data. WG and supervisor are working to clearly delineate the WG's authority to independently troubleshoot and implement decisions. Team updates their standard work, with occasional reminders from supervisor. Structured team building activities occur at least Quarterly	WG's authority is clearly delineated and understood by all. WG independently recognizes, troubleshoots, and implements all decisions within their authority to do so. Supervisor serves as a coach, rather than primary problem-solver and as a result, higher-quality solutions are identified more quickly. 8 IIPM and decisions have strong supporting data. WG manages its day-to-day activities independently. WG maintains standard work independently. Team building exercises occur at least monthly. Teams have occasional friendly competitions.	WG generates innovative ideas to align and meet goals. >10 (IICPM). Teams frequently engage in voluntary team-building activities. Lab staff are team players who use timely and objective data to drive decisions. They are flexible, progressive, and collaborative in their commitment to protecting and strengthening the well-being of the community through development of effective policies, practices, and services as we deliver on the PHL core functions.	RED = Public Health Department Strategic Plan BLUE = Health and Human Services Agency's Strategic Plan PURPLE = Agency's Mission Statement GREEN = PHL core functions

Source: Adapted from Lab 20 Keys by Becton Dickinson


Health Operations – Lab 20 Keys
Current
Goal
Cleaning
Organizing
Team Activities
Operational Area Metrics
Process Controls
Alignment/Management of Goals
Celebration & Recognition
Personal & Professional Growth
Standard Work
Visual Systems
Communication
Huddle Meetings
Safety
Empowering Workers
Skill Versatility & Cross Training
Inventory Control
Return on Investment Metrics
Quality Assurance
Customer Service
Error Proofing
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
WORLD–CLASS
INSPIRING
LEADING
LEARNING
LEAVING
Performance Level
5
4
3
2
1
Performance Level
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Engage, Empower, Excite

- The Experts are the key to effective change
- The Visionaries are the key to meaningful change
- Problems come from processes, solutions come from people
- Let the data *drive* the decisions
  - Engagement of The Experts through the LDMS is the engine
  - ESC and 20 Keys are the steering wheel
  - Visionaries have the roadmap

But it's a long road trip, so don't forget the music! *Have fun!*

Value people by valuing their voices.

Positive communication is not just a skill, it’s a gift.

Thanks

2015 APHL™ ANNUAL MEETING

and ninth government environmental laboratory conference

Performance Driven — Racing to Results

APHL™

LEAN IN PRACTICE PRACTICAL APPLICATIONS IN THE LABORATORY

KAREN STEPHANI

PROJECT # 1
CYCLAMATE ANALYSIS

- PROBLEM: CORRECTIVE ACTIONS AND CONFUSION SURROUNDING THIS ANALYSIS, LIKELY AS A RESULT OF CHANGING HANDS SEVERAL TIMES OVER THE LAST YEAR.
- PROJECT: IN DEPTH REVIEW OF PROBLEMS SURROUNDING CYCLAMATE ANALYSIS
- GOALS: REDUCE ERROR/REWORK RATE AND CORRECTIVE ACTIONS

Team Leader
Karen Stephani

ESC Champion
Debra Oglesby

Team Members: Bob Sheridan, Kristen Craig, Virginia Greene, Kristen Hafler, Tom Tarantelli, Stefan Thomas

PROJECT # 1
CYCLAMATE ANALYSIS

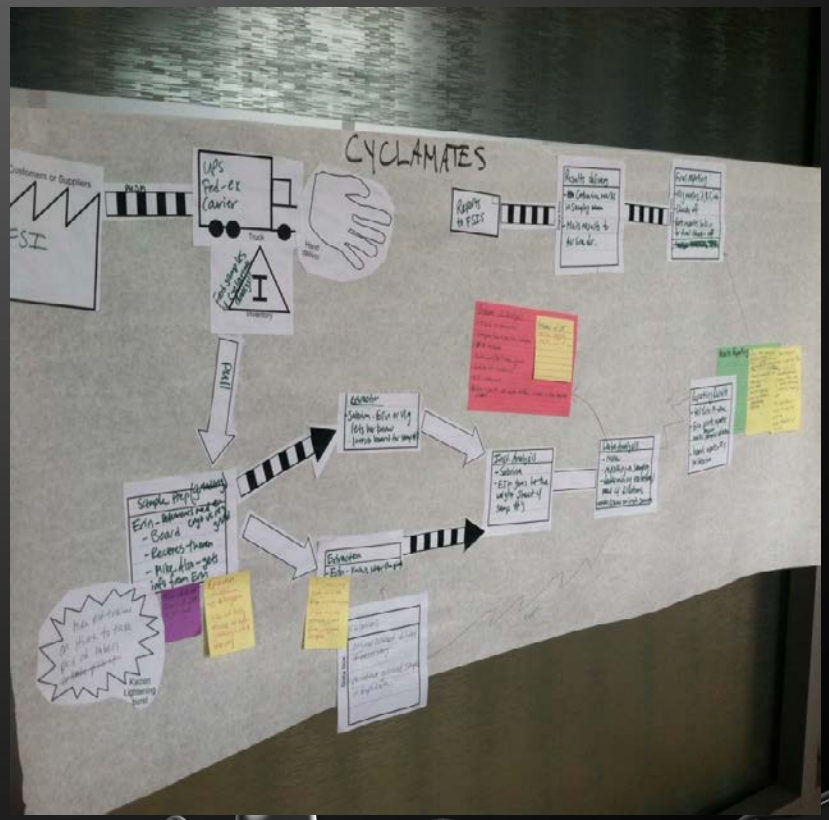
- EVIDENCE OF THE PROBLEM:
  - CYCLAMATE ANALYSIS WAS ADDED TO OUR SCOPE OF ACCREDITATION AT OUR 2010 ASSESSMENT. FROM THAT POINT ON WE INITIATED THE FOLLOWING CARS:
    - 11-CAR-34 ON 10/31/11
    - 12-CAR-07 ON 12/5/12
    - 13-CAR-07 ON 4/13/13
  - IN AUGUST OF 2013 MORE ISSUES AROSE WITH THE ANALYSIS, AT WHICH TIME WE INITIATED 13-PAR-10

- LEAN TOOLS UTILIZED:
  - PROJECT CHARTER (PAR FORM)
  - VALUE STREAM MAPS (CURRENT)
  - BROWN PAPER PROCESS MAP (CURRENT)
  - STANDARD WORK
  - RACI CHARTING

PROJECT # 1
CYCLAMATE ANALYSIS
VALUE STREAM MAPPING

OUTCOMES – MOST ISSUES INVOLVED INSTRUMENTAL ANALYSIS. SPECIFICS WERE MISSING FOR:

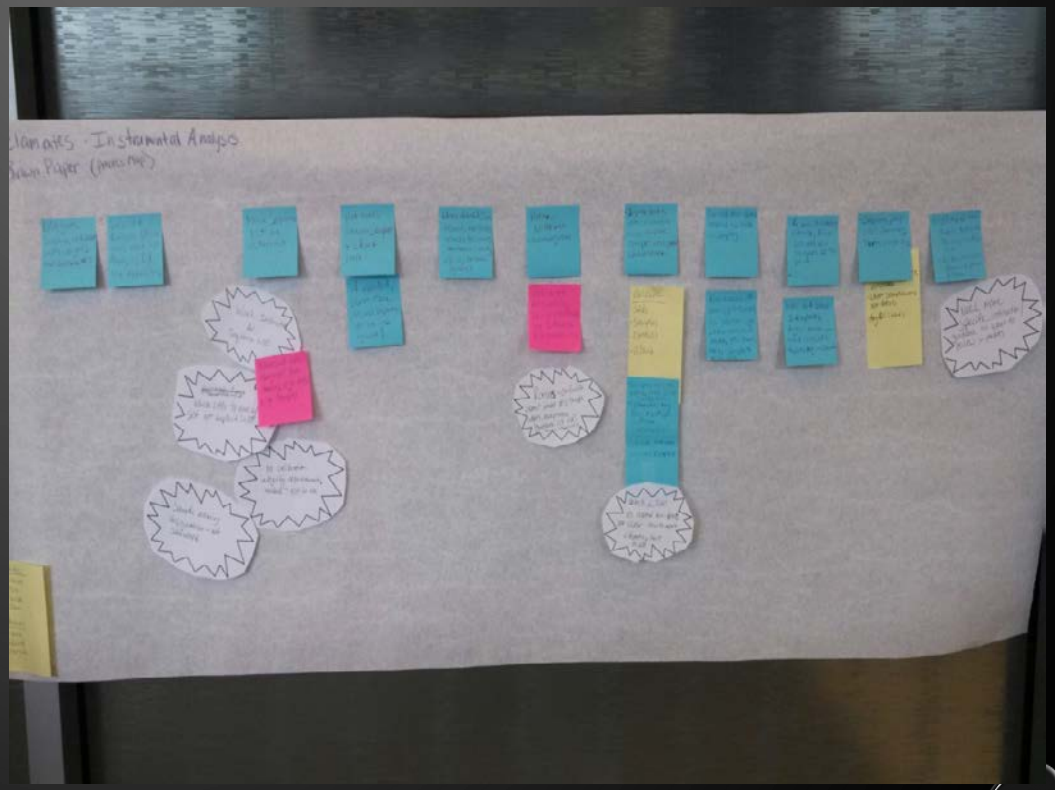
- CONTROLS, SPIKES, ETC,
- HOW TO SET UP SEQUENCE
- CONFIRMATION REQUIREMENTS
- RESULTS REPORTING



BROWN PAPER EXERCISE - INSTRUMENTAL ANALYSIS

OBSERVATIONS & OPERATIONAL IMPACT

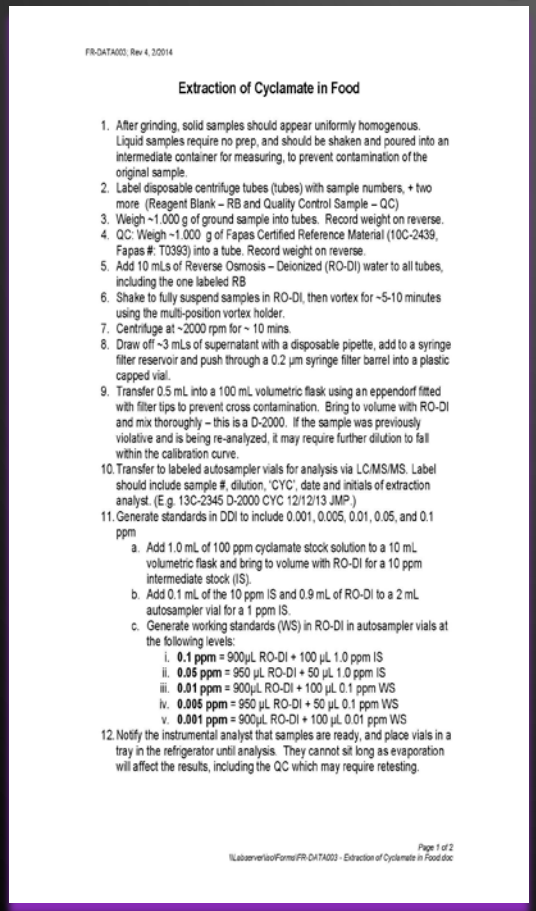
- NO INSTRUCTIONS ON SETTING UP SEQUENCE LIST
  - CARRYOVER FROM HIGH STANDARDS, DIFFICULTY ACHIEVING CALIBRATION INTEGRITY
- NO CONFIRMATION REQUIREMENTS
  - ANALYST HAS TO REMEMBER WHAT THE REQUIREMENTS ARE, OR REFER TO GP-5-16 MS CONFIRMATION REQUIREMENTS
- NO CLEAR INSTRUCTION ON REPORTING RESULTS, INCLUDING OUR 200 PPB REPORTING LIMIT
  - DETECTIONS WERE REPORTED DIFFERENTLY WITH VARYING LANGUAGE EACH TIME THEY WERE ANALYZED
- NO CLEAR INDICATION OF WHAT TO REVIEW IN THE DATA PACKET
  - SUPERVISOR IS LOOKING AT DATA PACKETS AND MAKING A SUBJECTIVE DECISION ABOUT WHETHER IT IS ACCEPTABLE – NO REQUIREMENTS IN SOP



PROJECT # 1
CYCLAMATE ANALYSIS
CREATED STANDARD WORK

- REVISED CHEM-MTH-435 AFTER ISSUES IDENTIFIED IN VSM AND BROWN PAPER EXERCISE
  - ADDED "INSTRUMENTAL ANALYSIS" SECTION
  - CONSIDERABLY EXPANDED ON "RESULTS REPORTING" SECTION
  - QUALITY CONTROLS SECTION NOW CONTAINS SPECIFIC INSTRUCTIONS ON HOW TO REVIEW THE DATA
- FR-DATA003 CYCLAMATE EXTRACTION SHEET REVISED
  - COMPLETE EXTRACTION INSTRUCTIONS AND STANDARD PREP INSTRUCTIONS ARE NOW INCLUDED FOR THE EXTRACTION ANALYST, AS WELL AS MORE LINES FOR RECORDING WEIGHTS
- CREATED WI-417 CYCLAMATE INSTRUMENTAL ANALYSIS – STANDARD WORK FOR RUNNING THE SAMPLES ON THE INSTRUMENT
- CYCLAMATE REVIEW SHEET CREATED

PROJECT # 1
CYCLAMATE ANALYSIS
CREATED STANDARD WORK – EXTRACTION SHEET

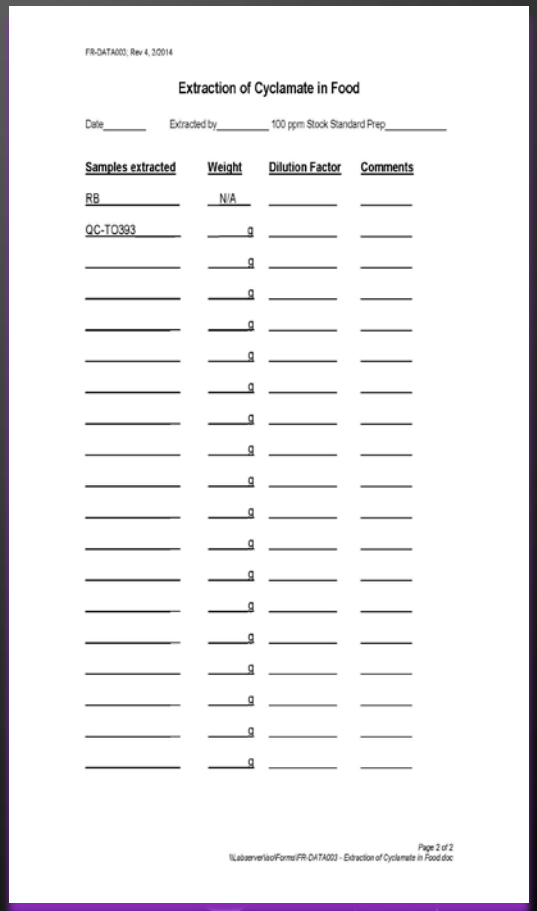


FR-DATA003; Rev 4, 2/2014

Extraction of Cyclamate in Food

1. After grinding, solid samples should appear uniformly homogenous. Liquid samples require no prep, and should be shaken and poured into an intermediate container for measuring, to prevent contamination of the original sample.
2. Label disposable centrifuge tubes (tubes) with sample numbers, + two more (Reagent Blank – RB and Quality Control Sample – QC)
3. Weigh ~1.000 g of ground sample into tubes. Record weight on reverse.
4. QC: Weigh ~1.000 g of Fapas Certified Reference Material (10C-2439, Fapas #: T0393) into a tube. Record weight on reverse.
5. Add 10 mLs of Reverse Osmosis – Deionized (RO-DI) water to all tubes, including the one labeled RB
6. Shake to fully suspend samples in RO-DI, then vortex for ~5-10 minutes using the multi-position vortex holder.
7. Centrifuge at ~2000 rpm for ~ 10 mins.
8. Draw off ~3 mLs of supernatant with a disposable pipette, add to a syringe filter reservoir and push through a 0.2 µm syringe filter barrel into a plastic capped vial.
9. Transfer 0.5 mL into a 100 mL volumetric flask using an eppendorf fitted with filter tips to prevent cross contamination. Bring to volume with RO-DI and mix thoroughly – this is a D-2000. If the sample was previously violative and is being re-analyzed, it may require further dilution to fall within the calibration curve.
10. Transfer to labeled autosampler vials for analysis via LC/MS/MS. Label should include sample #, dilution, 'CYC', date and initials of extraction analyst. (E.g. 13C-2345 D-2000 CYC 12/12/13 JMP.)
11. Generate standards in DDI to include 0.001, 0.005, 0.01, 0.05, and 0.1 ppm
    a. Add 1.0 mL of 100 ppm cyclamate stock solution to a 10 mL volumetric flask and bring to volume with RO-DI for a 10 ppm intermediate stock (IS).
    b. Add 0.1 mL of the 10 ppm IS and 0.9 mL of RO-DI to a 2 mL autosampler vial for a 1 ppm IS.
    c. Generate working standards (WS) in RO-DI in autosampler vials at the following levels:
        i. **0.1 ppm** = 900µL RO-DI + 100 µL 1.0 ppm IS
        ii. **0.05 ppm** = 950 µL RO-DI + 50 µL 1.0 ppm IS
        iii. **0.01 ppm** = 900µL RO-DI + 100 µL 0.1 ppm WS
        iv. **0.005 ppm** = 950 µL RO-DI + 50 µL 0.1 ppm WS
        v. **0.001 ppm** = 900µL RO-DI + 100 µL 0.01 ppm WS
12. Notify the instrumental analyst that samples are ready, and place vials in a tray in the refrigerator until analysis. They cannot sit long as evaporation will affect the results, including the QC which may require retesting.

Page 1 of 2
\\Labserver\iso\Forms\FR-DATA003 - Extraction of Cyclamate in Food.doc



FR-DATA003; Rev 4, 2/2014

Extraction of Cyclamate in Food

Date_____ Extracted by_____ 100 ppm Stock Standard Prep_____

Samples extracted	Weight	Dilution Factor	Comments
RB	N/A		
QC-TO393	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		
	g		

Page 2 of 2
\\Labserver\iso\Forms\FR-DATA003 - Extraction of Cyclamate in Food.doc

PROJECT # 1 CYCLAMATE ANALYSIS CREATED STANDARD WORK – REVIEW SHEET

FR-REV001 FOR THE REVIEWER – INDICATES EXACTLY WHAT TO REVIEW AND WHAT THE RESULTS OF ANY QUALITY CONTROL SAMPLES SHOULD BE

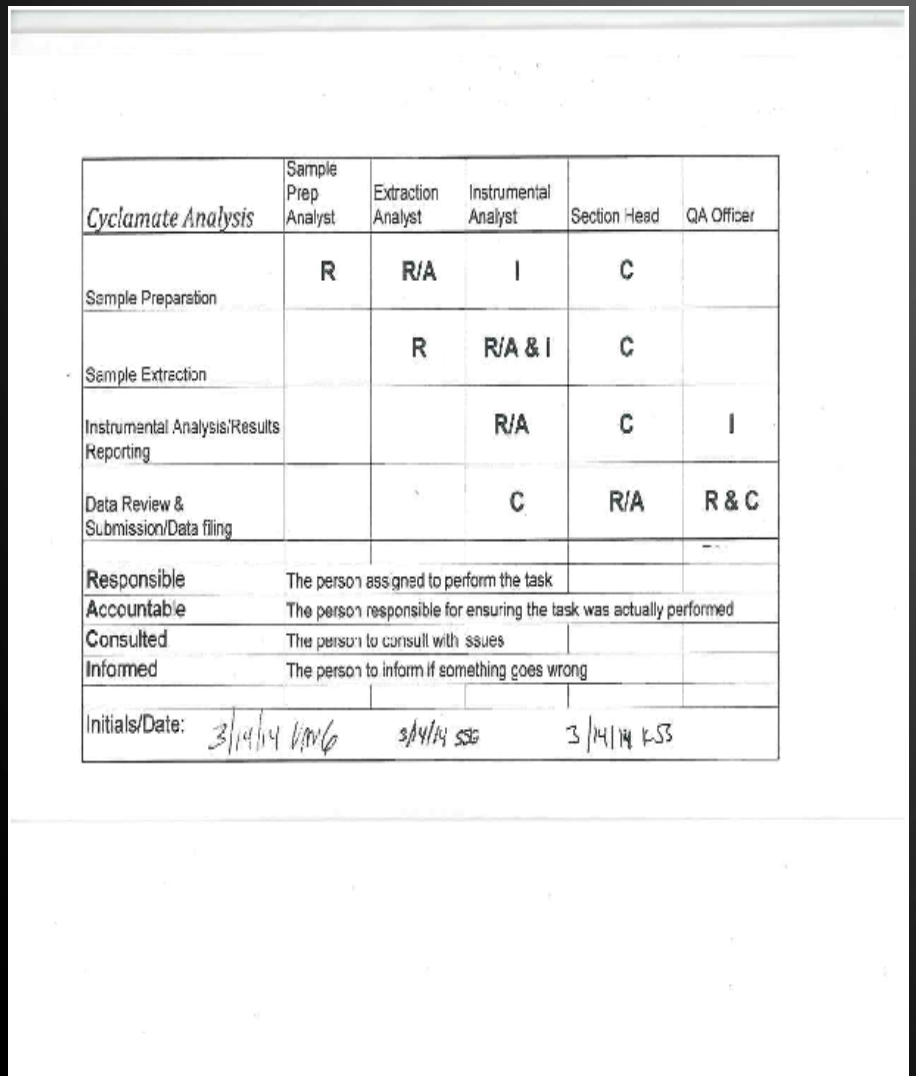
Review Sheet
CHEM-MTH-435 Cyclamate

- ☐ Quality Control Sample (QC): Results of 10C-2439 (T0393) fall within ± 3SD of the average on the control chart? (Chart should be included with packet. If it is not, consult the analyst or go to G:\CONTROL CHARTS\CONTROL CHART CYCLAMATE\NEW Cyclamate control chart.xls for current chart)
- ☐ Regent Blank: No detectable peaks at the RT of cyclamate > 3X noise.
- ☐ Calibration Integrity: Standards run bracketing samples vary in response by <20%
- ☐ Correlation Coefficient: CC of standard curve ≥ 0.995
- ☐ Violations – Ratio requirements: Review the MS Confirmation Criteria Template – all ratios of violations are within ±15% relative of a standard (30% relative). The ratio used for comparison may be an average of all standards, or a single standard (e.g. the 4 stds avg ratio = 30.5%, the samples must fall within 25.925 and 35.075)
- ☐ Violations – Retention time requirements: Review the MS Confirmation Criteria Template – all RT's of violations are within ±5% of a standard. The RT used for comparison may be an average of all standards, or a single standard.
- ☐ Violations: Review for transcription errors. Check that area counts from chromatograms match area counts on Calibration Curve Template. Check that the 3 results were averaged correctly. Check that the correct average was reported in Samplog/appears on the Lab Report.

Reviewer Signature: _____

Date:_____

PROJECT # 1
CYCLAMATE ANALYSIS – RACI CHART



Cyclamate Analysis	Sample Prep Analyst	Extraction Analyst	Instrumental Analyst	Section Head	QA Officer
Sample Preparation	R	R/A	I	C	
Sample Extraction		R	R/A & I	C	
Instrumental Analysis/Results Reporting			R/A	C	I
Data Review & Submission/Data filing			C	R/A	R & C
Responsible	The person assigned to perform the task				
Accountable	The person responsible for ensuring the task was actually performed				
Consulted	The person to consult with issues				
Informed	The person to inform if something goes wrong				
Initials/Date:	3/14/14 VMG	3/14/14 SSG		3/14/14 KJS	

- CREATE RACI CHART FOR CYCLAMATE ANALYSIS
  - MET AS A GROUP TO DISCUSS, EVERYONE AGREED ON ROLES
  - ALL PARTIES LISTED ON RACI CHART DATED AND INITIALED FINAL VERSION

PROJECT # 1
CYCLAMATE ANALYSIS OUTCOMES

- ALL PARTIES AWARE OF REQUIREMENTS FOR REPORTING SAMPLES
- SECTION SUPERVISOR SPENDS LESS TIME ON A MORE THOROUGH REVIEW
- NO QC FAILURES OR MAJOR ISSUES HAVE ARISEN SINCE ADOPTION OF STANDARD WORK
- THIS PROJECT WILL SERVE AS A TEMPLATE TO IMPROVE OTHER PROBLEMATIC METHODS

PROJECT # 1
CYCLAMATE ANALYSIS
QUANTIFICATION/VALUE OF PROJECT

2011: 11-CAR-34 = 15.5 HOURS TO COMPLETE

WHICH EQUATES TO $552

2012: 12-CA-37 = 29.5 HOURS TO COMPLETE

WHICH EQUATES TO $1050

2013: 13-CAR-07 = 6 HOURS TO COMPLETE

WHICH EQUATES TO $213

2014: NONE = 0 HOURS SPENT ON THIS METHOD!

WE HAVE IMPROVED OUR QUALITY RATE AND SAVED AN AVERAGE OF 17 HOURS PER YEAR, EQUALING ~$605/YEAR

PROJECT # 2
ABI CRUSHING TUBES

- PROBLEM: THE ABI INSTRUMENT PERIODICALLY CRUSHES TUBES, WHICH RESULTS IN REWORK AND ADDITIONAL COSTS.
- PROJECT: LOOK AT THE PROBLEM IN MORE DEPTH
- GOALS: REDUCE CRUSHED TUBE RATE

- LEAN TOOLS UTILIZED:
  - PROJECT CHARTER
  - METHOD REVIEW
  - STANDARD WORK
  - VISUAL CONTROLS

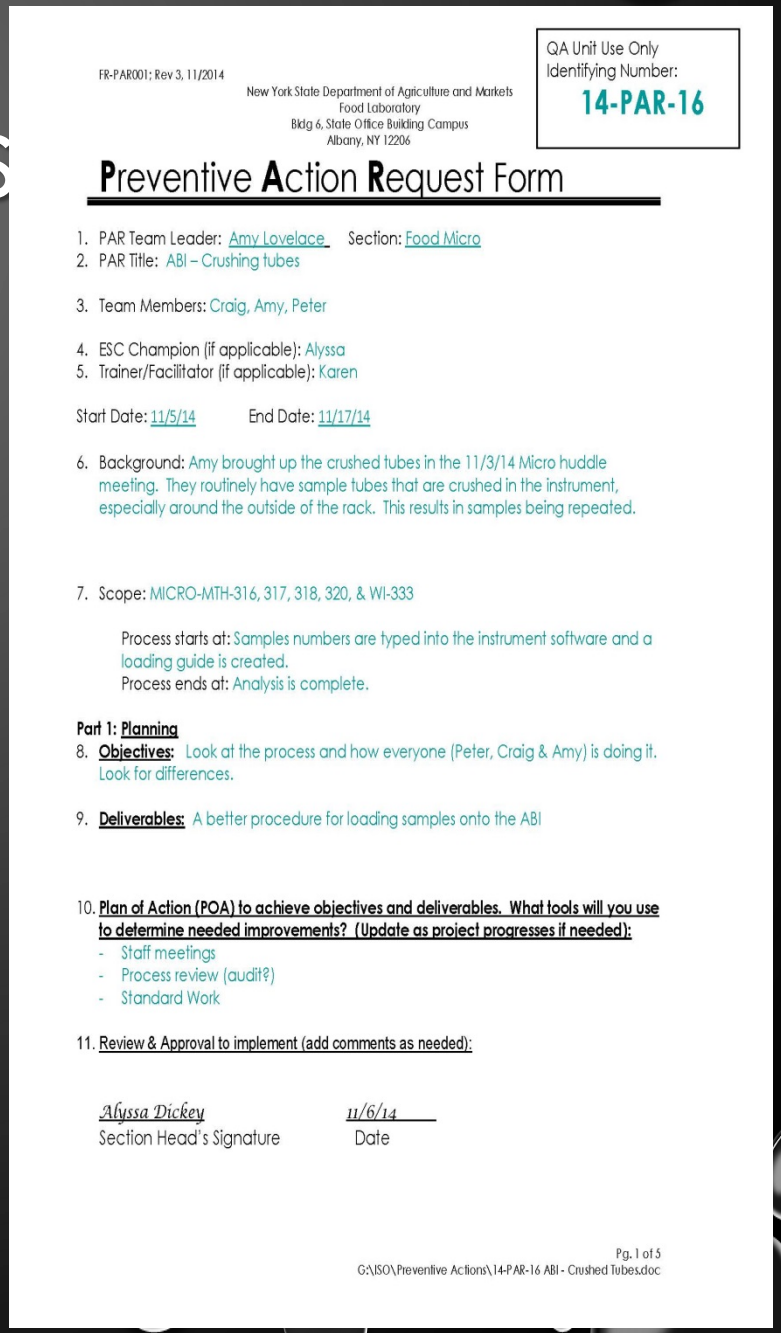
Team Leader
Karen Stephani

ESC Champion
Alyssa Dickey

Team Members: Peter Olsen, Craig Bocketti, Amy Lovelace

PROJECT # 2
ABI CRUSHED TUBES
PROJECT CHARTER

- WE SET OUT WITH A CLEAR PROBLEM IN THIS CASE – CRUSHED TUBES
- SEVERAL REFERENCES FOR THE VARIOUS KITS THEY WERE USING WERE IDENTIFIED
- A CLEAR PLAN WAS AGREED UPON BY THE GROUP



FR-PAR001; Rev 3, 11/2014

New York State Department of Agriculture and Markets
Food Laboratory
Bldg 6, State Office Building Campus
Albany, NY 12206

QA Unit Use Only
Identifying Number:
14-PAR-16

Preventive Action Request Form

1. PAR Team Leader: Amy Lovelace Section: Food Micro
2. PAR Title: ABI – Crushing tubes

3. Team Members: Craig, Amy, Peter

4. ESC Champion (if applicable): Alyssa
5. Trainer/Facilitator (if applicable): Karen

Start Date: 11/5/14 End Date: 11/17/14

6. Background: Amy brought up the crushed tubes in the 11/3/14 Micro huddle meeting. They routinely have sample tubes that are crushed in the instrument, especially around the outside of the rack. This results in samples being repeated.

7. Scope: MICRO-MTH-316, 317, 318, 320, & WI-333

   Process starts at: Samples numbers are typed into the instrument software and a loading guide is created.
   Process ends at: Analysis is complete.

Part 1: Planning

8. **Objectives:** Look at the process and how everyone (Peter, Craig & Amy) is doing it. Look for differences.

9. **Deliverables:** A better procedure for loading samples onto the ABI

10. **Plan of Action (POA) to achieve objectives and deliverables. What tools will you use to determine needed improvements? (Update as project progresses if needed):**
    - Staff meetings
    - Process review (audit?)
    - Standard Work

11. Review & Approval to implement (add comments as needed):

Alyssa Dickey 11/6/14
Section Head's Signature Date

Pg. 1 of 5
G:\ISO\Preventive Actions\14-PAR-16 ABI - Crushed Tubes.doc

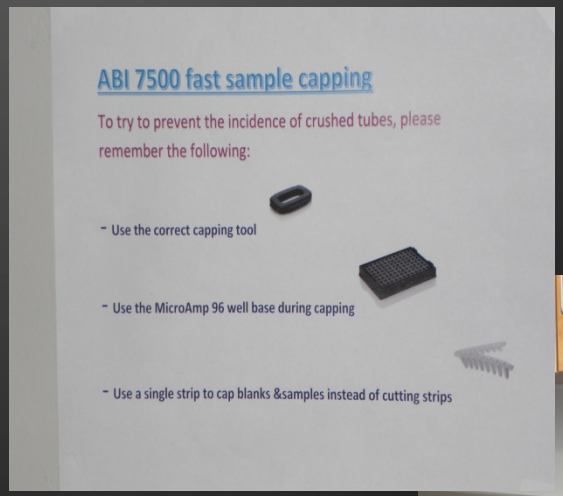
PROJECT # 2
ABI CRUSHED TUBES
METHOD REVIEW

- OBSERVED 3 ANALYSTS OPERATE ABI
  - THE ONLY MINOR DIFFERENCE NOTED WAS THE USE OF DIFFERENT CAPPING TOOLS
  - ALL WERE DILIGENT ABOUT LOADING WITH BLANKS AND MAKING SURE THE CAPS WERE AS EVEN AS POSSIBLE IN THE INSTRUMENT
- THE MICROSEQ KIT USER GUIDES WERE THEN REVIEWED
  - FIRST OBSERVATION: THE USER GUIDES ARE TERRIBLE
    - ADVICE FOR SMOOTH OPERATION IN ONE WAS NOT INCLUDED IN OTHERS
    - IMPORTANT APPLICATION NOTES WERE SPRINKLED THROUGHOUT IN HARD TO LOCATE PLACES.
  - WE IDENTIFIED A NUMBER OF POTENTIAL IMPROVEMENTS BASED ON RECOMMENDATIONS IN THE VARIOUS USER GUIDES

PROJECT # 2
ABI CRUSHED TUBES
STANDARD WORK & VISUAL CONTROLS

- THE FOLLOWING RECOMMENDATIONS WERE ADOPTED:
  - USE THE RECOMMENDED CAPPING TOOL
  - USE THE CORRECT PREP BLOCK FOR CAPPING
  - USE ONE SINGLE STRIP TO CAP TUBES AND BLANKS, INSTEAD OF CUTTING CAPS

- ADDED SIGNAGE TO PREP AREA:



PROJECT # 2
ABI CRUSHED TUBES
OUTCOMES

- STANDARDIZED, OPTIMIZED PROCEDURE FOR CAPPING TUBES
- SINCE 11/19/2014, ONLY 1 OUT OF 44 RUNS RESULTED IN A CRUSHED TUBE (2% RATE)
- THIS IS DOWN FROM 36 OUT OF 316 (11% RATE)
- PREVENTION OF RERUNS FROM CRUSHED TUBES HAS REDUCED ABI OPERATING COSTS BY $1450 ANNUALLY

PROJECT # 3
IMPLEMENTING LEAN DAILY MANAGEMENT SYSTEM

- BACKGROUND:
  - AFTER RUNNING A FEW 'STANDALONE' PROJECTS, STAFF WERE ON BOARD ENOUGH (AND LESS FRIGHTENED) TO IMPLEMENT LEAN LAB-WIDE
  - WE ALREADY HAD A CONTINUOUS IMPROVEMENT PROCESS IN THE LAB, AS A REQUIREMENT OF OUR ISO ACCREDITATION – WE ADAPTED OUR CURRENT PROCESS TO INCORPORATE LEAN PHILOSOPHIES
  - OUR EXISTING FORMS AND SOPS WERE MODIFIED TO ALIGN WITH LEAN

Team Leader: Karen Stephan ESC Champion: Dan Rice Team Members: Kristen Craig, Cynthia Mangione, Debra Oglesby

PROJECT # 3
IMPLEMENTING LEAN DAILY MANAGEMENT SYSTEM
OBJECTIVES

- LEAN TRAINING FOR ALL STAFF
- CREATE WORKGROUPS
- 20 KEYS FOR EACH SECTION
- STAFF MEETINGS TO DECIDE WHEN AND WHERE FOR HUDDLE MEETINGS
- CREATE PRIMARY VISUAL DISPLAY BOARDS
- LET THE PROJECTS START ROLLING!

- LEAN TOOLS USED:
  - PROJECT CHARTER
  - 20 KEYS
  - PRIMARY VISUAL DISPLAY BOARDS
  - HUDDLE MEETINGS
  - 5S

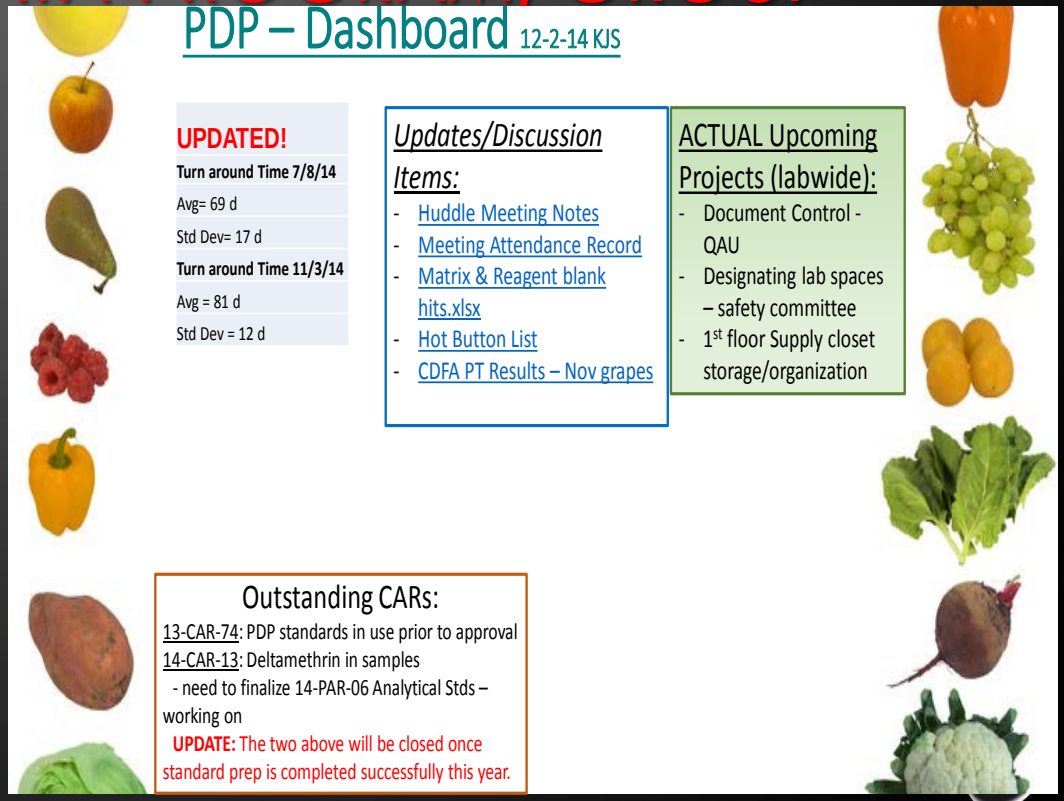
PROJECT # 3
IMPLEMENTING LEAN DAILY MANAGEMENT SYSTEM
PREPARATION

- LEAN TRAINING FOR ALL STAFF HELD ON 2/24/14 & 3/3/14. LOTS OF QUESTIONS AND CONFUSION, SOME CONTENTION
- WORK GROUPS DECIDED ON WITH SECTION HEADS
  - PESTICIDE DATA PROGRAM (PDP) GROUP
  - CHEMISTRY GROUP
  - MICRO GROUP
- 20 KEYS WENT OUT TO EVERYONE TO COMPLETE
- AFTER DISCUSSION WITH SECTION HEADS, WE ELECTED TO PILOT WEEKLY ½ HOUR HUDDLE MEETINGS, INSTEAD OF DAILY 5 MINUTE MEETINGS
- CREATED DRAFT HUDDLE MEETING/PVD BOARD INSTRUCTIONS FOR PILOT

PROJECT # 3
IMPLEMENTING LEAN DAILY MANAGEMENT SYSTEM

PDP (PESTICIDE DATA PROGRAM) GROUP

- PDP HUDDLE MEETINGS INITIATED 7/1/14
- CREATED ELECTRONIC PVD →
- NOTES KEPT ON SINGLE WORD DOCUMENT
- METRICS: TURN AROUND TIME CHARTED FIRST

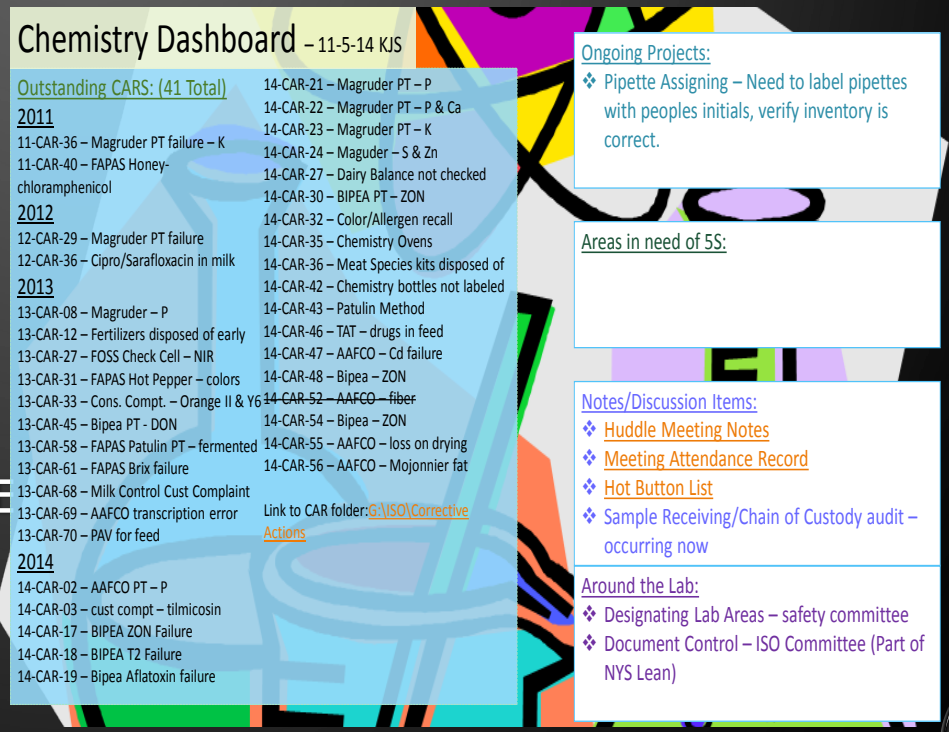


PROJECT # 3
IMPLEMENTING LEAN DAILY MANAGEMENT SYSTEM
PDP GROUP

- HUDDLE MEETING ACCOMPLISHMENTS TO DATE:
  - CONFUSION SURROUNDING ONGOING CORRECTIVE ACTIONS CLEARED UP AND ISSUES RESOLVED MUCH MORE EFFECTIVELY AND EFFICIENTLY WITH A WEEKLY MEETING
  - SECTION IS COMMUNICATING BETTER THAN EVER
  - ISSUES ARE DEALT WITH IMMEDIATELY AS THEY ARISE, RATHER THAN CAUSING A PROBLEM
- PROJECTS REALIZED TO DATE:
  - 5S IN THE INSTRUMENT ROOM HOOD
  - SAMPLE PREP CONTAMINATION PAR
- UPCOMING PROJECTS:
  - VALUE STREAM MAP THE PDP PROCESS

PROJECT # 3
IMPLEMENTING LEAN DAILY MANAGEMENT SYSTEM
CHEMISTRY GROUP

- ½ HOUR WEEKLY HUDDLES INITIATED 9/3/14
- CREATED PVD BOARD
- FIRST METRIC ALSO TAT – MUCH MORE VARIED FOR CHEMISTRY GROUP, THEY HAVE MYRIAD ANALYTES AND MATRIX TYPES



Chemistry Dashboard – 11-5-14 KJS

Outstanding CARS: (41 Total)

2011
11-CAR-36 – Magruder PT failure – K
11-CAR-40 – FAPAS Honey-chloramphenicol

2012
12-CAR-29 – Magruder PT failure
12-CAR-36 – Cipro/Sarafloxacin in milk

2013
13-CAR-08 – Magruder – P
13-CAR-12 – Fertilizers disposed of early
13-CAR-27 – FOSS Check Cell – NIR
13-CAR-31 – FAPAS Hot Pepper – colors
13-CAR-33 – Cons. Compt. – Orange II & Y6
13-CAR-45 – Bipea PT - DON
13-CAR-58 – FAPAS Patulin PT – fermented
13-CAR-61 – FAPAS Brix failure
13-CAR-68 – Milk Control Cust Complaint
13-CAR-69 – AAFCO transcription error
13-CAR-70 – PAV for feed

2014
14-CAR-02 – AAFCO PT – P
14-CAR-03 – cust compt – tilmicosin
14-CAR-17 – BIPEA ZON Failure
14-CAR-18 – BIPEA T2 Failure
14-CAR-19 – Bipea Aflatoxin failure
14-CAR-21 – Magruder PT – P
14-CAR-22 – Magruder PT – P & Ca
14-CAR-23 – Magruder PT – K
14-CAR-24 – Maguder – S & Zn
14-CAR-27 – Dairy Balance not checked
14-CAR-30 – BIPEA PT – ZON
14-CAR-32 – Color/Allergen recall
14-CAR-35 – Chemistry Ovens
14-CAR-36 – Meat Species kits disposed of
14-CAR-42 – Chemistry bottles not labeled
14-CAR-43 – Patulin Method
14-CAR-46 – TAT – drugs in feed
14-CAR-47 – AAFCO – Cd failure
14-CAR-48 – Bipea – ZON
~~14-CAR-52 – AAFCO – fiber~~
14-CAR-54 – Bipea – ZON
14-CAR-55 – AAFCO – loss on drying
14-CAR-56 – AAFCO – Mojonnier fat

Link to CAR folder: G:\ISO\Corrective Actions

Ongoing Projects:
- Pipette Assigning – Need to label pipettes with peoples initials, verify inventory is correct.

Areas in need of 5S:

Notes/Discussion Items:
- Huddle Meeting Notes
- Meeting Attendance Record
- Hot Button List
- Sample Receiving/Chain of Custody audit – occurring now

Around the Lab:
- Designating Lab Areas – safety committee
- Document Control – ISO Committee (Part of NYS Lean)

PROJECT # 3
IMPLEMENTING LEAN DAILY MANAGEMENT SYSTEM
MICRO GROUP

- THE LAST GROUP TO JOIN THE LDMS
- THIS GROUP ALREADY RUNS VERY EFFICIENTLY, SO WE SAVED THEM FOR LAST
- OBJECTIVES:
  - IMPROVE COMMUNICATION BETWEEN MICRO SUB-GROUPS (FOOD MICRO VS. DAIRY MICRO)
  - LOOK AT ANYTHING THEY ARE HAVING PROBLEMS WITH, MAKE IMPROVEMENTS!
- STAFF MEETING TO SCHEDULE HUDDLE MEETINGS 10/31/14, FIRST HUDDLE HELD 11/3/14.
- FIRST MEETING IDENTIFIED A PROJECT! LOOKING AT CRUSHED TUBES ON THE ABI 7500 FAST RT PCR SYSTEM

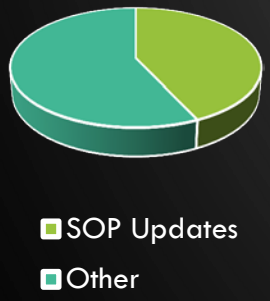
PROJECT # 3
IMPLEMENTING LEAN DAILY MANAGEMENT SYSTEM

BEFORE LEAN

(BEFORE AUGUST 2013)

- PRIOR TO AUGUST 2013: 7 PARS INITIATED, 3 OF THOSE NOT STARTED, 3 IMPLEMENTED, ONE STILL IN PROGRESS
  - 43% SOP UPDATES
  - 57% NON-SOP UPDATES – 0% COMPLETE
- 2012: 12 PARS INITIATED, 3 FULLY IMPLEMENTED
  - 42% SOP UPDATES
  - 58% NON-SOP UPDATES – 14% COMPLETION RATE
- 2011: 17 PARS INITIATED, 13 FULLY IMPLEMENTED
  - 29% SOP UPDATES
  - 71% NON-SOP UPDATES – 83% COMPLETION RATE
- 2010: 22 PARS INITIATED, 15 FULLY IMPLEMENTED
  - 41% WERE SOP UPDATES
  - 59% NON-SOP UPDATES – 53% COMPLETION RATE

PARs 2010 - Aug 2013

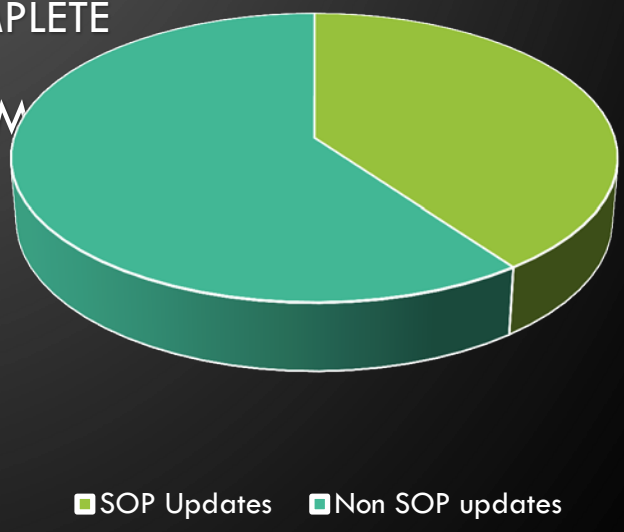


PAR COMPLETION RATES

PROJECT # 3
IMPLEMENTING LEAN DAILY MANAGEMENT SYSTEM

After Lean (August 2013)

- AFTER AUGUST 2013: 3 PARS INITIATED, 2 CLOSED
  - 33% SOP UPDATES (1)
  - 77% NON SOP UPDATES (2) – 50% COMPLETE
- 2014: 17 PARS INITIATED, 14 FULLY IMPLEM
  - 39% SOP UPDATES
  - 61% NON-SOP UPDATES



PROJECT # 4
ANALYTICAL REFERENCE STANDARDS RECEIVING

- PROBLEM: THERE WAS NO CLEAR, WELL UNDERSTOOD PROCESS FOR RECEIVING ANALYTICAL REFERENCE STANDARDS IN CHEMISTRY
  - WE HAD ADOPTED THE PDP METHOD, HOWEVER OPERATIONAL DIFFERENCES RESULTED IN A BAD "FIT"
- PROJECT: REVIEW AND IMPROVE THE PROCESS FOR RECEIVING STANDARDS IN CHEMISTRY
- GOALS: IMPROVE STANDARD WORK, AGREEMENT ON METHOD AND DIVISION OF RESPONSIBILITIES, STREAMLINE PROCESS, ELIMINATE REDUNDANCIES

Team Leader
Karen Stephani

ESC Champion
Debra Oglesby

Team Members: Bob Sheridan, Kristen Craig, Virginia Greene, Kristen Hafler, Tom Tarantelli, Stefan Thomas

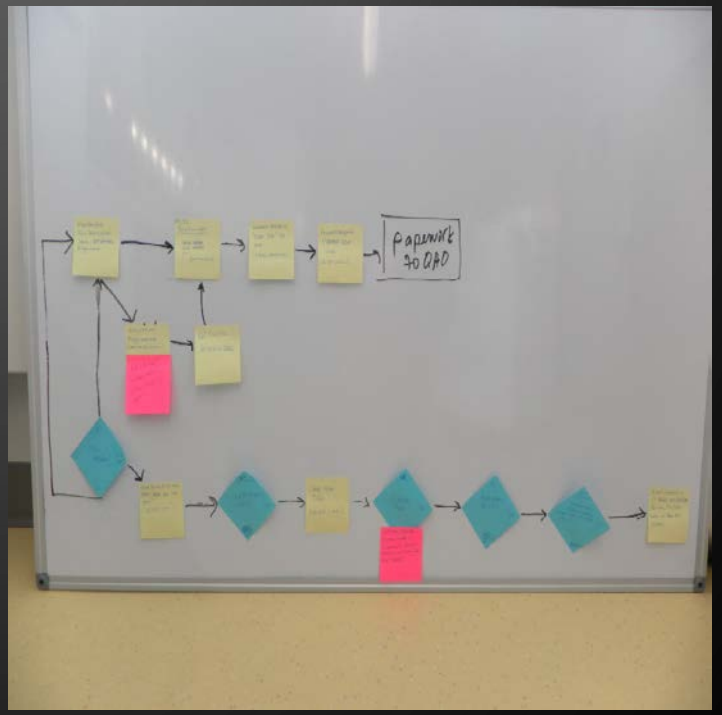
PROJECT # 4
ANALYTICAL STANDARDS RECEIVING

- THE FOLLOWING WAS ACHIEVED:
  - MAPPED CURRENT PROCESS
  - MODIFIED EXISTING SOPS WITH MORE DETAIL
  - CREATED ADDITIONAL WORK INSTRUCTIONS FOR RECEIPT AND LOG IN OF STANDARDS
- LEAN TOOLS UTILIZED:
  - PROJECT CHARTER
  - VALUE STREAM MAP
  - STANDARD WORK
  - SPAGHETTI DIAGRAM

PROJECT # 4
ANALYTICAL STANDARDS
VALUE STREAM MAPPING

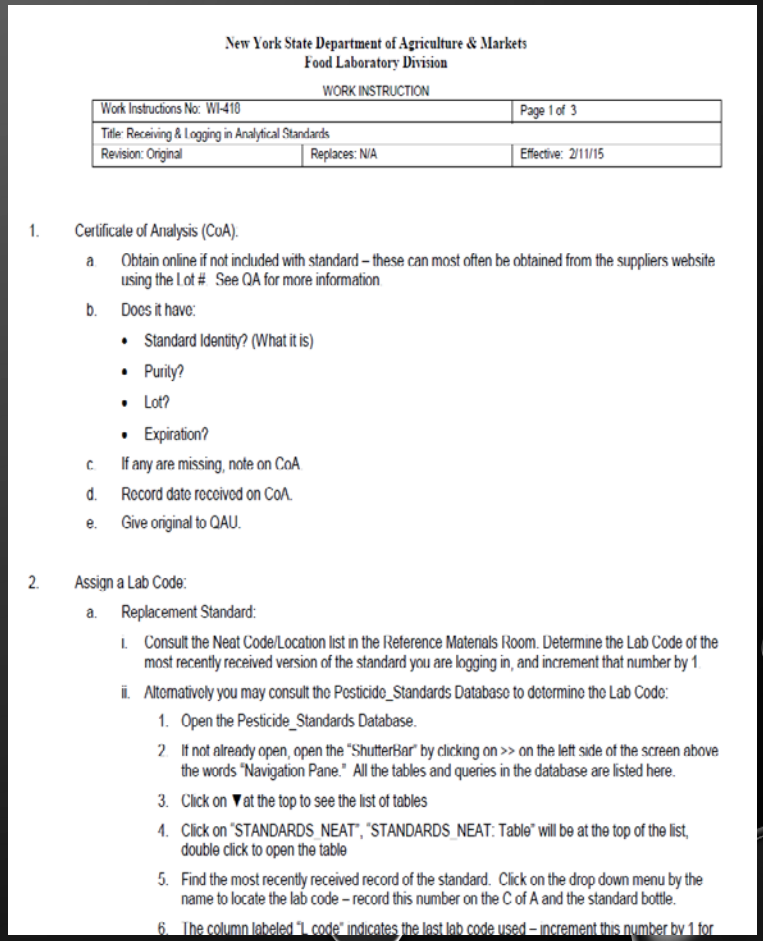
OUTCOMES

- JUST DOING THE VALUE STREAM MAP WITH STAFF WAS AN ENLIGHTENING PROCESS FOR THEM
- EVERYONE HAD ADAPTED THEIR METHOD FROM THE PDP METHOD
- MANY DIDN'T REALIZE WHAT THEY WERE SUPPOSED TO DO
  - INDICATED A COMPLETE LACK OF TRAINING FOR STANDARDS RECEIVING



PROJECT # 4
ANALYTICAL STANDARDS RECEIVING
STANDARD WORK

- WI-418
  - IN ADDITION TO REVISING OUR EXISTING SOPS, WE CREATED AN ADDITIONAL WORK INSTRUCTION FOR ORDERING AND RECEIVING. THIS A SHORTER DOCUMENT THAT PEOPLE CAN REFER TO QUICKLY TO RECEIVE AND LOG IN A STANDARD.



New York State Department of Agriculture & Markets
Food Laboratory Division

WORK INSTRUCTION

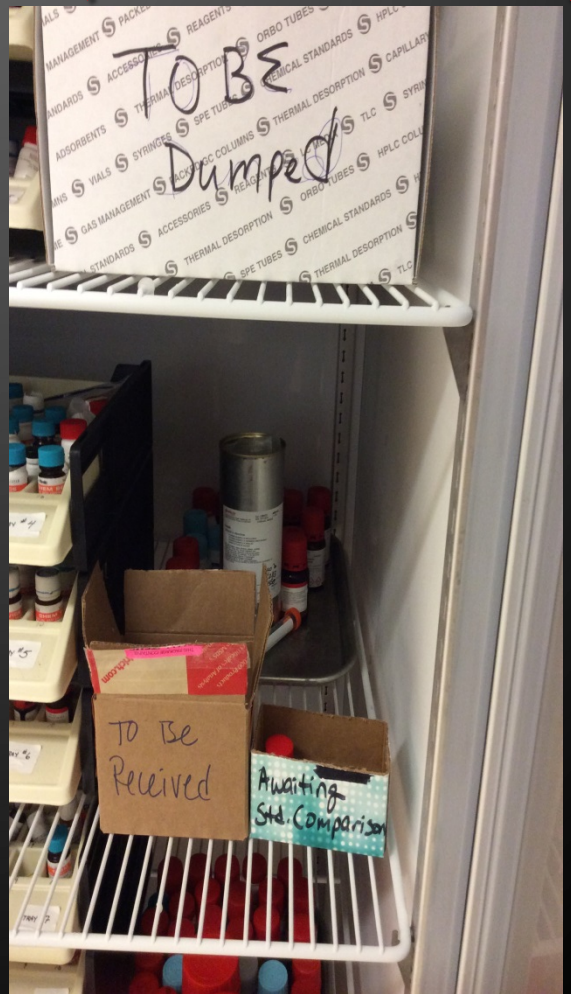
Work Instructions No: WI-418		Page 1 of 3
Title: Receiving & Logging in Analytical Standards		
Revision: Original	Replaces: N/A	Effective: 2/11/15

1. Certificate of Analysis (CoA).
   a. Obtain online if not included with standard – these can most often be obtained from the suppliers website using the Lot # See QA for more information
   b. Does it have:
      - Standard Identity? (What it is)
      - Purity?
      - Lot?
      - Expiration?
   c. If any are missing, note on CoA
   d. Record date received on CoA.
   e. Give original to QAU.

2. Assign a Lab Code:
   a. Replacement Standard:
      i. Consult the Neat Code/Location list in the Reference Materials Room. Determine the Lab Code of the most recently received version of the standard you are logging in, and increment that number by 1
      ii. Alternatively you may consult the Pesticide_Standards Database to determine the Lab Code:
         1. Open the Pesticide_Standards Database.
         2. If not already open, open the "ShutterBar" by clicking on >> on the left side of the screen above the words "Navigation Pane." All the tables and queries in the database are listed here.
         3. Click on ▼at the top to see the list of tables
         4. Click on "STANDARDS_NEAT", "STANDARDS_NEAT: Table" will be at the top of the list, double click to open the table
         5. Find the most recently received record of the standard. Click on the drop down menu by the name to locate the lab code – record this number on the C of A and the standard bottle.
         6. The column labeled "L_code" indicates the last lab code used – increment this number by 1 for

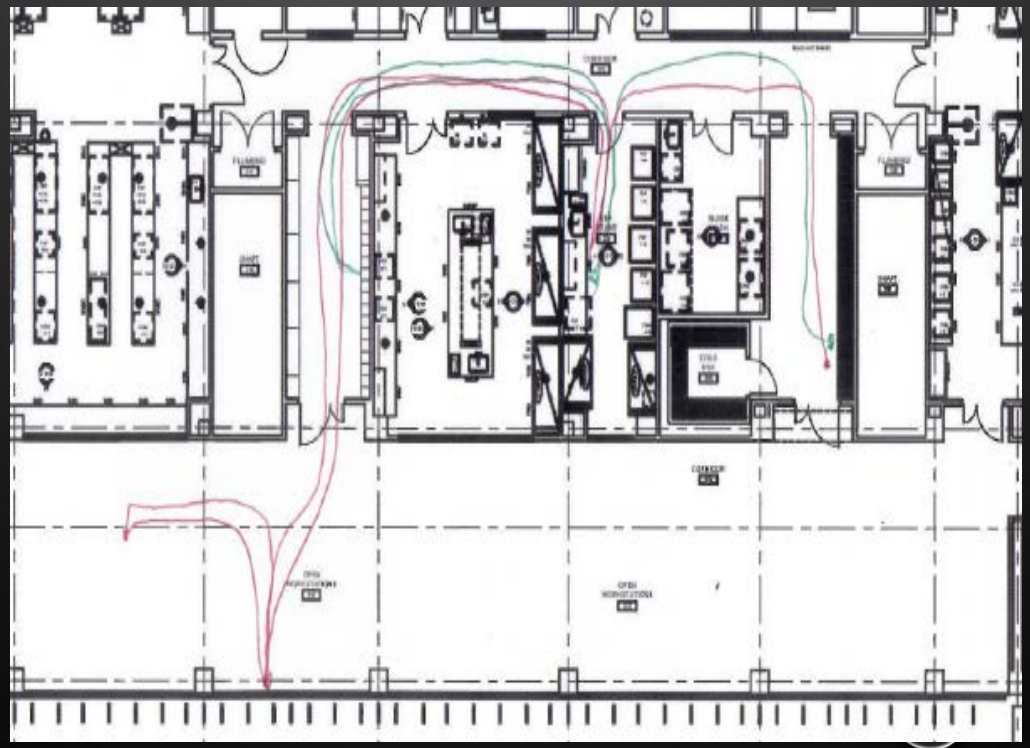
PROJECT # 4
ANALYTICAL STANDARDS RECEIVING
VISUAL CONTROLS (POKE YOKE)

- WE CREATED BETTER SIGNAGE FOR WHAT GOES WHERE, WHEN. IT'S NOT PRETTY, BUT IT WORKS (AND THE BOXES WERE FREE!)
- TRAINING HELD WITH ALL STAFF WHO RECEIVE STANDARDS



PROJECT # 4
ANALYTICAL STANDARDS RECEIVING
OUTCOMES

- TIME TO LOG IN STANDARDS USING OLD PROCESS = 12 MINUTES
- TIME TO LOG IN STANDARDS USING NEW PROCESS = 8 MINUTES



PROJECT # 4
ANALYTICAL STANDARDS RECEIVING
OUTCOMES

- A MUCH MORE CLEARLY UNDERSTOOD AND STREAMLINED PROCESS FOR ORDERING AND RECEIVING STANDARDS, INCLUDING STANDARD WORK AND VISUAL CONTROLS.
- REDUCED POSSIBILITY OF ORDERING DUPLICATE STANDARDS WITH NEW PROCESS
- 2014 WE RECEIVED 161 STANDARDS AT ~ 12 MINS/STD = 32.2 HOURS
- ELIMINATING REDUNDANT STEPS HAS REDUCED OUR P/T TO 8 MINS/STD
- ANNUAL SAVINGS OF 10.8 HOURS (ASSUMING WE ORDER ~160 STANDARDS/YEAR)

THIS EQUATES TO AN ANNUAL SAVINGS OF **$384**

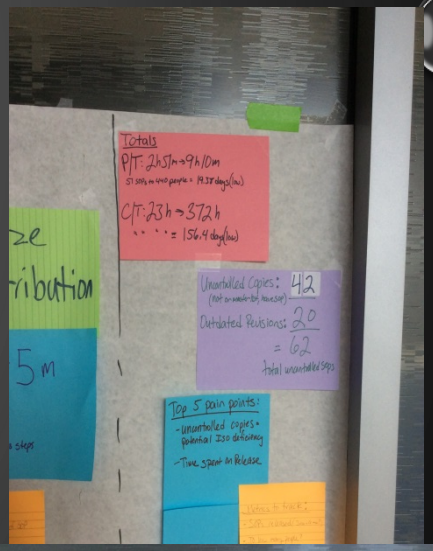
PROJECT # 5
DOCUMENT CONTROL
IN PROGRESS

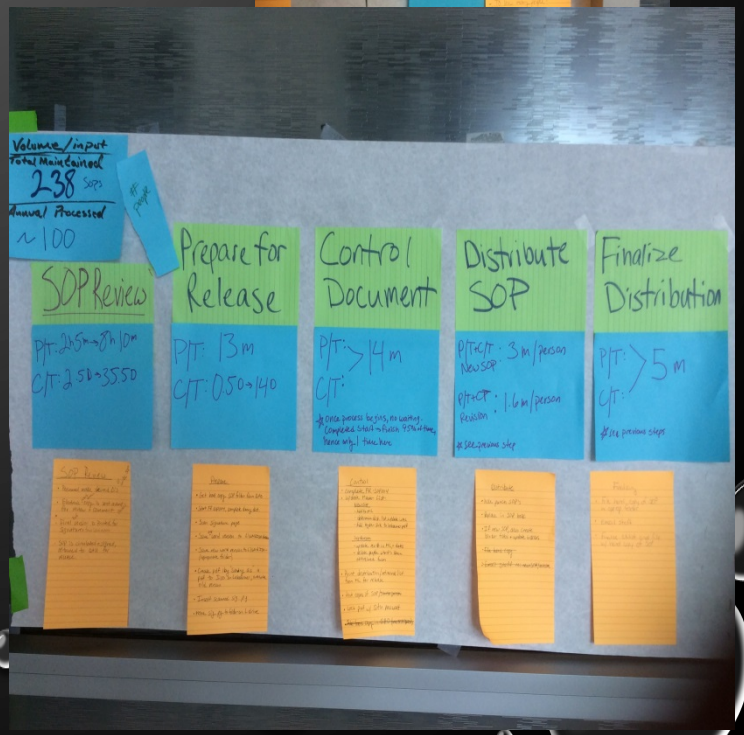
- THIS PROJECT WAS INITIATED IN RESPONSE TO SEVERAL ISSUES INVOLVING UNCONTROLLED COPIES OF DOCUMENTS
- THIS WAS OUR FIRST NYS LEAN PROJECT, AND AS SUCH REQUIRED MORE DATA GATHERING UP FRONT
- THIS WAS AN EXCELLENT LEARNING EXPERIENCE FOR THE GROUP AND TAUGHT US A LOT ABOUT METRICS AND WHAT TO MEASURE

PROJECT # 5
DOCUMENT CONTROL

PRE-WORK

- CONDUCTED AN AUDIT OF OUR MASTER LIST AND UNCOVERED 62 UNCONTROLLED COPIES OF DOCUMENTS, OUT OF 2,213 TOTAL ISSUED DOCUMENTS, OR 2.8 % OF OUR DOCUMENTS.
- DETERMINED PROCESS TIMES AND CYCLE TIMES FOR SOP UPDATES AND RELEASE:
  - PT ~ 3 – 9 HOURS
  - CT ~ 23 – 327 HOURS
- CREATED THE VALUE STREAM MAP AND ADDED ALL THE TIMES AND QUALITY RATES
- SURVEY TO CUSTOMERS ABOUT HOW THEY USE SOPS IN THE LAB



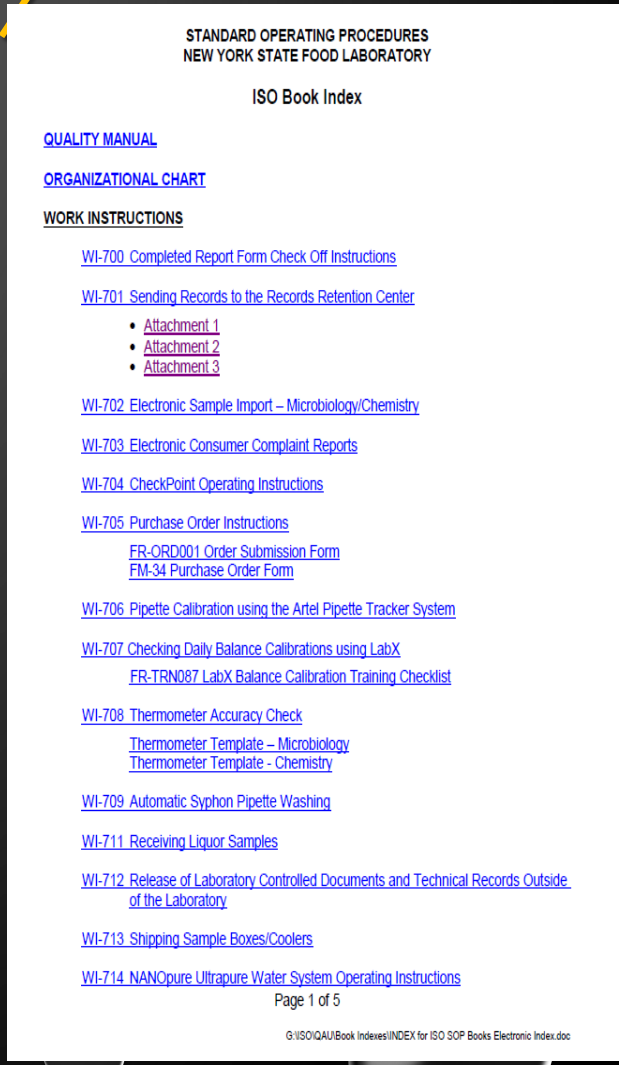


PROJECT # 5
DOCUMENT CONTROL
KAIZEN 12/16 & 12/17

- WE SPENT THE FIRST DAY LOOKING AT OUR PROCESS IN DEPTH, REVIEWING THE ISSUES AND THE FEEDBACK FROM THE SURVEY. WHAT WE LEARNED FROM THE DATA GATHERING:
  - WE SPENT 19.38 DAYS REVISING AND RELEASING 51 SOPS OVER THE PAST 6 MONTHS.
  - TOTAL CYCLE TIME WAS 156 DAYS. LOTS OF TIME SPENT ON SOP REVISION
  - PEOPLE USE SOPS IN A VARIETY OF WAYS – BIGGEST TAKE HOME FROM SURVEY WAS THAT PEOPLE ARE COMFORTABLE USING ELECTRONIC VERSIONS.

PROJECT # 5
DOCUMENT CONTROL
KAIZEN 12/16 & 12/17

- DAY 2 WE DEVELOPED AN ACTION PLAN FOR HOW TO MAKE PAPER COPY REDUCTIONS:
  - CREATED ANOTHER SURVEY TO ASK STAFF A FEW MORE SPECIFIC QS BEFORE PROCEEDING
  - CREATE PDF OF BOOK INDEX AND TRIAL
  - REMOVE ISO SOP BOOKS FROM CIRCULATION
  - ADD SHORTCUT TO ISO INDEX TO ALL DESKTOPS.



STANDARD OPERATING PROCEDURES
NEW YORK STATE FOOD LABORATORY

ISO Book Index

QUALITY MANUAL

ORGANIZATIONAL CHART

WORK INSTRUCTIONS

WI-700 Completed Report Form Check Off Instructions

WI-701 Sending Records to the Records Retention Center

- Attachment 1
- Attachment 2
- Attachment 3

WI-702 Electronic Sample Import – Microbiology/Chemistry

WI-703 Electronic Consumer Complaint Reports

WI-704 CheckPoint Operating Instructions

WI-705 Purchase Order Instructions

FR-ORD001 Order Submission Form
FM-34 Purchase Order Form

WI-706 Pipette Calibration using the Artel Pipette Tracker System

WI-707 Checking Daily Balance Calibrations using LabX

FR-TRN087 LabX Balance Calibration Training Checklist

WI-708 Thermometer Accuracy Check

Thermometer Template – Microbiology
Thermometer Template - Chemistry

WI-709 Automatic Syphon Pipette Washing

WI-711 Receiving Liquor Samples

WI-712 Release of Laboratory Controlled Documents and Technical Records Outside of the Laboratory

WI-713 Shipping Sample Boxes/Coolers

WI-714 NANOpure Ultrapure Water System Operating Instructions

Page 1 of 5

G:\ISO\QAU\Book Indexes\INDEX for ISO SOP Books Electronic Index.doc

PROJECT # 5
DOCUMENT CONTROL
OUTCOMES

- REMOVING ISO BOOKS HAS RESULTED IN A REDUCTION OF 275 PAPER COPIES OF 43 SOPS
- NOT HAVING TO RELEASE THESE PAPER COPIES WILL SAVE US **37.5 HOURS = 1 EXACT WORK WEEK, OR 0.87 HOURS/SOP**
- THIS WILL EQUATE TO A COST SAVINGS OF $31 PER SOP, EVERY TIME THEY ARE RE-ISSUED!
  - ASSUMING WE RE-ISSUE ALL 43 SOPS OVER A 2 YEAR PERIOD, THIS EQUATES TO AN ANNUAL COST SAVINGS = $667

PROJECT # 5
DOCUMENT CONTROL
NEXT STEPS

- OUR PLAN WAS TO NEXT DEVELOP ELECTRONIC BOOK INDEXES FOR INDIVIDUAL STAFF, AND REMOVE HARD COPY BOOKS FROM INDIVIDUALS.
- BENCH BOOKS WILL BE CREATED FOR CHEMISTRY JUST LIKE IN MICRO
- ANY INDIVIDUAL WHO FEELS STRONGLY ABOUT RETAINING PAPER COPIES OF SOPS WILL MEET WITH THEIR QAO AND IDENTIFY WHICH SOPS THEY ACTUALLY USE.

HOWEVER…

ITS HAS SABOTAGED OUR PLANS!!!

LEAN IN THE FOOD LAB
OTHER ONGOING/UPCOMING PROJECTS

- TRAINING FOR NEW STAFF IN THE LAB
- STANDARD PREPARATION
- FOOD LAB GLOSSARY
- DOCUMENT CONTROL PROCESS (ONGOING)
- METHOD VALIDATION PROCEDURES
- SUPPLY CLOSET – KAN BAN/INVENTORY CONTROL PROJECT
- MEDIA PREP – MICROBIOLOGY
- PESTICIDE DATA PROGRAM WORKFLOW
- PURCHASING

LEAN IN THE FOOD LAB
OTHER EXCITING STUFF

- LAB PROJECTS WILL NOW BE COUNTED TOWARDS OUR DEPARTMENT GOALS FOR THE NEW YORK STATE LEAN PROGRAM, IMPLEMENTED SEPTEMBER 2013
- JUST BY VIRTUE OF COMMUNICATING ON A REGULAR BASIS, ISSUES ARE BEING ADDRESSED MORE QUICKLY, AND WITH A BETTER OUTCOME AND LESS RE-WORK
- QUALITY ASSURANCE IS TAKING AN ACTIVE ROLE IN LEAN IN ALL AREAS OF THE LAB (IT'S NOT JUST ME ANYMORE!)

LEAN IN THE FOOD LAB CHALLENGES

- GETTING THE GROUPS TO DOCUMENT ALL THE SMALL IMPROVEMENTS THEY MAKE
- GETTING THOSE WHO AREN'T QUITE ON BOARD YET MORE INVOLVED
- TRACKING METRICS ON A REGULAR BASIS – WE NEED TO IDENTIFY MORE TO TRACK
- WRAPPING PROJECTS IN A MORE TIMELY MANNER – THIS IS GETTING EASIER NOW THAT WE'VE IMPLEMENTED HUDDLE MEETINGS. IN HINDSIGHT WE SHOULD HAVE INITIATED THEM FIRST, BUT THERE WAS TREMENDOUS STAFF PUSHBACK AGAINST THE HUDDLE MEETINGS. HENCE THE ½ HOUR WEEKLY COMPROMISE WE PILOTED, THAT SEEMS TO BE WORKING

SPECIAL THANKS

- SPECIAL THANKS TO:
  - PATRICK MAUL AND BD
  - APHL
  - THE ENTIRE LAB STAFF!

2015 APHL™ ANNUAL MEETING

and ninth government environmental laboratory conference

Performance Driven — Racing to Results

APHL™

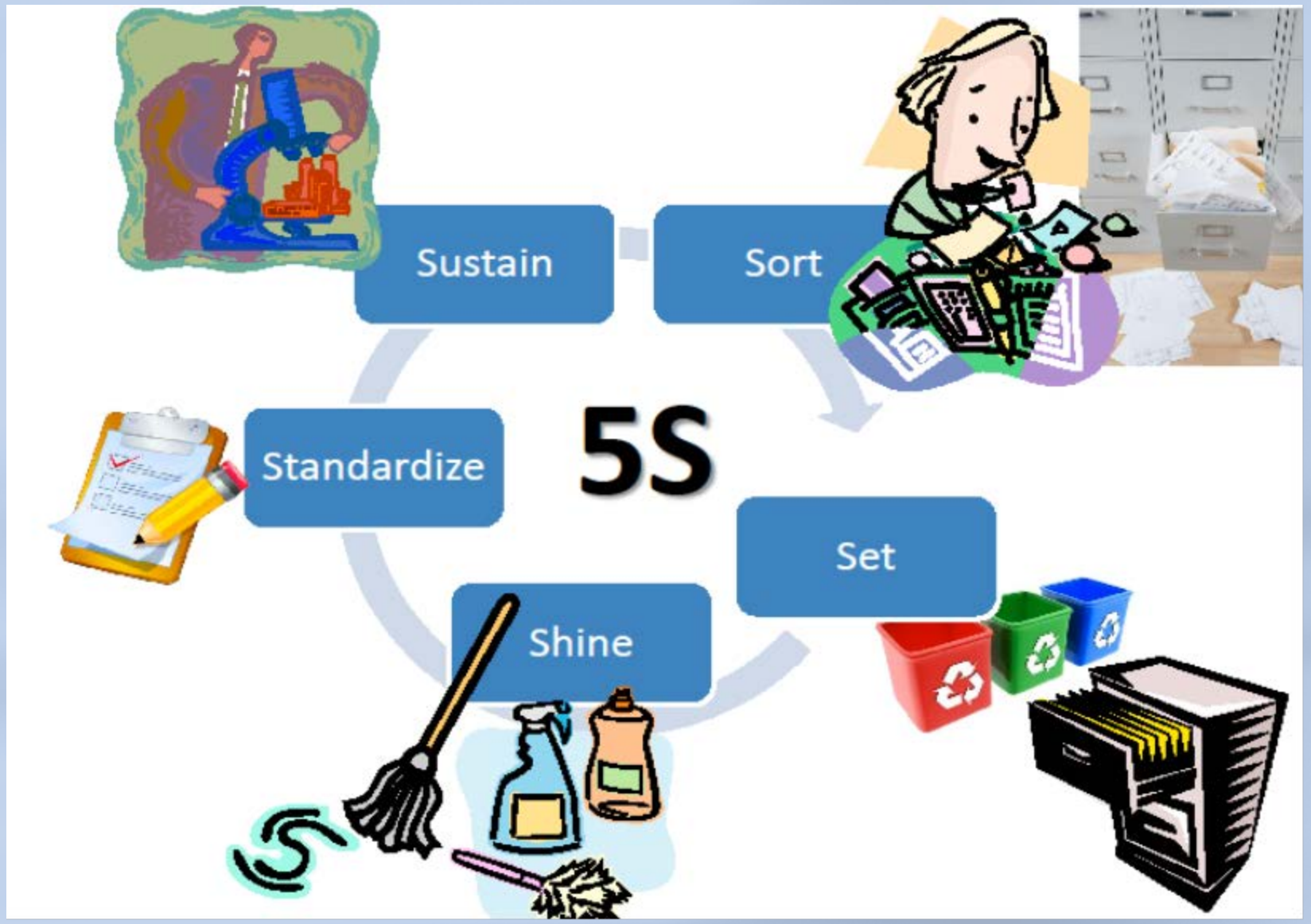
Lean on a Budget

Grace Kubin, Ph.D.
2015 APHL Annual Meeting

TEXAS Department of State Health Services

Implementing a Lean Program

5S



5S Before & After

Before

After

The Seven Wastes

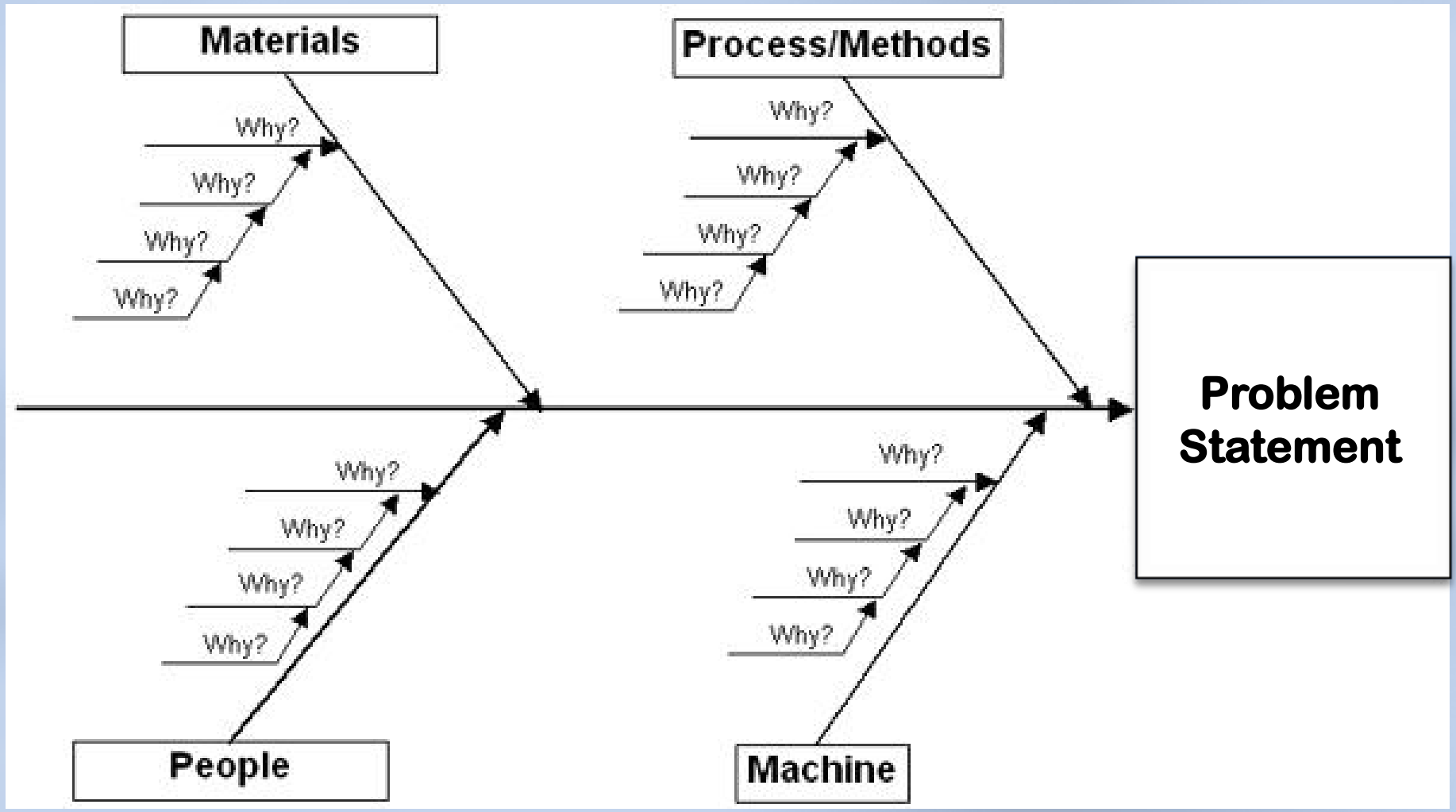
Waste Walk

- Good way to introduce Lean to staff
- Great way to engage staff
- Used to increase efficiency and safety
- Set up with team to observe the whole process
- Record what you see and discuss possible solutions later

Root Cause Analysis - 5 Whys

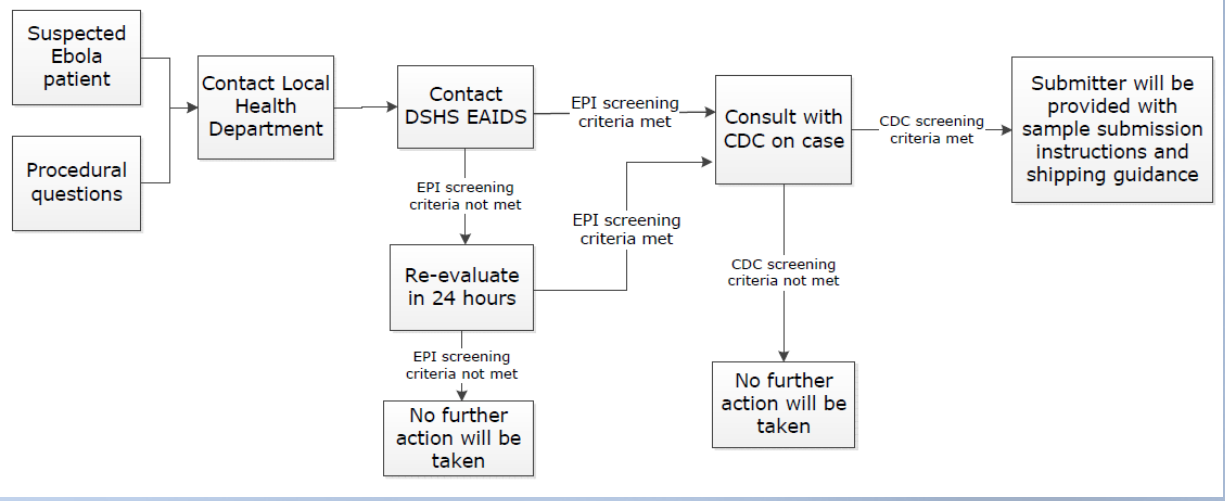
- Helps to identify root cause
- Useful for preventing future issues
- Many times there can be more than one problem causing the failure
- Involve the people performing the process in determining the cause of the issue

Root Cause Analysis - Fishbone

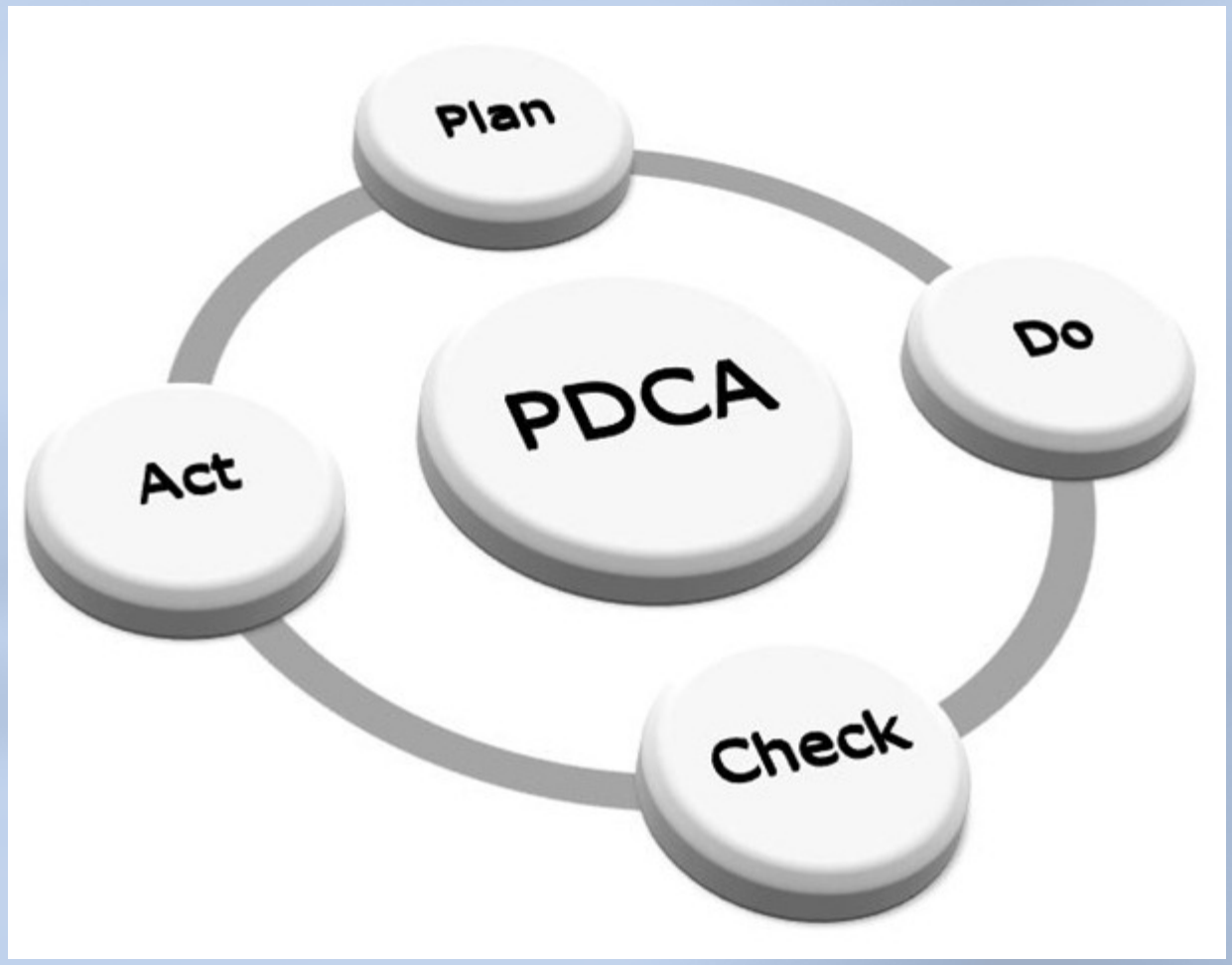


Flow Charting

- Establishes a baseline (Current State)
- Can be used to show Future State
- Shows staff where they fit in overall picture
- Can be used as a training tool
- Helps identify areas for improving the process

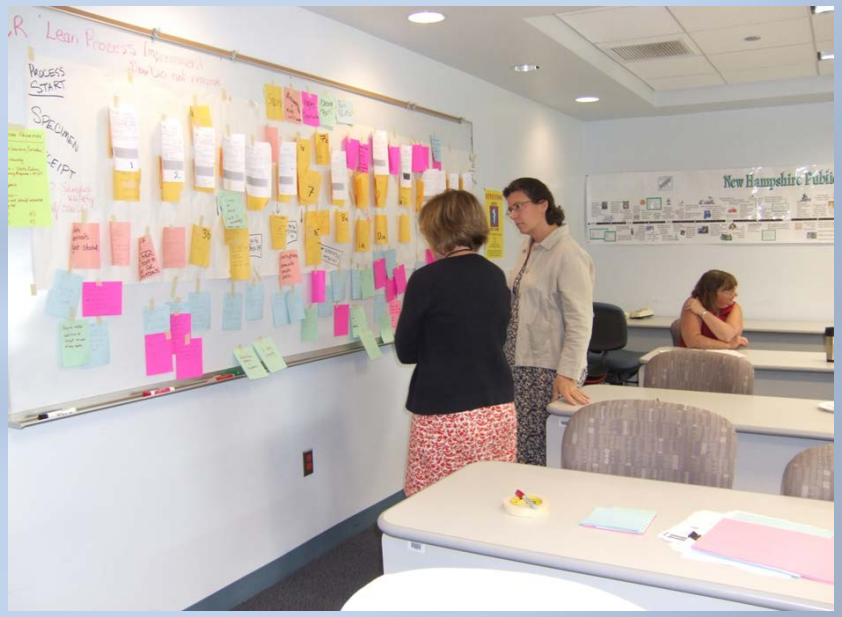


PDCA/PDSA Cycle



Plan

The Planning aspect of the cycle will be the most time consuming and labor intensive



Do

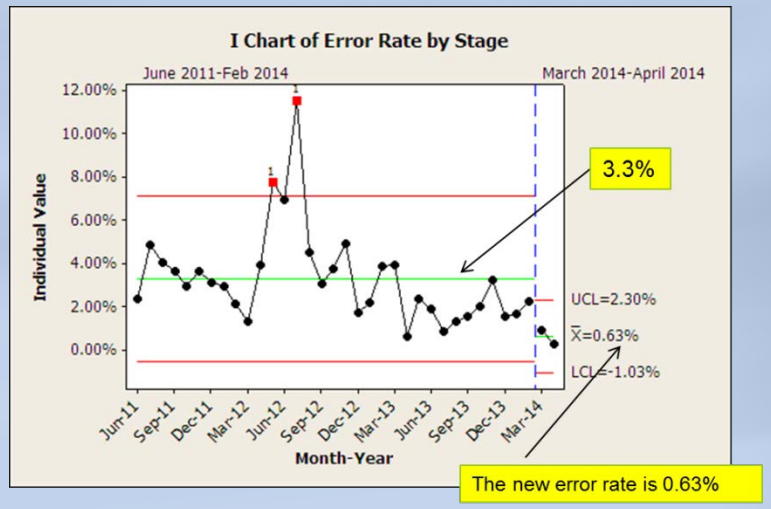
- Implementing the change
- Use a flowchart or check sheet
- If possible implement on a small scale

Before

After

Check/Study

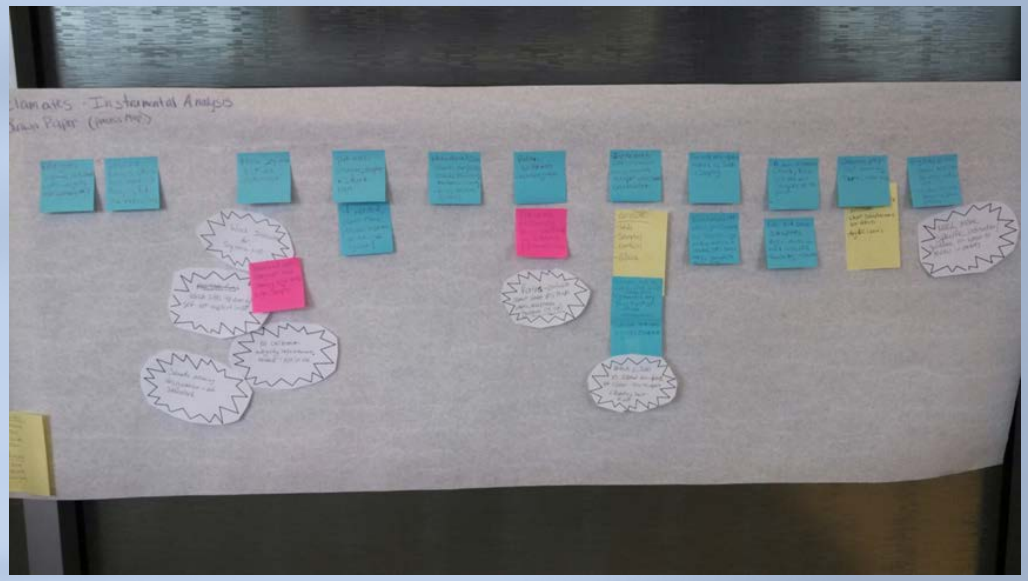
- Study the results
- Gather data based on metrics identified as part of the work plan

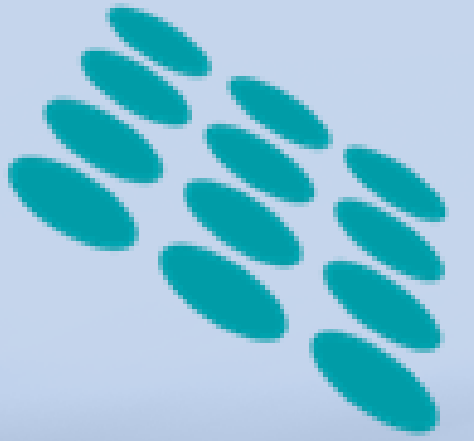


	Item:	Price/unit ordered	Qty (based	Total	To:
2	Critical Cover Lab Coats	$ 123.89	7.00	$ 867.23	Store Room - General Use
3	10uL Loops, light blue	$ 55.45	0.35	$ 19.41	Bacti
4	10uL Loops, yellow	$ 40.06	0.03	$ 1.00	Bacti
5	Disposable scalpel, 1 box	$ 54.73	1.00	$ 54.73	TB
6	Superfrost slides	$ 288.83	0.90	$ 259.95	TB
7	Slide covers	$ 9.97	1.00	$ 9.97	Bacti
8	Sight Saver Cleaning solution	$ 81.27	0.25	$ 20.32	Store Room - General Use
9	Scotch Tape (in plastic dispenser	$ 2.89	14.45	$ 41.76	Front Office
10	Labeling Tape	$ 14.60	0.17	$ 2.43	Bacti
11	100-1000uL pipette tips	$ 66.50	0.13	$ 8.31	Store Room - General Use
12	595 Filter paper	$ 15.79	1.00	$ 15.79	Store Room - General Use
13	Microscope slide box	$ 4.83	1.00	$ 4.83	TB
14	Lens Paper, 8x12	$ 40.81	0.08	$ 3.40	Bacti
15	Timer,	$ 20.17	7.00	$ 141.19	Store Room - General Use
16	Bleach (clorox)	$ 13.30	0.50	$ 6.65	Aptima
17	Ammonia	$ 39.35	0.04	$ 1.46	Molecular
18	C Fold papertowels	$ 44.10	0.10	$ 4.41	Store Room - General Use
19	Wypall	$ 94.99	0.11	$ 10.55	Store Room - General Use
20	Unwire Racks, 16mm (Full)	$ 128.96	0.75	$ 96.72	Store Room - General Use
21	Unwire Racks, 16mm (Half)	$ 97.00	0.13	$ 12.13	Store Room - General Use
22	Unwire Racks, 20mmand 25mm (F	$ 128.96	0.63	$ 80.60	Store Room - General Use
23	12*24"biohazard bags	$ 67.88	0.25	$ 16.97	Store Room - General Use
24	Disposable transfer pipettes	$ 13.61	0.40	$ 5.44	TB
25	Ziploc gallon bags	$ 8.84	2.00	$ 17.68	Store Room - General Use
26	Small Brown Paper bags	$ 19.90	0.20	$ 3.98	TB
27	Biohazard Bags, 38x48	$ 238.94	0.02	$ 4.78	TB
28	10mL Syringe	$ 17.65	1.00	$ 17.65	BT
29	Pencils	$ 2.89	3.00	$ 8.67	Front Office
30	Sharpies	$ 6.79	0.42	$ 2.83	Front Office
31	Pens	$ 13.99	0.50	$ 7.00	Front Office
32	Tape Dispenser	$ 4.29	3.00	$ 12.87	Front Office
33	Scotch tape (no plastic dispenser	$ 22.99	0.10	$ 2.30	Front Office
34	Scissors	$ 9.89	1.00	$ 9.89	Front Office
35	Duct tape (silver)	$ 48.99	0.33	$ 16.33	Front Office
36	Duct tape (yellow)	$ 39.99	0.33	$ 13.33	Front Office
37	Binder clips, small	$ 9.49	0.03	$ 0.33	Front Office
38	Post It, Small	$ 12.79	0.08	$ 1.07	Front Office
39	Post It, large	$ 7.99	0.33	$ 2.66	Front Office
40	9V battery	$ 10.39	0.50	$ 5.20	Front Office
41	Packing Tape Dispenser	$ 19.79	1.00	$ 19.79	Front Office
42	Packing Tape Roll	$ 35.99	0.17	$ 6.00	Front Office
43	Kleenex	$ 66.95	0.17	$ 11.16	Front Office
44					
45				Total: $ 1,848.75	

Act

- Try to standardize the change or perform an intervention if needed
- Establish a future direction and how often the cycle should be repeated





APHL™

Questions?

THANK YOU!

2015 APHL™ ANNUAL MEETING

and ninth government environmental laboratory conference

Performance Driven — Racing to Results

APHL™