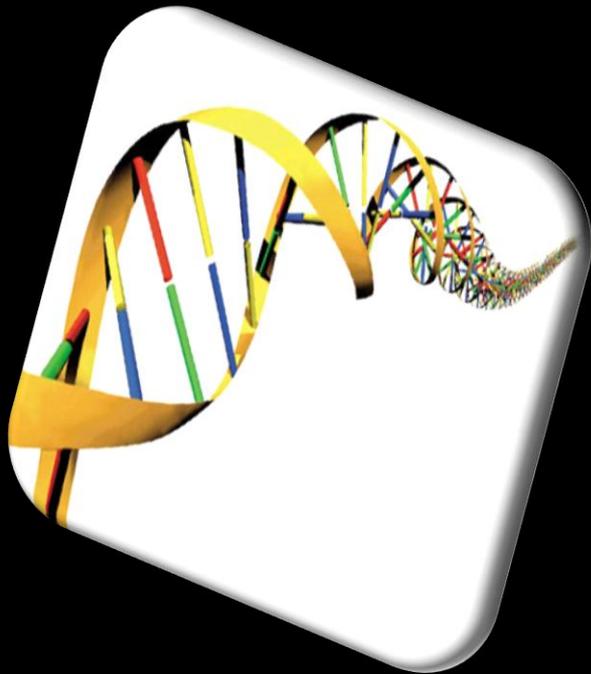


Ohio Bureau of Criminal Investigation



FB & DNA Process Study
Kaizen Event Report Out

April 11-15, 2011

The TAQ Masters



The Team

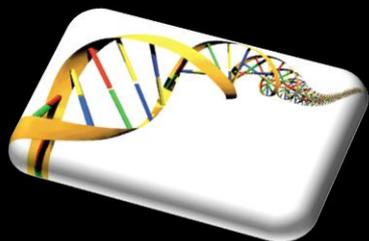
- **Mike Velten, Assistant Deputy Superintendent, DNA & FB**
- **Liz Benzinger, BCI DNA, Technical Leader/QA Manager**
- **Lewis Maddox, BCI-Richfield Lab Director**
- **Lynn Bolin, BCI-London DNA Lab Director**
- **Jen Duvall, BCI-Bowling Green, Acting Lab Director**
- **Amy Wanken, BCI-London, FB Lab Director**
- **Becki Hager, BCI-London, Office Assistant**
- **Bryan White, BCI-London, Special Agent, Crime Scene**
- **Casey Agosti, BCI-Bowling Green DNA Forensic Scientist**
- **Brenda Gerardi, BCI-Richfield DNA Forensic Scientist**
- **Kristen Slaper, BCI-London Forensic Scientist**
- **Russ Edelhelt, BCI-Richfield DNA Forensic Scientist**
- **Emily Draper, BCI-London DNA Forensic Scientist**
- **Julie Trackler, Executive Assistant to DAS Director**
- **Jonathan Blanton, Assistant Attorney General**

Facilitators: Bill Demidovich, Steve Wall, Gloria Calcara, Sue Kirby, Chris McGill, Cintas Corp., Amy Harris, Parker, Rich Martinski

Background

The Ohio Bureau of Criminal Investigation processes more than 7,000 DNA cases each year. Most cases are received and/or processed beginning with Forensic Biology and then DNA at three primary laboratories, 1) London, 2) Richfield and 3) Bowling Green.

The process is utilized by most law enforcement agencies throughout the state and the results of BCI testing impact the viability of related case prosecution.



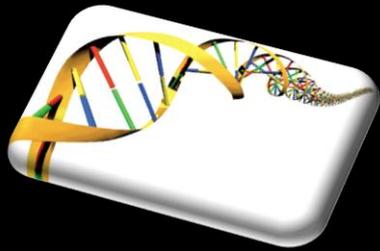
Stakeholders

Victims/Victims Family
Law enforcement agencies
Courts
Attorneys
Accused offenders
Ohio Attorney General

Reasons for improving this process

- **Improve overall customer relationships.**
- **Improve service to enforcement agencies and victims/victim family members.**
- **Improve public/media understanding of the service levels provided by our units.**
- **Provide better education to submitters entering evidence into our process for increased accuracy and completeness.**

Kristen Slaper



Scope of Event

The process begins when agencies bring evidence to BCI and ends when the final report is issued or the forensic scientist testifies.

Overarching Themes:

The purpose of this event is to reduce processing time and improve customer satisfaction while maintaining high quality.

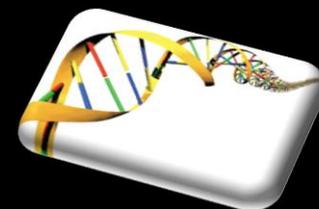
Out of Scope

Areas that will not change as a result of the Kaizen event are:

- **No one loses their job because of the Kaizen event, but duties may be modified.**
- **Need for additional staff is not dependent on improvement process**
- **Need for additional monies is not dependent on improvement of process**
- **No legislative changes or changes related to collective bargaining.**
- **No IT solutions until it is determined that an IT solution is needed.**

Goals & Objectives

- Have ALL cases come in ready to work
- Start work on all submissions within 5 days
- Achieve an average report time of 35 days from submission
- Reduce the number of reports returned for changes after technical and administrative review
- Improve customer and employee satisfaction



Amy Wanken

Baseline Data

Average Case Processing Time: Dual Lab Cases		
	Average Days from Receipt at BCI to DNA Report Complete	%
1-7 Days	0	NA
8-14 Days	0	NA
15-30 Days	8	1%
31-60 Days	62	11%
>60 Days	485	87%
Total	555	

Baseline Data

DNA Lab Statistics				
	Days Until Assigned	% Assigned	Total Days at BCI	% Assigned
One Day	122	39%	1	0%
2-7 Days	10	3%	1	0%
8-14 Days	8	3%	1	0%
15-30 Days	19	6%	8	3%
31-60 Days	65	21%	46	14%
>60 Days	92	29%	262	82%

The average processing time for DNA cases was 126 days. 50% were not assigned to a scientist for 30 days or longer

Julie Trackler

The Kaizen Approach

Team-based energy and creativity drives immediate process improvement

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Day of Learning	Day of Discovery & Developing Improvement Ideas	Day of Improvement & Creating the New process	Day of Design Implementation & Documentation	Day of Celebration & Results Schedule 30-60-90-day follow-ups

At the end of the week, each Kaizen team has designed dramatic operational improvements

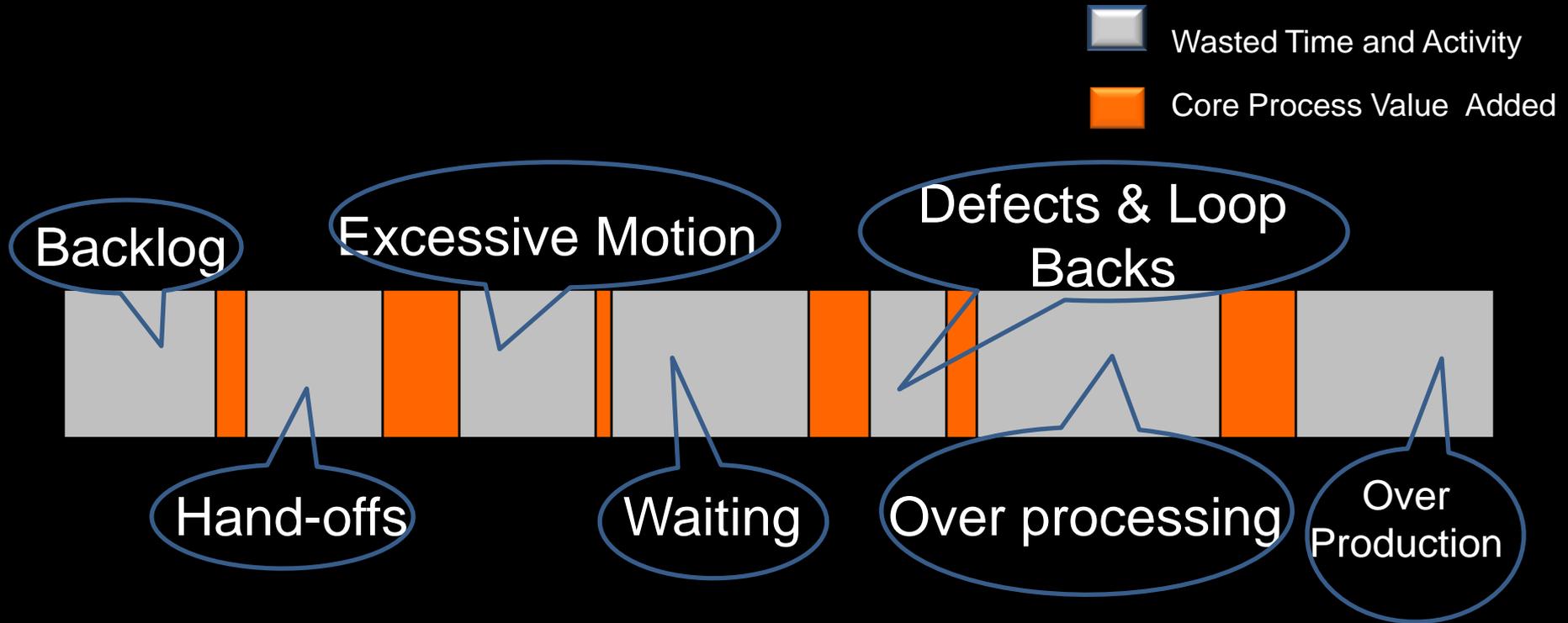


To Break for the Better



- Clear objectives
- Team process
- Tight focus on time (one week)
- Quick and simple, action first
- Necessary resources available right away
- Immediate results (new process functioning by end of week)

Lead-time Reduction



Emily Draper

Current-State Process Map



187 steps

52 handoffs

43 decisions

The original processes had:

- Too many steps
- Too many handoffs
- Caused too much process lead time
- Too many duties for the forensic scientist that could be done by others
- Lot of delays
- Lot of redundancies

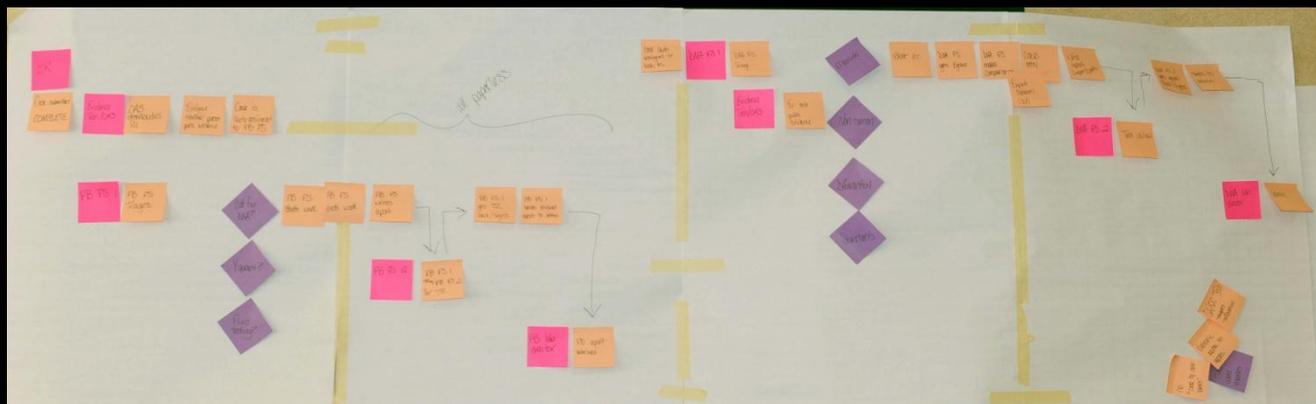
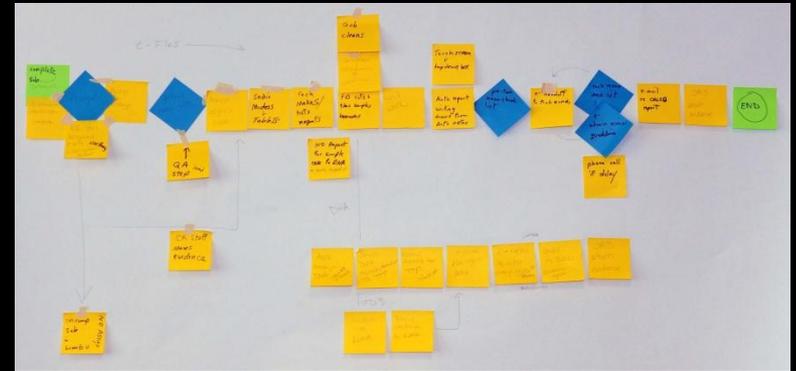
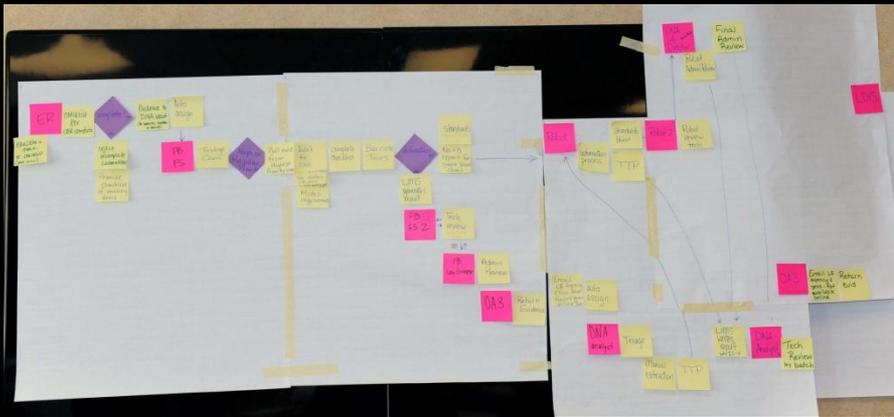
Lynn Bolin

The team brainstormed more than 70 improvement ideas

Garbage in=Garbage out
Only take complete cases
No non-sex cases at less than F3 level
Edit sub. Policy (limit rushes)
Establish better criteria for submission of evidence to reduce non-essential work
Require synopsis & standards on submission
Incomplete is unacceptable
Tighten up compliance with evidence protocol – must have svcs std & synopsis
Cases ready to be worked on submission
Require checklist to be completed prior to case acceptance
Incentives for status communication for Detectives & Court
Stop cases at the door if they don't have everything they need
Train LEA better
Tell L.E. & Pros. What is required
OHLEG Training & use
Give Detectives /Inv. OHLEG access to reports
No memos.. OHLEG
Give BCI staff “read” access to OHLEG
Electronic access to court dockets & OHLEG
Mideo access on other computers
Stop attaching CV to each report - stop mailing reports
Automated note taking
Purchase & install barcode system for sample tracking
Dictation software for staff
LIMS generate report from report input info
LIMS that works
LIMS creates reports FB/DNA little FS interaction wizards

Better LIMS – report writing – tracking sample types
IT support to include program for robots
Faster computers
Make more of process electronic
Paperless process
Go paperless
Better data mining tools to track trends and sample types
Take better advantage of OA3s
Have someone else order
Evidence transfer to a minimum
More support with admin functions (Purchasing ordering)
Reassign non-technical tasks to OA3s
Liz have dedicated OA3
OA3 to order supplies (2)
Delegate some responsibilities to OA3
Decrease amount of case transfer
Don't transfer cases/evidence
Less shipping around of case files
Minimize transfer between labs
Eliminate or reduce Fed Exing
Less movement of case pockets- only absolutely necessary transfers
Organize DNA vault for incoming evidence
Property room person to move evidence
Place in DNA vault (no transporting from vault to vault)
Good scanners for case files
Better define interpretation guidelines (i.e.: inconclusive)
Bar code readers for DNA sample tubes
Use colored folders to identify case typed priority
Assign additional counties to L&R – from BG area

Clean Sheet Redesign



Common Ground

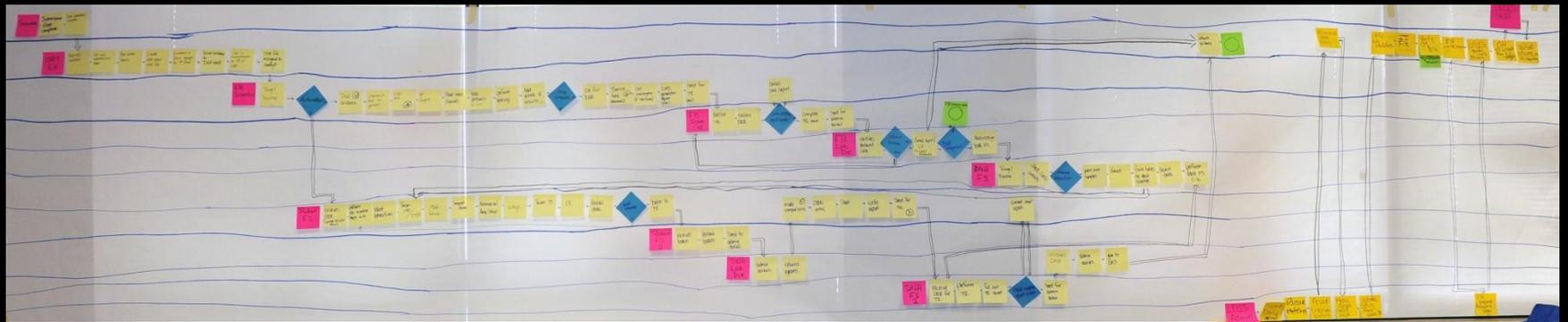


Common Ground

- ✓ Auto-Assign
 - Submission Policy Enforced
 - No more mailing
 - QC Tech Responsibilities
 - OAS's move evidence
 - Bar coded Tubes
 - ✓ Tablets For Notes
 - Triage in analysts Hands
-
- Automated Flow Path.
 - Paperless
 - IDX - use it.
 - LIMS enhancement
 - Simple cases bypass FBI reporting
 - Visual Prioritization
 - CODs - Forensic check by analyst - rest Admin OAS.
(initials)
 -

Russ Edelheit

The New, Improved Process



84 steps

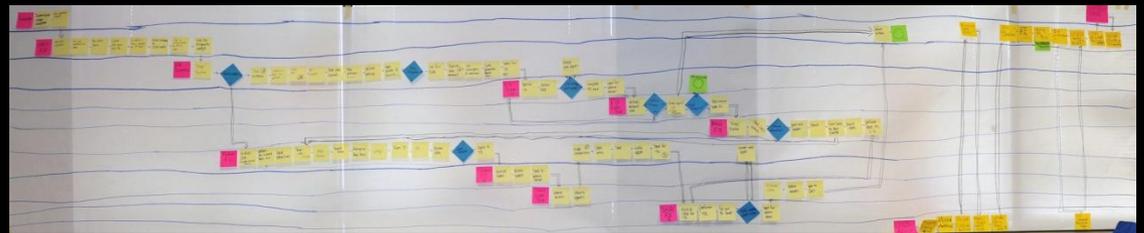
26 handoffs

8 decisions

Old Process



New Process



The Results

Measure	Before	Projected After	Difference
Number of Processes	3	1	66% reduction
Steps	187	84	103 less steps -55%
Decisions	43	8	81% fewer
Handoffs	52	26	50% fewer
Forensic Biology Processing Time	50 days	14 days	36 fewer days 72% reduction
DNA Processing Time	126 days	21 days	105 fewer days 83% reduction
Overall Processing Time	117 days	35 days	82 fewer days 70% reduction

More Results

- Reduced information-gathering steps
- Created a process that can be explained to the customers
- Reduced job frustration; revitalized job satisfaction
- Buy-in from all levels of staff

Mike Velten

Projected Cost Savings

Laboratory-wide savings :

Paperless Reports:

Paper Savings: \$28,000 annually

Postage Savings: \$12,000

OA3 time spent mailing: \$17,000

Projected Annual Savings of \$57,000

Staffing Plan

2012 Budget includes money to hire 8 DNA Forensic Scientists (\$500,000/year)

Post Kaizen staffing plan:

4 DNA Forensic Scientists

3 Laboratory QC/QA Analysts

3 FT & 2 PT dedicated OA3s to the DNA Biology Unit

BUDGET NEUTRAL

Key Issues

Major Improvements

Each lab had a separate process

Standardized processes

Forensic samples came in incomplete

Created a new checklist and educational process to ensure more complete submissions.

Scientists doing too many other duties

Moving duties to more appropriate staff . Hiring and using office assistants.

Future hiring of technicians to free up scientists to do more DNA work

Lead time too long

Reduced steps, implementing paperless process,

Purchasing procedures were burdensome & caused delays

Credit card, blanket POs, pre-approved standard lab supplies vendor

Employees took too long to get help

Dedicated IT staff at BCI

Bryan White & Lewis Maddox

Implementation Plan

- Submission Expectation action items
- Training plan
- Communication plan
- IT action items
- HR action items
- Fiscal action items
- Data collection



Submission Form

HEADER

(susp. vic case #
dates agency
offense)

BARCODE

★

Charged yes no

Trial Date yes no

Grand Jury yes no

In Custody yes no

Other comments:

Agency Item	Description	Where?	Purpose/Why?
1	comforter	victim's bed	suspects semen
2	pants	victim's pants	suspect's semen
3	underwear	suspect's underwear	victim DNA
4	knife	found @ scene	susp - handle vic - blade
5	swabs - standard	victim	for comparison (auto populate)
6	standard	suspect	for comparison (auto populate)

(Submitted by)

(Investigator)
Brief Synopsis: ★

Action Plans

Fiscal Action Plan

What	Who	When
P-cards x2	Jennifer B. (memo to COO)	4-22
List of most common vendors for <ul style="list-style-type: none"> - Blanket POs - "Pre-approved" Std Lab Supply Vendors 	Levi	4-22
Timing for Maintenance Contracts	Mike Jennifer B.	
Performance audit of local PCs <ul style="list-style-type: none"> - Help Ticket with PCs 	Lynn and Levi (Liz)	4-22
Ensure IT is aware of all DNA IT projects needed	Mike, Levi, Liz Lynn	4-22

HR Action Plan

What	Who	When
Potential intern Candidates fr. OSU	Erica	Mon, Apr 18
Create specs/P.D. for tech position	Erica + BCI mgrs. est	June 18 (8 wks)
^{tech} Study tasks that can be reassigned to OA3	Erica	Mon, May 2 (2 wks)
OA3 - Designated per Lab. - Mike		
Study IT support staff for BCI - Mike		

Communication Plan

Communications

When	Stakeholders	What	Purpose
90 days	law enforcement prosecutors media? SANE nurses	BCI customer session appreciation	<ul style="list-style-type: none"> brief on new process - impacting changes Understand BCI mission: operations
Soon	BCI staff	email from Dir Stickrath	debrief Kaizen results
?	prosecutors sheriff Chiefs of Police	Ltr from AG DeWine or Stickrath	Process Perform. improve ^{ments} we're making changes help us, help you
next edition	↑ subscribers ↓	Article in AG newsletter	raise awareness of process/performance changes

When	Stakeholder	What	Purpose
next available meeting	BSSA OACP OPAA SANE	<ul style="list-style-type: none"> personal appearance ask for space to add article @ new BCI ^{lab} process AG law enforcement conf. OPOTA 	explain process changes and impact on stakeholders of customers
as needed	media	Soundbites for AG ^{press} Communications Director to defend labs - - delays due to LEAs - x (more) - x - x	to raise public awareness of labs vs LEA roles in DNA efforts

Training Plan

Training		
Who?	When?	How? What?
Submitters & Investigators	Can start introducing now (4/18)	<ul style="list-style-type: none"> - ESPTA class - Evidence Technician class <ul style="list-style-type: none"> - introduce new ER manual - give instruction on using OHLES * offer to get LE registered on OHLES - introduce new submission policy & form - give brief overview of DNA process - Law Enforcement Conference - offer <u>regionally</u>
Internal Staff/ Evidence Receiving	when completed } 4/18 }	<ul style="list-style-type: none"> - Internal training <ul style="list-style-type: none"> - introduce new ER manual - introduce new submission policy & form - have ER call assigned analyst (not lab director) w/ questions - ER gives analyst's business card to investigator - set deadline for investigator to provide additional info/evidence
OAB	4/18	<ul style="list-style-type: none"> - Internal training <ul style="list-style-type: none"> - mailing reports - returning evidence - LDIS procedures (use existing worksheet) <ul style="list-style-type: none"> - writing memos - filing - phone calls

Come Monday...



- Purchasing
- DNA can be stored upstairs (London)
- Help desk
- Eliminate simple biology blood reports

Jen Duvall

Benefits

- Less paper products
- Reduced postage costs
- Less waiting time
- Less frustration for employees
- Streamlined process
- Process is a product of the employees
- Reduces the opportunity for human error
- Fewer incomplete submissions
- More standardized workflow between labs
- Better use of scientists' time



Casey Agosti

Personal Lessons Learned

- Philosophy change on who the customer is
- Better understanding of the process of DNA analysis
- Better understanding of how incomplete evidence delays the process
- Really like salmon post-it notes
- Better understanding of why it took so long
- Management has a lot of faith in the employees
- I would do it again
- We do a lot of stuff
- Scrub down before you commit a crime
- There is a true cost savings in getting rid of waste
- Scientists have a lot of diversity in their daily tasks
- Scientists wear many hats
- I should have invested in 3M!

Life as a member of a Kaizen event Team...



Brenda Gerardi, Bryan White, Liz Benzinger

What Questions/Comments do you have?



Special *THANKS* to...

- Attorney General Mike DeWine
- BCI Superintendent Tom Stickrath
- Sponsor: BCI Assistant Superintendent Steve Schierholt
- Team Leaders: Liz Benzinger, Mike Velten, Lynn Bolin, Lewis Maddox, Amy Wanken
- Subject Matter Experts: Sarah Smith, Sue Hamilton, Jennifer Biedenharn
- And all those who were just a phone call away

