



Six Sigma Project Report Out  
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Auditor of State  
March 11, 2013

# SNAP APPLICATION PROCESS IMPROVEMENT

# SNAP BACKGROUND

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- SNAP Mission: To disburse food benefits to qualifying Ohioans.<sup>1</sup>
- SNAP Structure:
- SNAP Process:
- SNAP Performance:

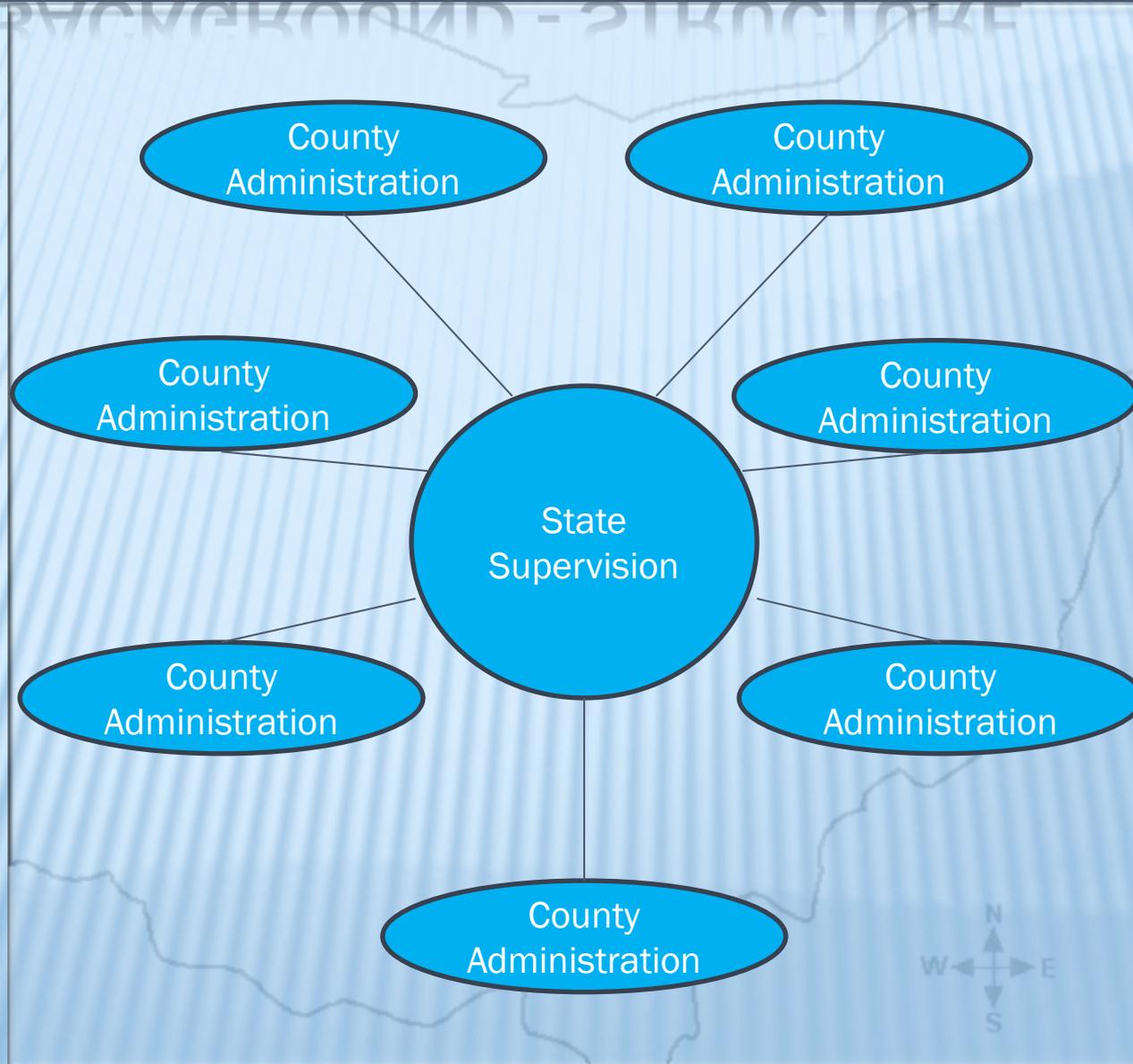
<sup>1</sup> AOS Definition

# SNAP BACKGROUND

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- SNAP Mission: To disburse food benefits to qualifying Ohioans.
- **SNAP Structure: State Supervised, County Administered.**
- SNAP Process:
- SNAP Performance:

# SNAP BACKGROUND - STRUCTURE



# SNAP BACKGROUND

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- SNAP Mission: To disburse food benefits to qualifying Ohioans.
- SNAP Structure: State Supervised, County Administered.
- SNAP Process: Application Intake, Verify Eligibility, Disburse Food Benefits.
- SNAP Performance:

# SNAP BACKGROUND - PROCESS



# SNAP BACKGROUND

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- SNAP Mission: To disburse food benefits to qualifying Ohioans.
- SNAP Structure: State Supervised, County Administered.
- SNAP Process: Process Applications, Verify Eligibility, Disburse Food Benefits.
- Performance: ????

# PROBLEM STATEMENT

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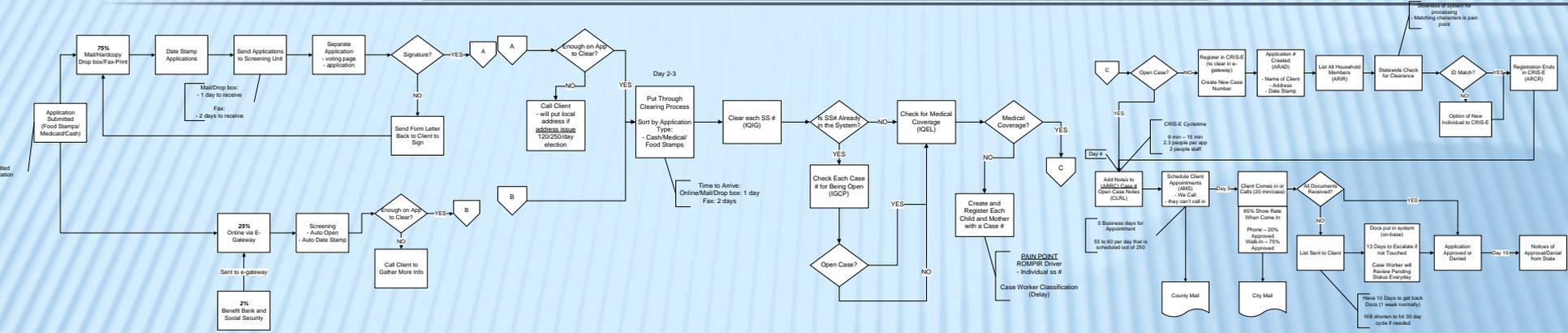
- SNAP Process has room for efficiencies. <LEAN Solution>
- SNAP Program performance is not being systematically measured in Ohio. <Six Sigma Solution>

# LEAN ANALYSIS – PROCESS MAPPING

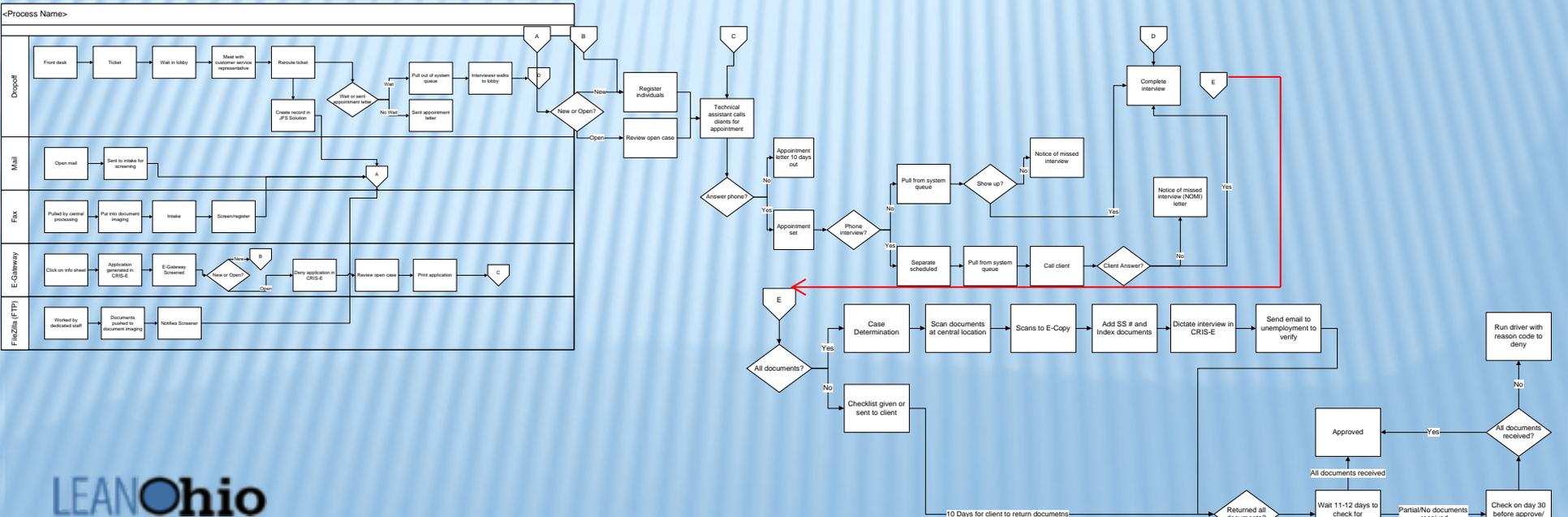
- Team conducted process mapping in 4 counties across the State.



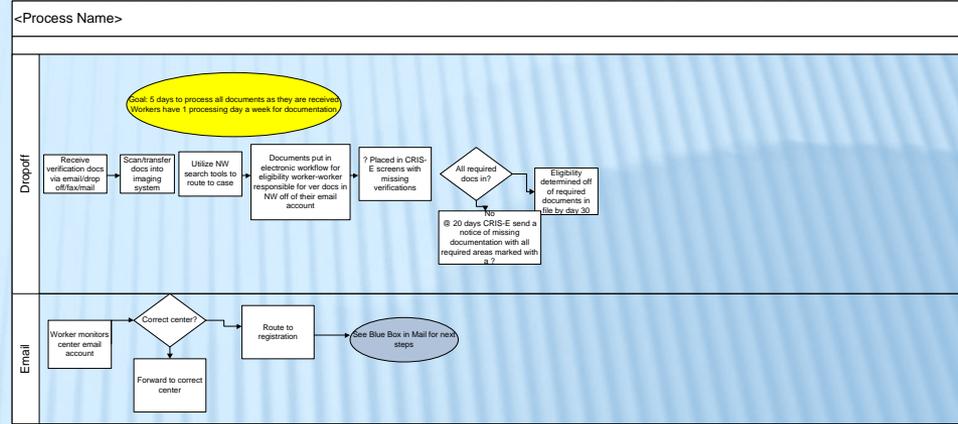
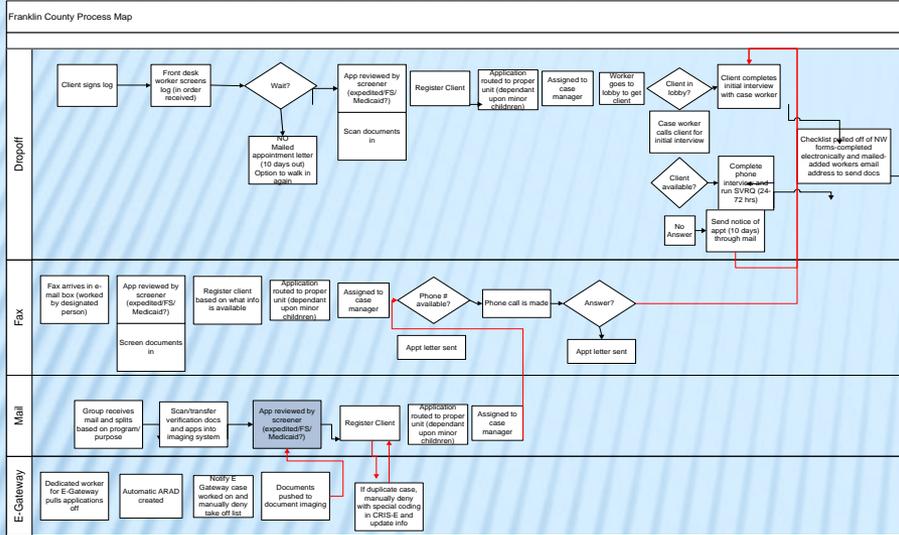
# Hamilton County



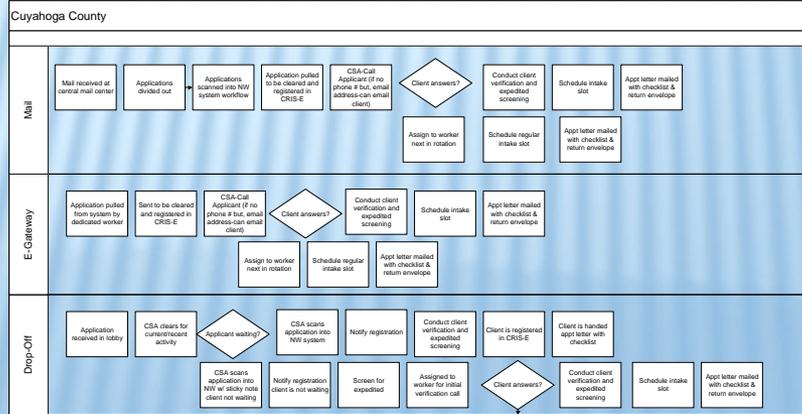
# Scioto County



# Franklin County



# Cuyahoga County



# LEAN ANALYSIS – PROCESS MAPPING

- Team conducted process mapping in counties across the State.
- **Process mapping revealed 2 areas of opportunity:**
  - 1) **Mailing of client notifications.**
  - 2) **Verification (proof) of client eligibility.**

# MAILING OF CLIENT NOTIFICATIONS

## WASTE (MUDA)

- Ohio's SNAP program spends millions in postage costs from client mailings.

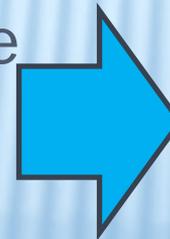


## SOLUTION

- Send Notifications to clients electronically via email.

## PROBLEM

- Ohio's SNAP program does not currently have the IT infrastructure in place for mass email notification.



## SOLUTION

- The Office of Health Transformation can incorporate this capability into the new benefits eligibility system.

# MAILING OF CLIENT NOTIFICATIONS

## Annual Savings Estimation

Estimated Annual SNAP Notices <sup>1</sup>			2,312,690
Estimated Annual Paper Cost <sup>2</sup>			\$1,103,384.36
Adoption Rate	Paper Notices Avoided	Estimated E-Notice Cost	Net Savings
10 Percent <sup>3</sup>	231,269	\$2,771.40	\$107,567.04
40 Percent <sup>3</sup>	925,076	\$4,560.00	\$436,793.74
55 Percent <sup>4</sup>	1,271,979	\$3,539.40	\$603,322.00

# LEAN ANALYSIS – PROCESS MAPPING

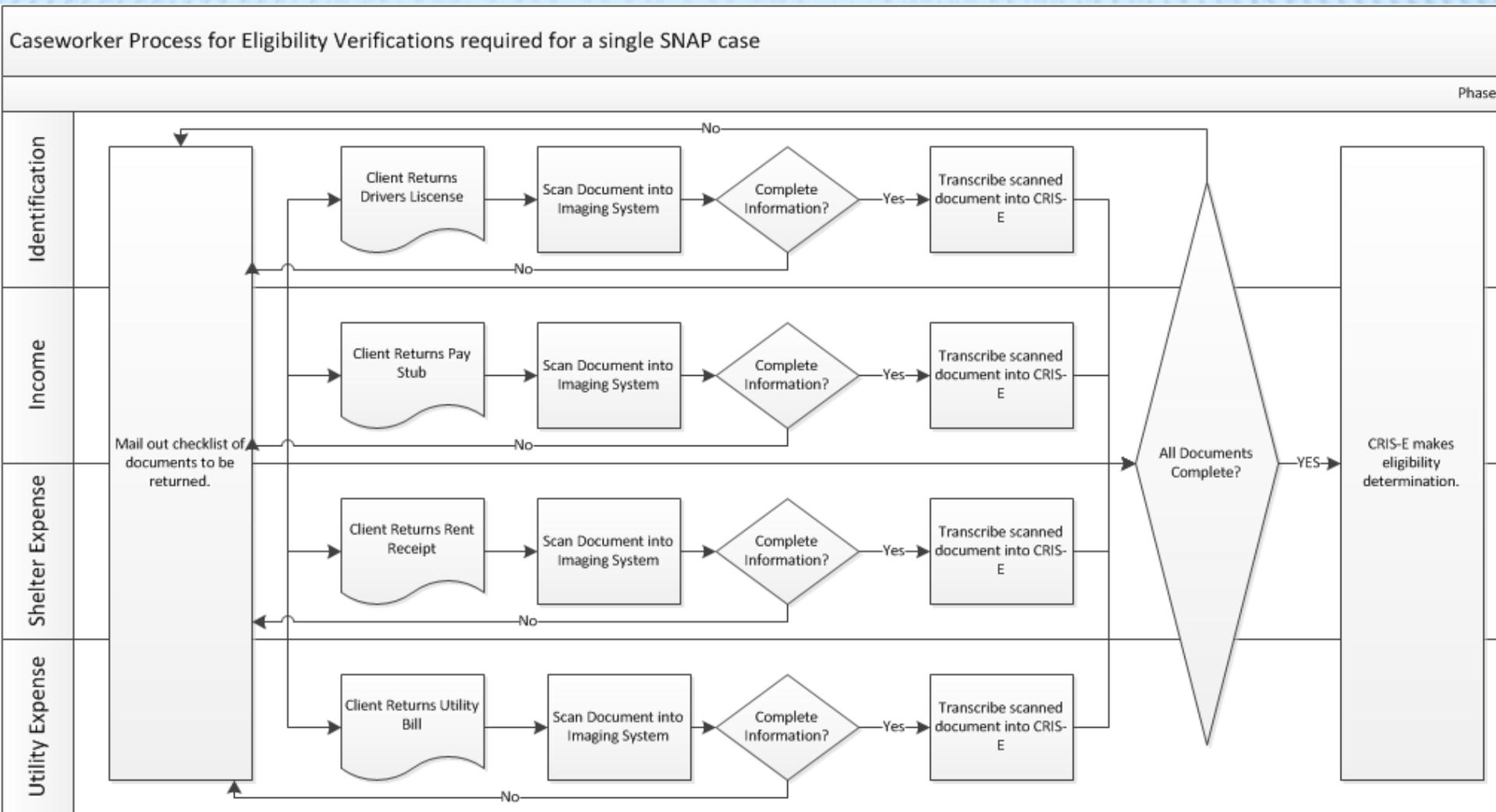
- Team conducted process mapping in counties across the State.
- **Process mapping revealed 2 areas of opportunity:**
  - 1) Mailing of client notifications.
  - 2) **Verification (proof) of client eligibility.**

# ELIGIBILITY VERIFICATION

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- County Eligibility Workers spend the bulk of their time verifying proof-of-eligibility along several dimensions, including:
  - Identification
  - Earned Income
  - Unearned Income
  - Shelter Expense
  - Utility Expense
  - Child Care Expense

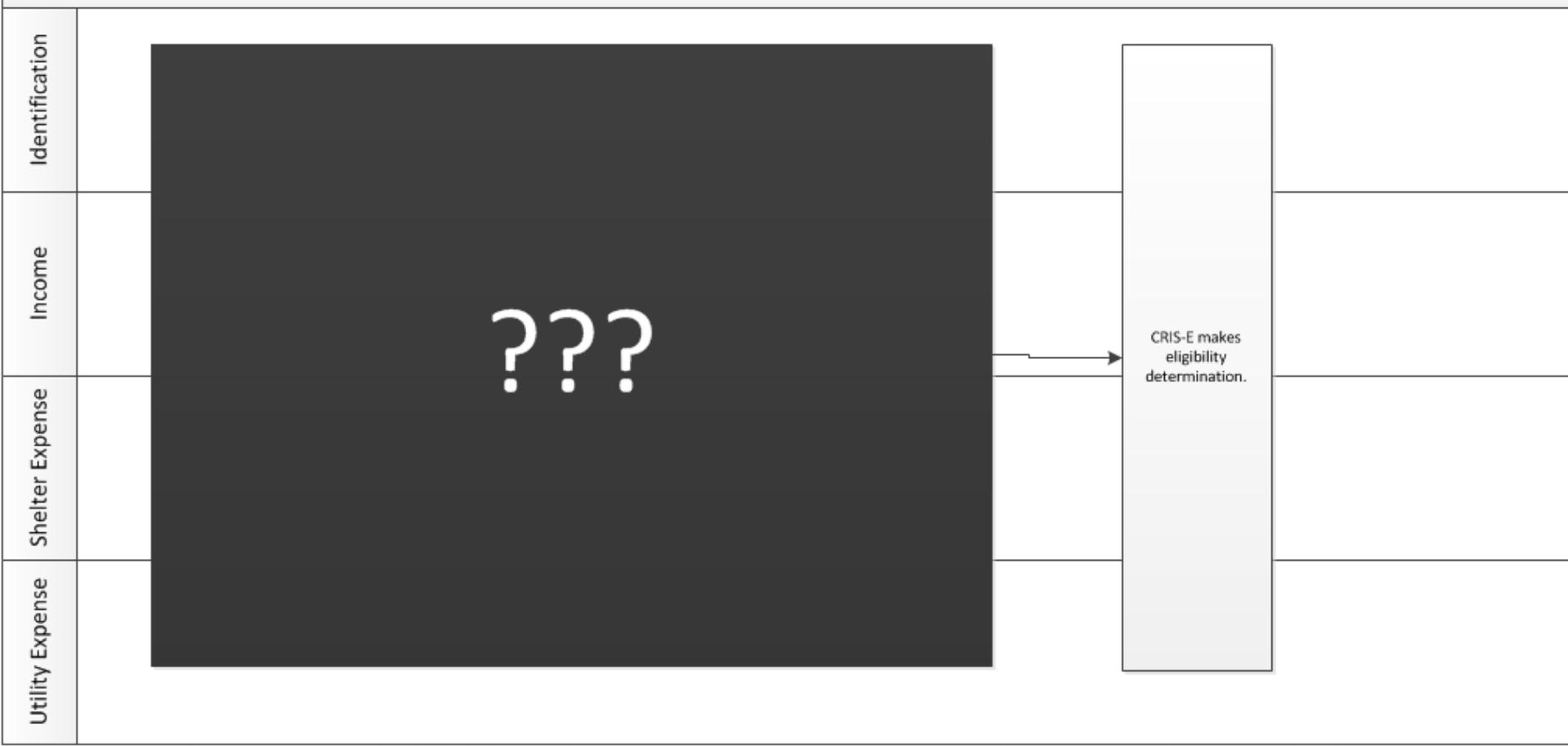
# ELIGIBILITY VERIFICATION – CURRENT STATE



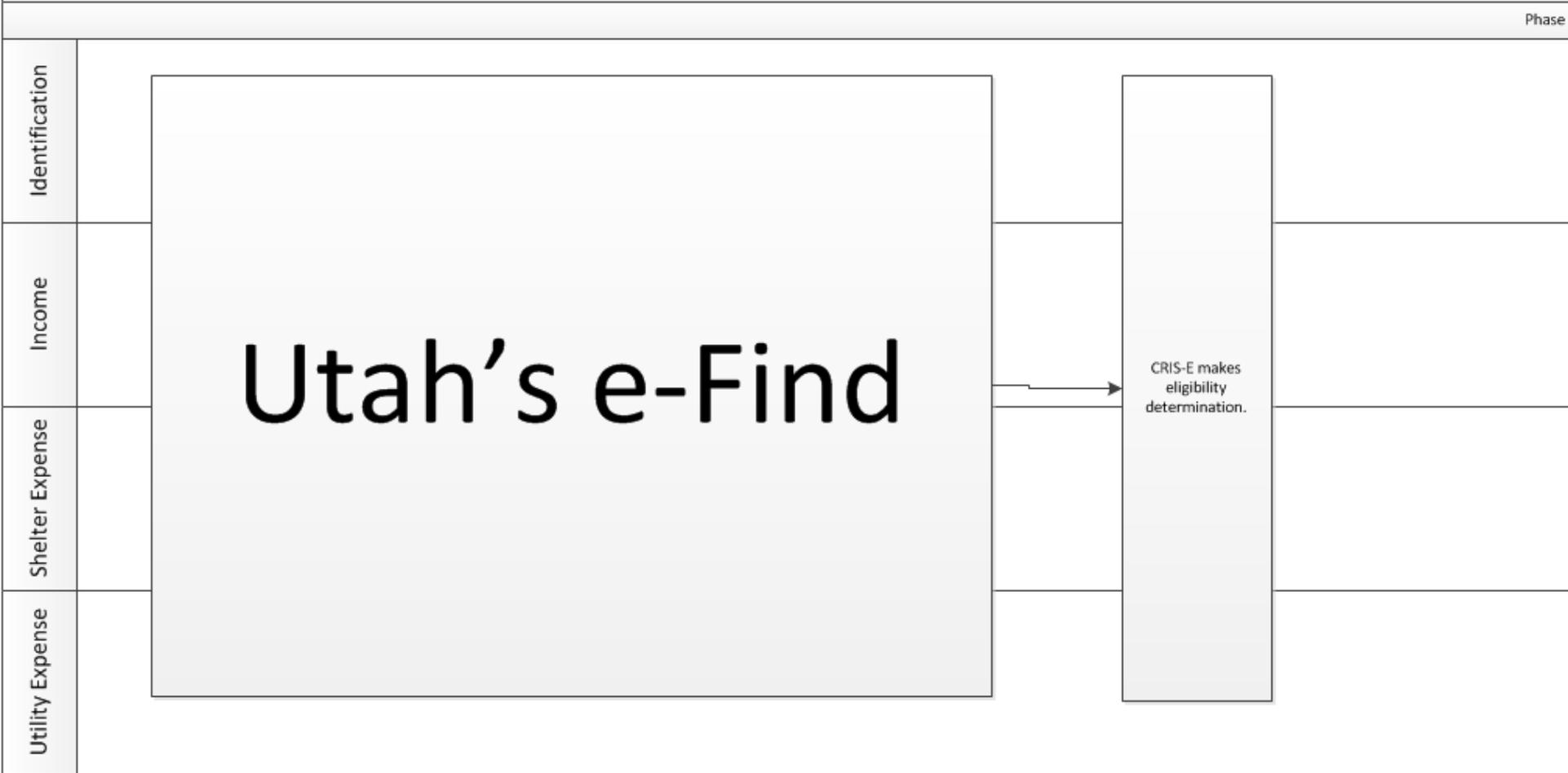
What if this process could be reduced to a single step?

# Caseworker Process for Eligibility Verifications required for a single SNAP case

Phase



Caseworker Process for Eligibility Verifications required for a single SNAP case



# ELIGIBILITY VERIFICATION

## e-Find [Electronic Data Brokering Portal] Functionality

### 1. DATA BROKERING

Crawls 30+ available electronic databases containing eligibility information.

- Eliminates mailing.
- Eliminates scanning.
- Reduces burden on the SNAP beneficiary who now does not have to provide paper documents.

### 2. WORKFLOW

Consolidates electronic data into a single screen for caseworker use.

- Eliminates separate document lookups.
- Reduces caseworker data entry error.
- Eliminates need for follow-up with client due to missing paper documentation.

EFFICIENCIES GAINED

# ELIGIBILITY VERIFICATION - SAVINGS

## General Assumptions

SNAP New Applications	669,646
eFind Development Costs	\$2,200,000
Case Worker Annual Compensation	45,000
Hours per FTE	2,080
Pay Rate Inflation	3%

Scenario	Minutes		SNAP
<i>Baseline - Extrapolating Utah's Results to Ohio</i>		Annual Savings	<b>3,621,883</b>
Reduction in Minutes per New Application	15	Payback Period	<b>0.61</b>
		5-Year ROI	<b>163%</b>
<i>Conservative - (Time Study of ID, SSN, Unearned Income)</i>		Annual Savings	1,207,294
Reduction in Minutes per New Application	5	Payback Period	1.82
		5-Year ROI	47%
<i>Aggressive - Real-time Enrollment</i>		Annual Savings	6,519,390
Reduction in Minutes per New Application	27	Payback Period	0.34
		5-Year ROI	296%

# LEAN SOLUTION SUMMARY

## 1. e-Notification

- Replace snail mail with email.
- Annual Savings = \$603,322

## 2. Data Brokering Portal

- Replace paper verification with electronic verification.
- Annual Savings = \$3,621,883

# PROBLEM STATEMENT

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- SNAP Process has room for efficiencies. <LEAN Solution>
- SNAP Program performance is not being systematically measured in Ohio. <Six Sigma Solution>

# SIX SIGMA ANALYSIS

In the current state, Ohio's SNAP program can measure neither...

## Quality Control

- Error Rate
- County-by-County

## Costs

- Cost-per-Application
- Derived through caseworker time spent per Application.

# SIX SIGMA ANALYSIS – QUALITY CONTROL

- Current State
  - QC “look-back” desk review to determine error rate.
  - Determines overall Ohio error rate.
  - Uses a sample of 1,020 cases (out of 600,000+)
- **Major Shortcoming: the sample is not large enough to draw inferences into the error rates of individual counties.**

# SIX SIGMA ANALYSIS – QUALITY CONTROL

COUNTY DEPARTMENT OF JFS	SAMPLES DRAWN (2011)
Cuyahoga County	212
Franklin County	130
~~~~~	
Lake County	19
Muskingum County	17
~~~~~	
Van Wert County	1
Noble County	0
<b>State Median</b>	<b>15</b>
<b>State Range</b>	<b>0 to 212</b>

# SIX SIGMA ANALYSIS – QUALITY CONTROL

Q: How to determine adequate sample size for a county?

A: Reverse-engineer the t-test. So sample mean = population mean...

...for a desired confidence interval:

$$\bar{X} - z_{\alpha/2} \left( \frac{\sigma}{\sqrt{n}} \right) < \mu < \bar{X} + z_{\alpha/2} \left( \frac{\sigma}{\sqrt{n}} \right)$$

Rearrange to determine sample size (n)

$$n = \left( \frac{z_{\alpha/2} \cdot \sigma}{E} \right)^2$$

# SIX SIGMA ANALYSIS – QUALITY CONTROL

- Minimum county sample size given our known parameters in the SNAP program:

E (Max Error we Tolerate)	3%
Sigma (Population Std Dev)	7%
Confidence Interval	95%
Associated t-score	2.262
<b>n=</b>	<b>27.86</b>

# SIX SIGMA ANALYSIS - COSTS

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- In the SNAP program...
  - Variable Unit Cost = Cost per Application
  - Cost per Application = (Caseworker time per case \* Caseworker wage)
- In a manufacturing setting, this would be the cost to produce their “widget.”
- Recommending: The CRIS-E replacement be designed to capture this unit cost in the counties.

# SIX SIGMA ANALYSIS – FUTURE STATE WITH COST AND ERROR RATE

