Child Care Under the Big Sky System Modernization and Security

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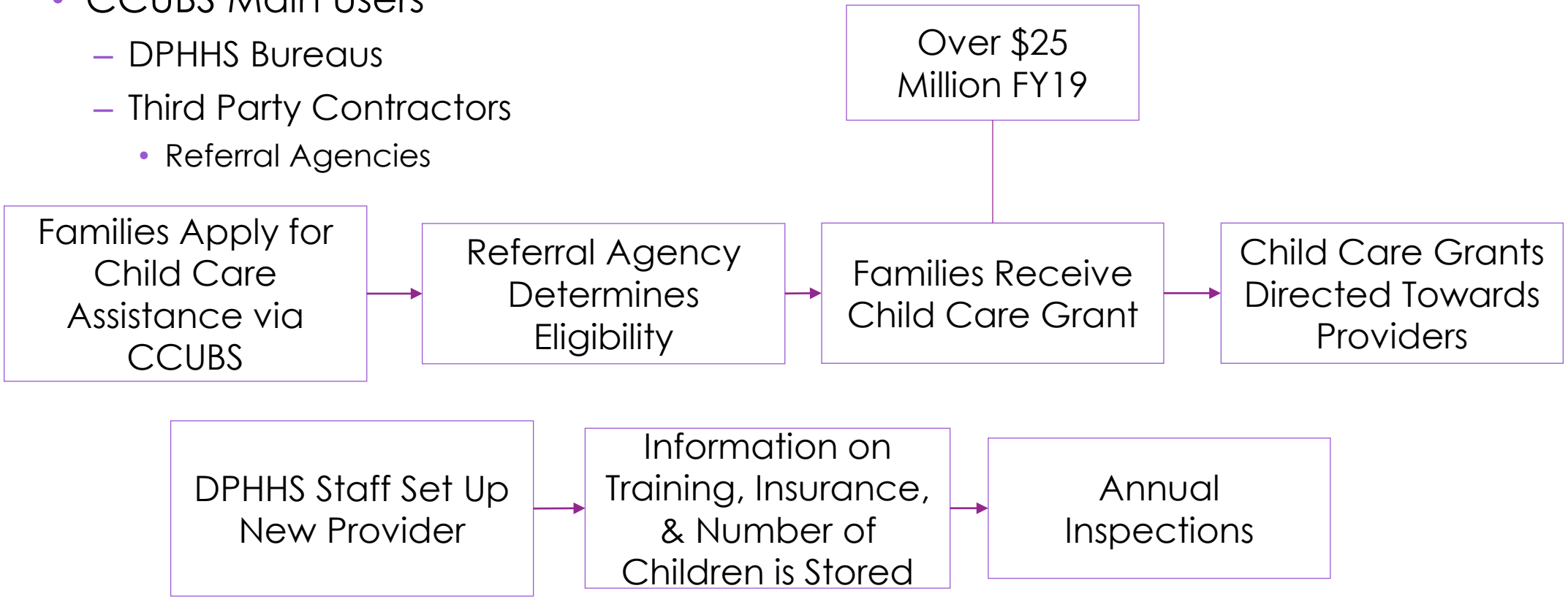
March 9, 2021

CCUBS Helps Montana Families Receive Quality Child Care

- CCUBS Main Users
  - DPHHS Bureaus
  - Third Party Contractors
    - Referral Agencies



CCUBS is an Old System that Contains Sensitive Information

- Over 15 years old
- Personal Information from Families
  - PII
  - PHI
- Provider Information
  - Training
  - Insurance
  - Number of Children in a Facility
  - Inspection Results and History

CCUBS Risks Require Us to Review Security and System Value

Objective 1

- Return on Investment
  - Determining System Value
    - 2011 to Present
    - Review Costs
    - Review Benefits System Provide

Objective 2

- Security Management
  - Security documentation created and maintained
  - Security risks identified, prioritized, and remedied
  - Major change prioritization and implementation

Section 1:
Return on Investment Analysis

Information Systems Become Obsolete Over Time

- DPHHS determined CCUBS obsolete in 2014
- 2015 Session House Bill10 Long-Range IT funding requested
  - $2 million
  - Perform Planning, Request for Proposal, Feasibility Study, and Business Processing analysis for CCUBS replacement
- Request did not make it into Governor's budget to be presented to legislators
- Incremental Investment over time instead

Information Systems Require Annual Evaluation

- Montana Operations Manual Policy 2017
  - IT systems reviewed yearly
    - Does not dictate how systems should be reviewed
  - Business Case or Return on Investment (ROI) must be conducted as part of a modernization strategy

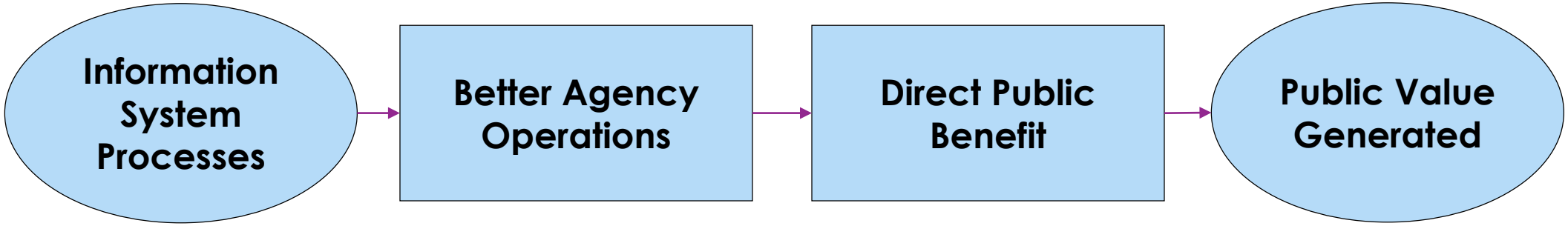
- Business Case
  - Tool used to capture reasoning for initiating a project

$$ROI = \frac{\text{Revenue - Cost of Investment}}{\text{Cost of Investment}}$$

ROI Analysis Best Practices Allow Variability Depending on the Situation

- CCUBS was not intended to produce revenue
- Best Practices call for value/return generation from a public perspective

How do we identify revenue of a system not meant to produce revenue?



$$ROI = \frac{\text{Public Value - Cost of System}}{\text{Cost of System}}$$

What is CCUBS's Public Value?

- DPHHS Conversation
  - Capture processes only within the system
- Public impacts can include family or community relationships, social mobility, and status
  - No available data
- Public value based on procedures within CCUBS
  - Benefits generated for processing applications and conducting childcare facility inspections
- Personnel costs represent the money budgeted to provide a service to the public

CCUBS public value is based on its impact on MT citizens ability to receive childcare assistance funding and ensure licensed facilities are safe

CCUBS Public Value and ROI

ROI Factors	Definition	CCUBS Application
Cost Avoidance	Avoid Cost	Avoid Federal Fines

- Child Care and Development Fund
  - How federal childcare money is spent in MT
  - How MT will maintain a level of effort toward the program
- CCUBS helps avoid the potential loss of federal funding
- Cost Avoidance: $1.3 million per year

CCUBS Public Value and ROI

ROI Factors	Definition	CCUBS Application
Cost Reduction	Reduce (but not eliminate) a Cost	Quicker Processes

- Personnel cost of each transaction = worth of system
- Used to quantify value
- Metrics used to capture Public Value
  - Number of applicants in the system
  - Process application time
  - Number of childcare providers
  - Time to record childcare provider information within the system

Overall Public Value Determination for CCUBS

ROI Factors	Definition	CCUBS Application	Total Value
Cost Avoidance	Avoid Cost	Avoid Federal Fines	$13,139,900
Cost Reduction	Reduce (but not eliminate) a Cost	Quicker Processes	$1,194,763
		Total Public Value	$14,334,663

- CCUBS Total Public Value of $14,334,663

$$ROI = \frac{\text{Public Value} - \text{Cost of System}}{\text{Cost of System}}$$

Costs Associated with CCUBS

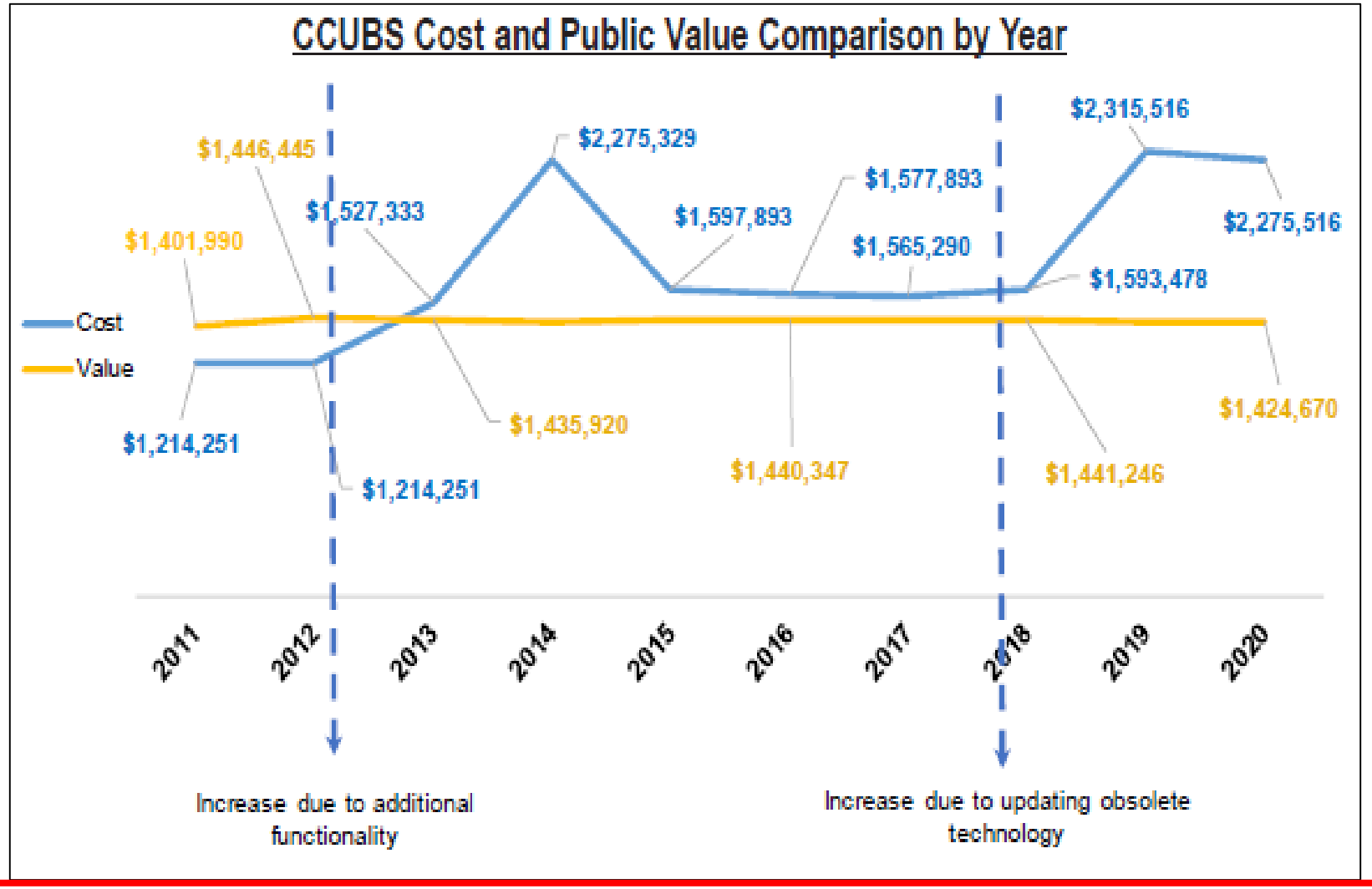
- Contract Costs
  - Straightforward
- System Training
  - Training dependent on CCR&R agencies
- System Support
  - Contract Costs
  - Support Tickets

$$ROI = \frac{\text{Public Value} - \text{Cost of System}}{\text{Cost of System}}$$

CCUBS Total Cost

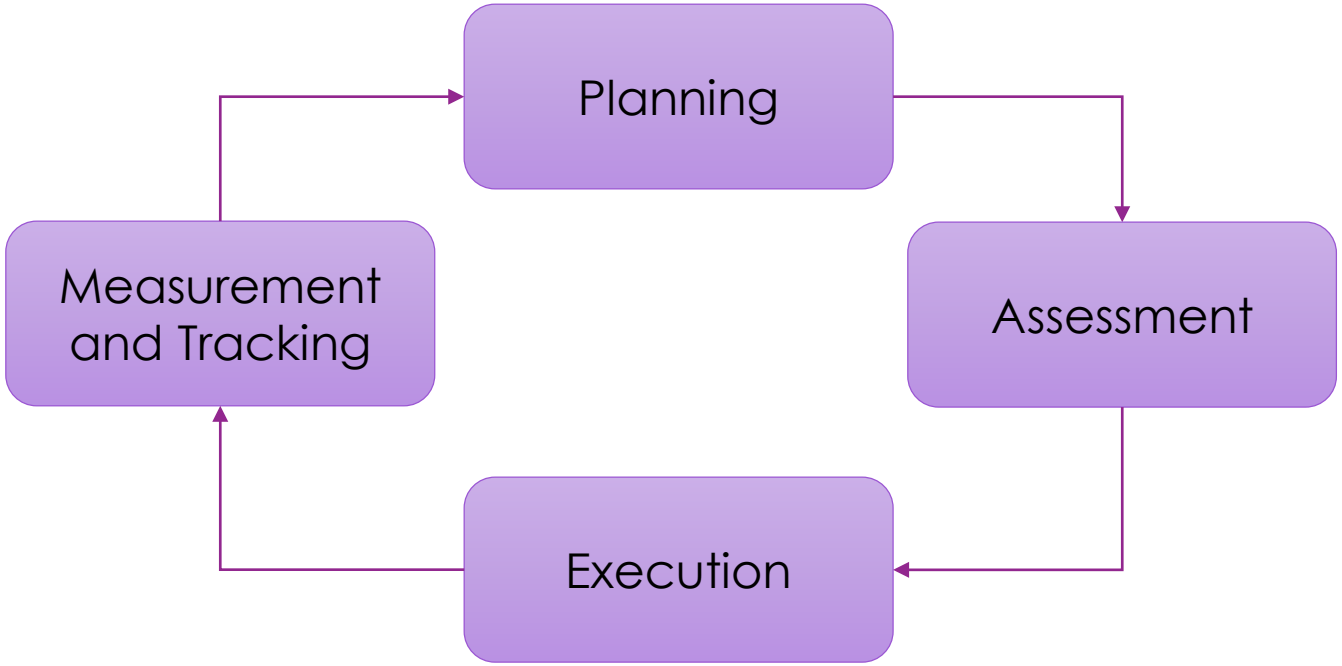
Year	Costs
2011	$1,214,251
2012	$1,214,251
2013	$1,527,333
2014	$2,275,329
2015	$1,597,893
2016	$1,577,893
2017	$1,565,290
2018	$1,593,478
2019	$2,315,516
2020	$2,275,516
TOTAL	**$17,156,750.00**

Return on Investment Yearly Breakdown



ROI over time should be used by DPHHS to determine to what level they are willing to let the system go before making significant changes to CCUBS.

Technology Requires Continual Modernization



A continual approach, with metrics such as ROI, is needed to accurately develop a modernization strategy for information system

Recommendation #1

- We recommend the Department of Public Health and Human Services develop a modernization strategy to address obsolete technologies and diminishing return on investment of Child Care Under the Big Sky that includes:
  - Proactive planning to address obsolete technologies,
  - Develop metrics, like return on investment or scoring, for continual measurement, and
  - Tracking these metrics and reviewing obsolescence on a yearly basis according to state policy.

Section 2:
Security Management

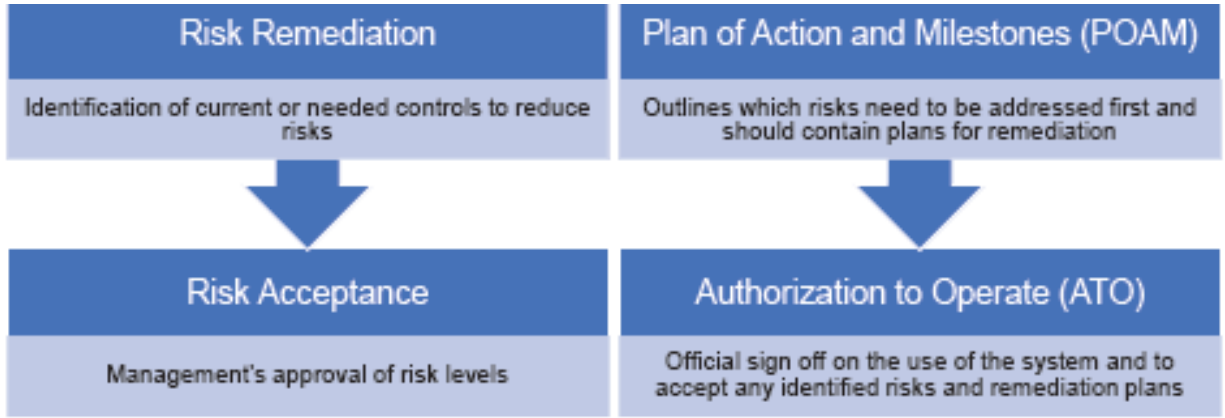
Older Systems Have Increased Security Risks

CCUBS's Security Program Controls User Access but Lacks Monitoring Activity

- User access management contains key controls
- System Security Plan Review
- User Activity Monitoring Lacking
  - Plan of Action and Milestone
  - Audit Logging
    - Users
    - Reconstruction of Events
    - Intrusion Detection

Identified High Level Risks Need Remediation Plans

- Plan of Action and Milestone (POAM) document categorizes risks
  - High, Medium, Low
- High-level risks (audit logs)
  - Must have a plan in place
- DPHHS Authorization to Operate policy
  - Identifies individuals responsible for process
  - Lacks Timelines and Action Plans



Recommendation #2

- We recommend the Department of Health and Human Services improve risk mitigation policy by:
  - Developing and implementing Authorization to Operate procedures that include documented risk acceptance or procedures and timelines for remedying or reducing high risks, and
  - Establish a quarterly review of timelines and processes for addressing risks to ensure actions are completed.

Thank You!

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