FLORIDA DEPARTMENT OF HEALTH

Bureau of HIV/AIDS

Welcome!

RW CAREWare Interoperability

From fragmented to functional

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FL DOH Bureau of HIVAIDS Structure

Functional Units	Systems/Databases		
Operations & Management	AIMS	FMIS	
Prevention	CTRS	TOPWA	
Patient Care	HMS	CAREWare	ADAP
Early Intervention	PEMS		
Surveillance	eHARS		
Hepatitis	HEPStudy		

Patient Care

- **Statewide Centralized System**
- **Medical Care**
- **Case Management**
- **HOPWA**
- **Eligibility**
- **Reporting**

- **Distributed System**
- **67 CHDs, 67 instances of HMS**
- **30 HIV CHDs**

- **Statewide Centralized System**
- **Manage and Dispense Medications**

What Do We Need?

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Comprehensive Client Record

- Need Linkage of data
- Comply with RDR and RSR Reporting
- Implement quality management
- Serve competing needs (surveillance versus patient management)

Reduce costs on providers

Reduce costs on providers

- Limited to no IT expertise
- OTS systems cost big money, users dependent, limited functionality, maintenance
- Providers should be focused on client care
- Don't want each provider running an IT shop
- Reporting should be standardized

Scenario

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Joe Client gets tested…..

Tests positive – into CTRS database
At the CHD – into county HMS database
Sent to Surveillance – into eHARS
Linked to case management – into CAREWare
Case manager refers, spends money - into AIMS
Needs meds – into ADAP database
Gets flu shot – into FI SHOTS

How do we get to comprehensive Client record?

How do you get a comprehensive client record from this?

Everyone uses one system (hepatitis, HOPWA)

Every database contains every data element

Integrate the data on the back end (warehouse)

We do some of all three…

Integration

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Two flavors of Integration	
Data Integration	**System Integration**
SSIS DTS	Store and Forward (one time)
	PDI (ongoing)
	Cloverleaf IB (ELR labs)
	eHARS
Maximum Flexibility – Reporting needs are always changing	

Barriers to Integration

Distributed legacy systems

Different technologies and architectures, EMRs

Security (governance, policy, existing infrastrucutre)

Users

Synchronization

Data quality

System / server availability and access

System performance on production

Availability of technical resources, hardware and software

Multiple funding sources and HIPAA

CAREWare – Provider Data Import (System Integration)

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Integration Health Departments with Private Providers

Step 1. Identifying data elements in the source system
Step 2. Mapping data elements to CAREWare PDI template
Step 3. Build data crosswalks (services, labs, medications)
Step 4. Construct SSIS package
Step 5. Build query to extract data
Step 6. Embed query in SSIS package
Step 7. Clean, format and validate data in SSIS
Step 8 Drop data in to PDI template database
Step 9. Open PDI database and generate EURN
Step 10. From CAREWare central admin select PDI template
Step 11. Import PDI to holding area and review errors
Step 12. Fix mapping errors and review import options
Step 13. Complete import
Step 14. Verify data placement in CAREWare

Process

Step 4. Construct SSIS package

Build error handling

Process

Step 7. Clean, format and validate data in SSIS

Process

Step 12. Fix mapping errors and review import options

PDI In Action - Demo

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Demo Captivate

Cloverleaf Integration Broker (System Integration)

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Integration Data from Electronic Labs

Step 1. Cloverleaf IB transforms HL7 incoming labs and stores into SQL server database

Step 2. Mapping data elements to CAREWare PDI template

Step 3. Build data crosswalks (HIV diagnostic, CD4, Viral Loads)

Step 4. Construct SSIS package

Step 5. Build query to extract data

Step 6. Embed query in SSIS package

Step 7. Clean, format and validate data in SSIS

Step 8 Drop data in to PDI template database

Step 9. Open PDI database and generate EURN

Step 10. From CAREWare central admin select PDI template

Step 11. Import PDI to holding area and review errors

Step 12. Fix mapping errors and review import options

Step 13. Complete import

Step 14. Verify data placement in CAREWare

Data Warehouse
(Data Integration)

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Creating Data Store from Multiple Databases

Step 1. Identifying data elements in the source systems
Step 4. Construct SSIS package
Step 5. Build query to extract data
Step 6. Embed query in SSIS package
Step 7. Clean, format and validate data in SSIS
Step 8. Drop data in to SQL server database
Step 9. Join tables through common data elements
Step 10. Build Crystal Reports

SSIS In Action - Demo

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Demo Captivate

Disadvantages of Conventional databases for comprehensive reporting

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Conventional DBs

- each one has different fields names
- each one has different data structures/characteristics
- each one different data elements
- nobody wants to give anything up

Use Fixed Reports

- hard coded, requires coding
- need to be re-written when something changes
- no flexibility, can't data mine, filters are confusing to users
- little standardization, report requirements always changing
- are transactional, reporting causes performance hit

Advantages of Data Warehouse for comprehensive reporting

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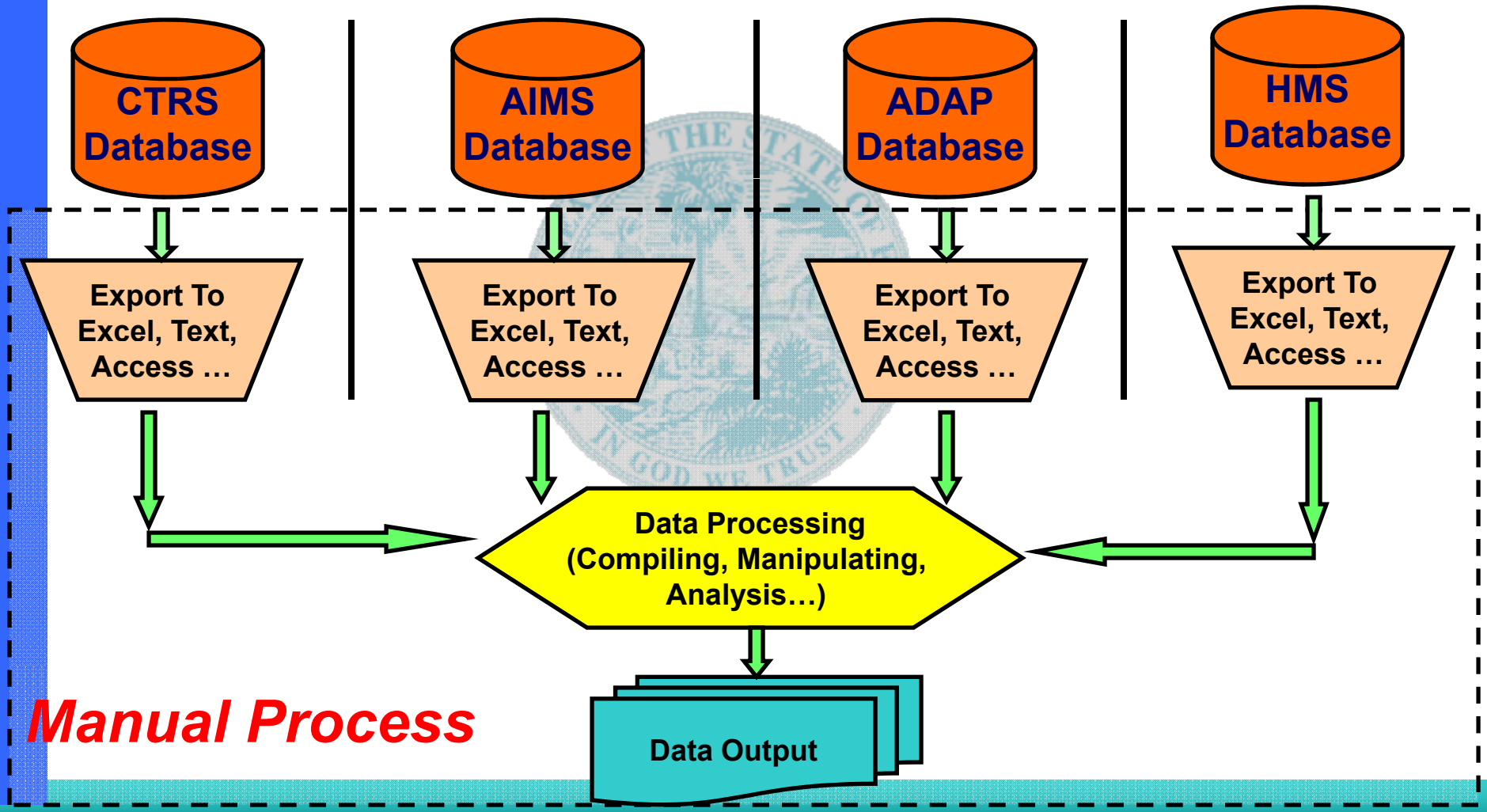
- **DTS improve the data quality when created**
- **Are virtual and require no maintenance**
- **Provides comprehensive data and can be created, modified or deleted at will**
- **We don't need all DBs to house all data**
- **Provides maximum flexibility for reporting (Crystal Reports)**

Process

Existing/Current Structure of Bureau's Databases



BOHA Data Warehouse

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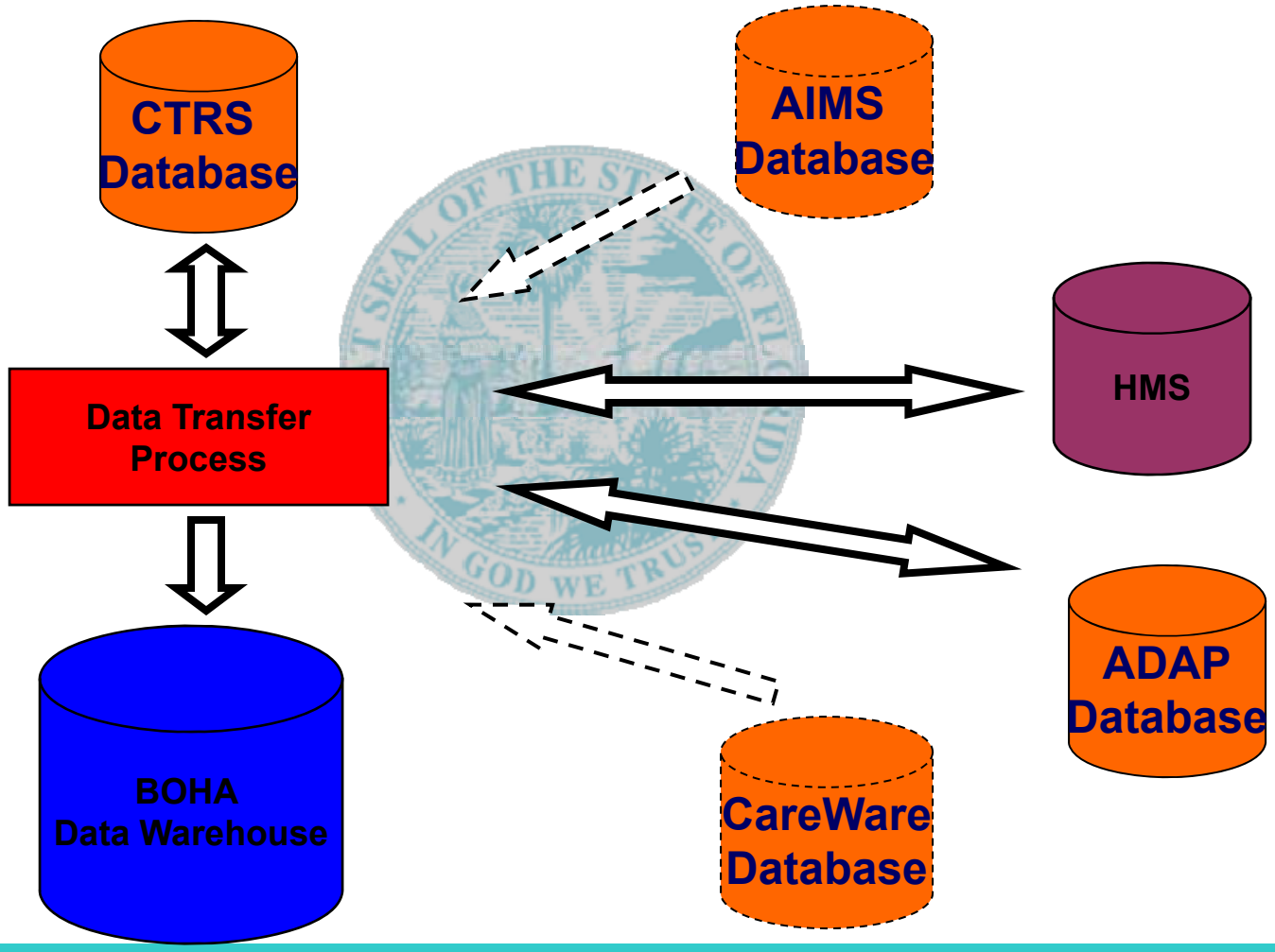
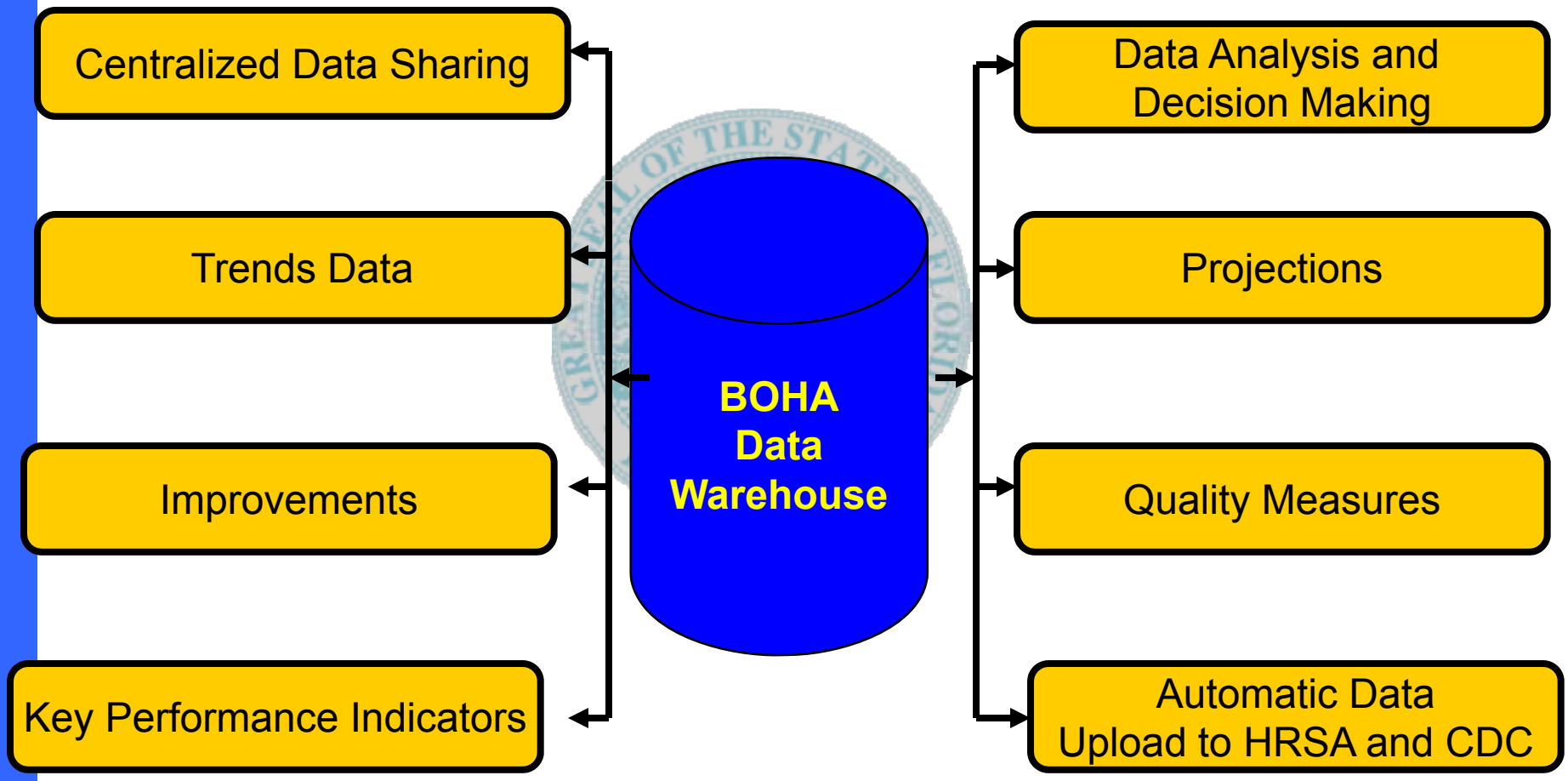
Data Transfer In Action



Benefits of BOHA Data Warehouse



Conclusion

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GREAT SEAL OF THE STATE OF FLORIDA
IN GOD WE TRUST