Integrating Advanced Technology to Improve Quality Outcomes and Increase Efficiencies and Revenues

Presenters:

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20 Years of Leadership
A LEGACY OF CARE

Learning Objective # 1

- Demonstrate how to eliminate redundancy within the workforce improving efficiency of staff utilization and saving valuable time for service provision. Demonstrate how to increase Medicaid revenues in COBRA case management, decrease billing errors and streamline billing process while enhancing care.

Learning Objective # 2

- Demonstrate how to develop higher quality outcomes measurement with comparative analysis data mining.

Learning Objective # 3

- Demonstrate how the creation of the new software Evergreen Computerized Health Outcomes (ECHO) through a customized interface which integrates multiple data silos will: allow comparative analysis through data mining across the entire spectrum of ACS' comprehensive array of services and programs; provide robust reporting capabilities on previously inaccessible data for CQI and quality assurance using clinical data to measure program outcomes; and provide new revenue through the sale of broad spectrum de-identified data.

Part 1:

HRSA Funded Capacity Development Grant to Create and Implement an Electronic Case Management Reporting System.

ACS has used the HRSA funds to implement an electronic case management system serving more than 1,050 consumers in a range of settings: urban communities of color, rural regions and suburban areas. Case management is a formal, professional and time consuming service that links HIV-positive clients with multiple service needs to the continuum of health and social service systems.

The ACS Case Management Program provides a comprehensive care program that addresses the often complex needs of individuals and families living with HIV and AIDS. Case management services are the first line of defense in ensuring individuals living with HIV/AIDS are able to adhere to their primary care treatment plan. Thus, positive primary care outcomes are integrally intertwined with, and many times a result of, case management outcomes.

Project Goals: The goals put forth by ACS in this capacity development initiative focus on software and hardware integration to support and expand the organization's capability to improve and sustain ongoing intensive and supportive case management systems. These systems are critical components of a consumer's overall treatment protocol. At the same time, these goals will promote organizational infrastructure improvements and professional development opportunities. Thus, project goals are as follows:

Goal 1: Expand Technical capacity of ACS' Case Management Services Using Electronic Case Management Software.

Goal 2: Use Expanded Capacity to Increase Efficiencies and Expand Access to Critical Case Management Services, a core component of a consumer's treatment plan.

Goal 3: Improve Quality of Care by integrating the new electronic case management system into ACS' Informatics Driven Continuous Quality Improvement (CQI) program, with particular emphasis on AIDS Institute Reporting System (AIRS) indicators.

At the conclusion of HRSA Title III Capacity Development funding, ACS will have: (1) a fully developed and integrated electronic case management system with 100% compliance and staff usage;

(2) operational, staff and training protocols and QI initiatives related to the new system;

(3) realized gain up to 50% in case manager/supervisor time and efficiencies related to case management documentation and charting; and,

(4) integrated Continuous Quality Improvement (CQI) measures and compliance with all state and federal reporting standards and indicators resulting in improved case management and primary care outcomes.

The Process:

- Selection
  - Research
  - Visits
  - Product Demonstrations

- Implementation
  - DSS Director's Forum
  - Director of Administration
  - Scanning
  - Template Development
  - Training

- Challenges

Part 2: New York State Health Foundation Funded Evergreen Computerized Healthcare Outcomes (ECHO) Software

This project involves data integration of four distinct not for profit [501(c)(3)-designated] agencies aligned and affiliated under the Evergreen Association of Western New York, a parent organization that oversees and assists with strategic and programmatic components of member organizations that include: AIDS Community Services of WNY, Inc. (ACS); Alianza Latina Inc.; PRIDE Center of WNY, Inc; and The Evergreen Foundation.

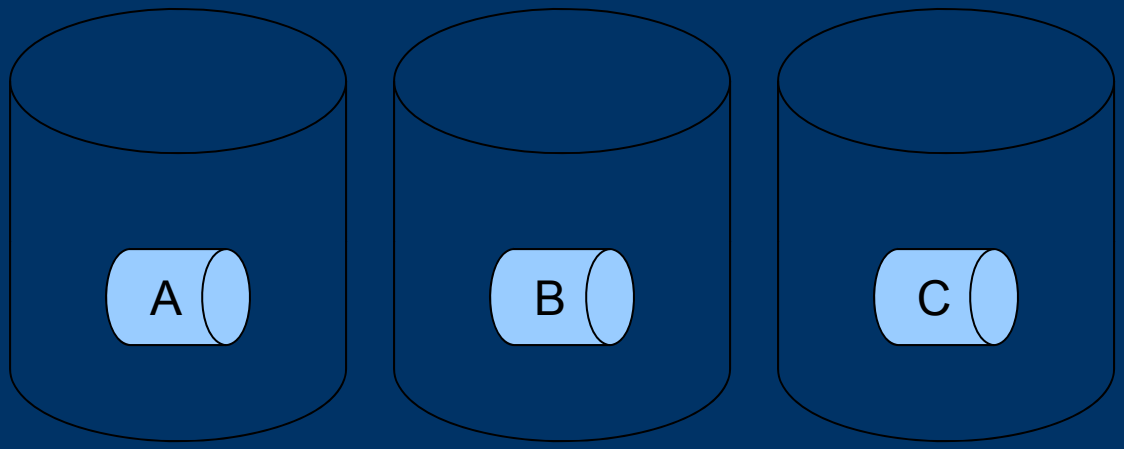
ACS and its service partners have been struggling to maintain and improve the quality of their programming in the face of ever-growing consumer demand and diminishing resources in the midst of state and national fiscal crises. In an effort to gain necessary efficiencies, ACS and its partners received funding to streamline four disparate data collection, management and reporting systems.

This improvement in data management will assist staff in better meeting contractual obligations and reporting requirements of complicated private, local, state and federal funding sources while opening avenues for unprecedented revenue development.

ACS Data Integration Technology

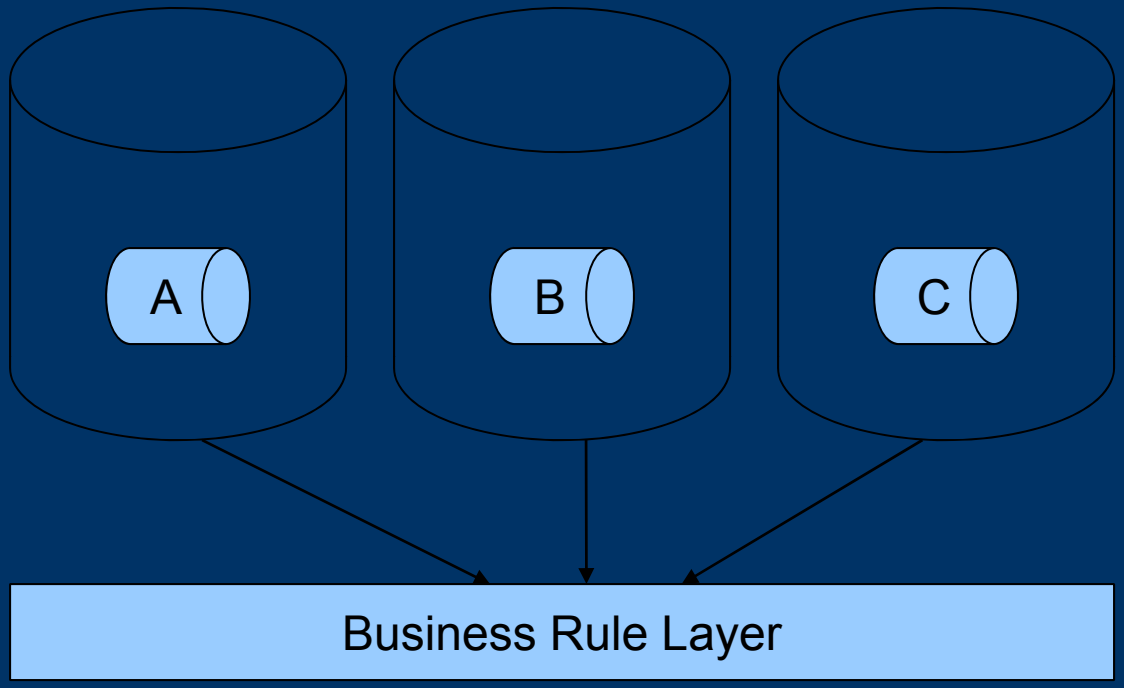
An Overview:

Data is currently “silo”ed



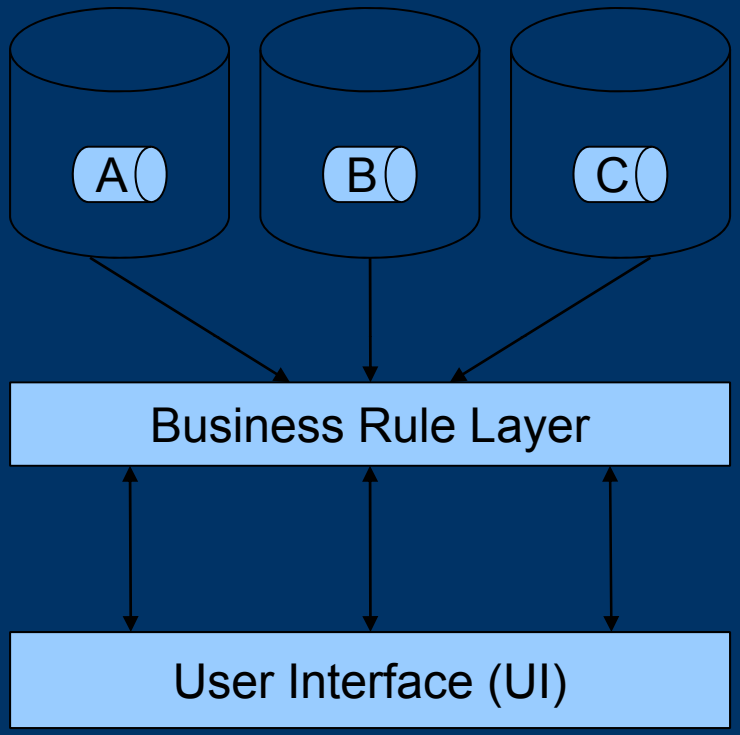
- Databases have limited or no reporting capabilities
- Data from databases cannot be combined or analyzed together

Integration provides access to data



- Reports from databases can be generated
- Business rules must be “written” by technology professional(s).

Success requires functional UI



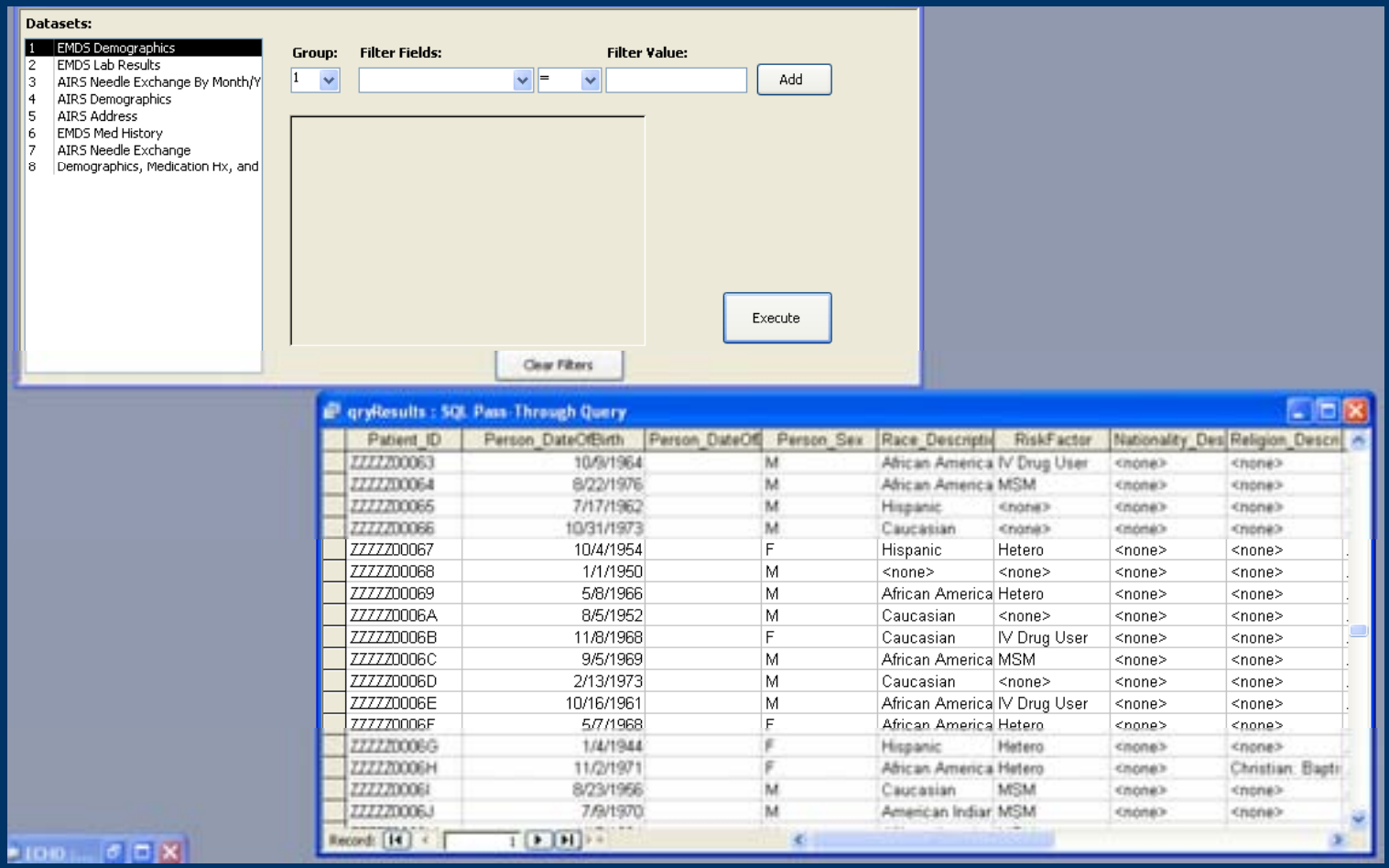
- Agency has access to their data without the need for a 3rd party technology entity.
- New value in data can be found

Long Range Possibilities

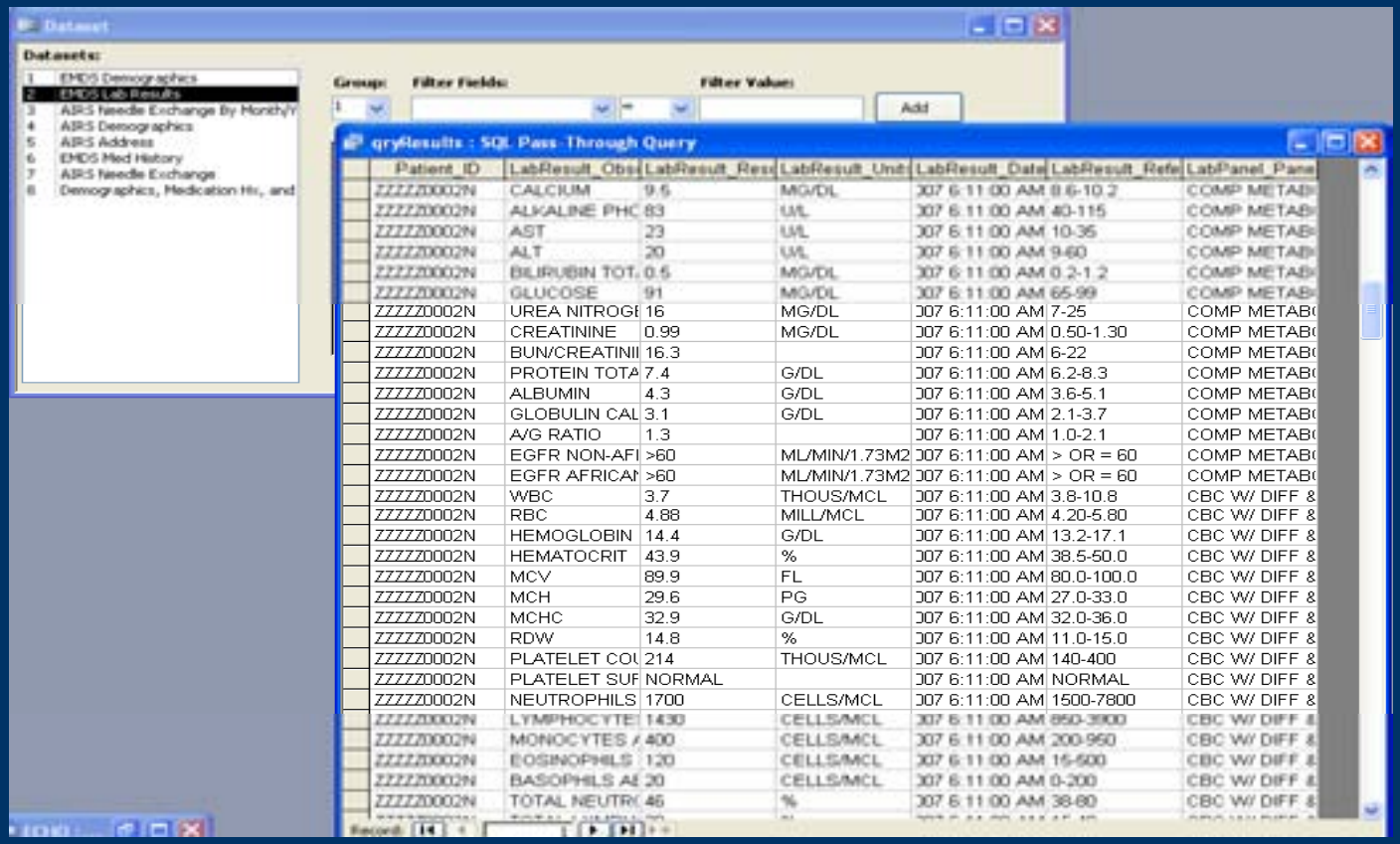
- ACS presents demonstrated "Proof of Concept" as working model to like organizations
- Expertise in existing database systems (i.e. AIRS) can be applied t multiple agencies and organizations.
- "Subscription" models for continuing access can be implemented
- Improved capacity for Quality Improvement/Quality Assurance Initiatives
- Improved capacity for Revenue Development

- **Quality Improvement/Quality Assurance**
- Demonstration

Demographics

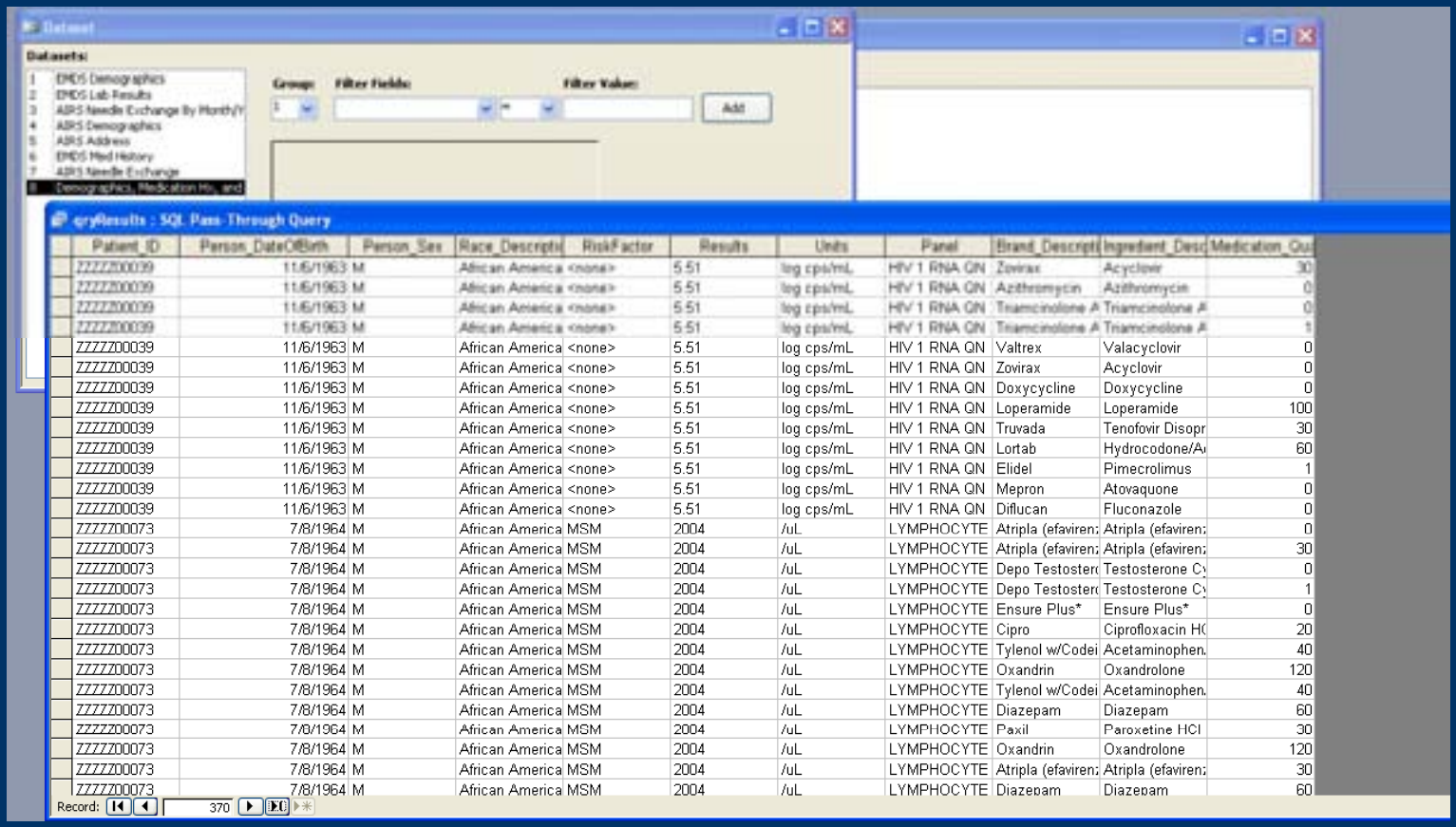


Lab Results



Patient_ID	LabResult_Obs	LabResult_Res	LabResult_Unit	LabResult_Date	LabResult_Refe	LabPanel_Pane
ZZZZZ0002N	CALCIUM	9.6	MG/DL	007 6:11:00 AM	8.6-10.2	COMP METAB
ZZZZZ0002N	ALKALINE PHC	83	U/L	007 6:11:00 AM	40-115	COMP METAB
ZZZZZ0002N	AST	23	U/L	007 6:11:00 AM	10-35	COMP METAB
ZZZZZ0002N	ALT	20	U/L	007 6:11:00 AM	9-60	COMP METAB
ZZZZZ0002N	BILIRUBIN TOT	0.5	MG/DL	007 6:11:00 AM	0.2-1.2	COMP METAB
ZZZZZ0002N	GLUCOSE	91	MG/DL	007 6:11:00 AM	65-99	COMP METAB
ZZZZZ0002N	UREA NITROGE	16	MG/DL	007 6:11:00 AM	7-25	COMP METAB
ZZZZZ0002N	CREATININE	0.99	MG/DL	007 6:11:00 AM	0.50-1.30	COMP METAB
ZZZZZ0002N	BUN/CREATINII	16.3		007 6:11:00 AM	6-22	COMP METAB
ZZZZZ0002N	PROTEIN TOTA	7.4	G/DL	007 6:11:00 AM	6.2-8.3	COMP METAB
ZZZZZ0002N	ALBUMIN	4.3	G/DL	007 6:11:00 AM	3.6-5.1	COMP METAB
ZZZZZ0002N	GLOBULIN CAL	3.1	G/DL	007 6:11:00 AM	2.1-3.7	COMP METAB
ZZZZZ0002N	A/G RATIO	1.3		007 6:11:00 AM	1.0-2.1	COMP METAB
ZZZZZ0002N	EGFR NON-AFI	>60	ML/MIN/1.73M2	007 6:11:00 AM	> OR = 60	COMP METAB
ZZZZZ0002N	EGFR AFRICAI	>60	ML/MIN/1.73M2	007 6:11:00 AM	> OR = 60	COMP METAB
ZZZZZ0002N	WBC	3.7	THOUS/MCL	007 6:11:00 AM	3.8-10.8	CBC W/ DIFF &
ZZZZZ0002N	RBC	4.88	MILL/MCL	007 6:11:00 AM	4.20-5.80	CBC W/ DIFF &
ZZZZZ0002N	HEMOGLOBIN	14.4	G/DL	007 6:11:00 AM	13.2-17.1	CBC W/ DIFF &
ZZZZZ0002N	HEMATOCRIT	43.9	%	007 6:11:00 AM	38.5-50.0	CBC W/ DIFF &
ZZZZZ0002N	MCV	89.9	FL	007 6:11:00 AM	80.0-100.0	CBC W/ DIFF &
ZZZZZ0002N	MCH	29.6	PG	007 6:11:00 AM	27.0-33.0	CBC W/ DIFF &
ZZZZZ0002N	MCHC	32.9	G/DL	007 6:11:00 AM	32.0-36.0	CBC W/ DIFF &
ZZZZZ0002N	RDW	14.8	%	007 6:11:00 AM	11.0-15.0	CBC W/ DIFF &
ZZZZZ0002N	PLATELET COU	214	THOUS/MCL	007 6:11:00 AM	140-400	CBC W/ DIFF &
ZZZZZ0002N	PLATELET SUF	NORMAL		007 6:11:00 AM	NORMAL	CBC W/ DIFF &
ZZZZZ0002N	NEUTROPHILS	1700	CELLS/MCL	007 6:11:00 AM	1500-7800	CBC W/ DIFF &
ZZZZZ0002N	LYMPHOCYTE	1430	CELLS/MCL	007 6:11:00 AM	850-3900	CBC W/ DIFF &
ZZZZZ0002N	MONOCYTES /	400	CELLS/MCL	007 6:11:00 AM	200-950	CBC W/ DIFF &
ZZZZZ0002N	EOSINOPHILS	120	CELLS/MCL	007 6:11:00 AM	15-500	CBC W/ DIFF &
ZZZZZ0002N	BASOPHILS AI	20	CELLS/MCL	007 6:11:00 AM	0-200	CBC W/ DIFF &
ZZZZZ0002N	TOTAL NEUTR	46	%	007 6:11:00 AM	38-80	CBC W/ DIFF &

Comprehensive Combined Result



Patient_ID	Person_DateOfBirth	Person_Sex	Race_Descripti	RiskFactor	Results	Units	Panel	Brand_Descripti	Ingredient_Desc	Medication_Qu
ZZZZZ00039	11/6/1963	M	African America	<none>	5.51	log cps/mL	HIV 1 RNA QN	Zovirax	Acyclovir	30
ZZZZZ00039	11/6/1963	M	African America	<none>	5.51	log cps/mL	HIV 1 RNA QN	Azithromycin	Azithromycin	0
ZZZZZ00039	11/6/1963	M	African America	<none>	5.51	log cps/mL	HIV 1 RNA QN	Triamcinolone A	Triamcinolone A	0
ZZZZZ00039	11/6/1963	M	African America	<none>	5.51	log cps/mL	HIV 1 RNA QN	Triamcinolone A	Triamcinolone A	1
ZZZZZ00039	11/6/1963	M	African America	<none>	5.51	log cps/mL	HIV 1 RNA QN	Valtrex	Valacyclovir	0
ZZZZZ00039	11/6/1963	M	African America	<none>	5.51	log cps/mL	HIV 1 RNA QN	Zovirax	Acyclovir	0
ZZZZZ00039	11/6/1963	M	African America	<none>	5.51	log cps/mL	HIV 1 RNA QN	Doxycycline	Doxycycline	0
ZZZZZ00039	11/6/1963	M	African America	<none>	5.51	log cps/mL	HIV 1 RNA QN	Loperamide	Loperamide	100
ZZZZZ00039	11/6/1963	M	African America	<none>	5.51	log cps/mL	HIV 1 RNA QN	Truvada	Tenofovir Disopr	30
ZZZZZ00039	11/6/1963	M	African America	<none>	5.51	log cps/mL	HIV 1 RNA QN	Lortab	Hydrocodone/A	60
ZZZZZ00039	11/6/1963	M	African America	<none>	5.51	log cps/mL	HIV 1 RNA QN	Elidel	Pimecrolimus	1
ZZZZZ00039	11/6/1963	M	African America	<none>	5.51	log cps/mL	HIV 1 RNA QN	Mepron	Atovaquone	0
ZZZZZ00039	11/6/1963	M	African America	<none>	5.51	log cps/mL	HIV 1 RNA QN	Diflucan	Fluconazole	0
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Atripla (efaviren:	Atripla (efaviren:	0
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Atripla (efaviren:	Atripla (efaviren:	30
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Depo Testoster	Testosterone Cy	0
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Depo Testoster	Testosterone Cy	1
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Ensure Plus*	Ensure Plus*	0
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Cipro	Ciprofloxacin HC	20
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Tylenol w/Codei	Acetaminophen	40
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Oxandrin	Oxandrolone	120
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Tylenol w/Codei	Acetaminophen	40
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Diazepam	Diazepam	60
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Paxil	Paroxetine HCl	30
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Oxandrin	Oxandrolone	120
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Atripla (efaviren:	Atripla (efaviren:	30
ZZZZZ00073	7/8/1964	M	African America	MSM	2004	/uL	LYMPHOCYTE	Diazepam	Diazepam	60

Record: 370

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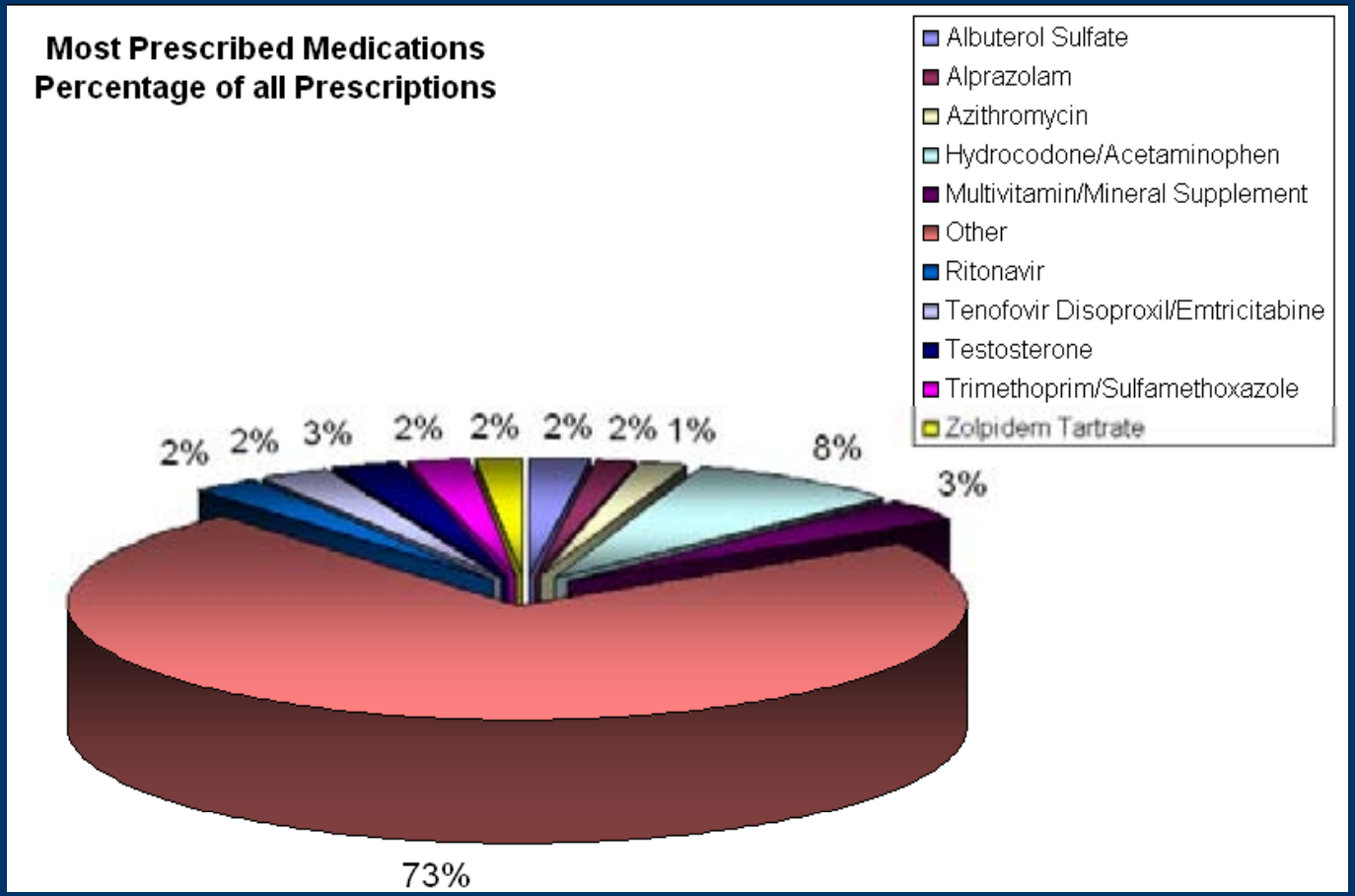
Visual Breakdown



ACS Data
Marketing Strategy

To support sustainable business model of additional revenue stream

- Pharmaceutical Industry
- Research
- Continuing Education
- Publication Strategy: Posters, Abstracts etc.

Benefit to Pharma?

- Variables sensitive to comparability:
- Health care system characteristics
- Provider characteristics
- Disease characteristics
- Patient characteristics
- Resource valuation
- Economic outcomes (Burden of care)
- Cultural issues
-

How ACS database can support Research Initiatives

Registry Definition:

Prospective observational study of subjects, **with certain shared characteristics**, that collects ongoing and supporting data over time on well defined outcomes of interest for analysis and reporting

Essential Characteristics of a Registry

- Observational or Real world assessment
- Non interventional
- No protocol-defined treatment/management, allocation of patients and patient visits, however focus is on protection of personal health information
- Data Collection
- Dictated by patient and patient experience (i.e., heterogeneous and missing data)
- Need to define key assessments and outcomes of interest
- Outcomes
- Evaluation Baseline assessment critical
- Longer-term observation period
- Hypothesis generating versus hypothesis testing

Continuing Education

- Observe the course of a disease
- Illuminate practice patterns and variations in them
- Assess clinical outcomes: effectiveness and safety
- Explore humanistic outcomes, including health-related quality of life & other patient-reported outcomes
- Assess economic outcomes
- Examine associations between care and outcomes
- Inform clinical and policy decision-making

Real-world data, both retrospective and prospective, that complement clinical trial evidence, can be used as Educational tool as Catalyst for Change.

Raising Awareness of ACS Database

- Targeted publications strategy focused on key industry conferences, journals etc.
- Attendance at such conferences either presenting or networking
- Partnering with entities with access to industry contacts whose focused therapeutic area is Infectious Disease.

Long Range Possibilities

- ACS presents demonstrated "Proof of Concept" as working model to like organizations
- Creation of consortium where silo databases from individual agencies become integrated
- Integrated data from multiple centers would increase ROI compared to single-center data.
- Integration would afford a unique opportunity to be able to market data from any agency using AIRS, with ACS as the lead organization.