

Web-based Order Entry Portal in Support of Outreach Testing

Supporting Laboratory Outreach with Information Technology

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Pathology Informatics 2011



Testing, Reimbursement and the Laboratory

The Drive to Laboratory Outreach



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What is Laboratory Outreach?

- Outpatient laboratory testing
 - Non-registered patients (non-patients)
 - Non-credentialed Practitioners (non-Docs)
 - For profit testing!
- Laboratory testing requires
 - Ordering provider
 - Patient with a valid MRN
- Outreach originated as a way for laboratories to increase income by leveraging excess capacity as a fee for service provider
 - Driven by changes in inpatient reimbursement, CLIA 88, increased automation

What is Laboratory Outreach?

- What customers use laboratory outreach?
 - Small doctor's practices
 - Non hospital aligned large physician practices
 - Driven by CLIA 88
 - Previously, such practices may have run their own laboratory
 - Non MD/DO practitioners
 - Naturopaths
 - Nutritionists
 - Chiropractors
 - Dentist
 - Nursing homes

How is Outreach Accomplished?



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Hospital Based Outreach vs. National Laboratories

- Large national laboratory companies were early providers of laboratory services in the outreach environment
 - Some were reference laboratories that began to do more than esoteric testing
 - Some were established to do testing for non-aligned physician practices
- Hospital based laboratories with excess capacity and a vision to grow their market
 - Driven by changes in reimbursement for laboratory services
 - Consortiums supported by large reference labs such as Mayo

Hospital Based Outreach vs. National Laboratories

- Hospital labs had difficulty competing with large reference laboratories initially
 - Economy of scale; price per test
 - Test offerings
 - TAT's
- This has changed as the hospital based laboratory has been re-tooled and technology has improved efficiency
 - Customer loyalty and familiarity
 - Seamless service offering

Historical Approaches to Outreach Workflow

- Paper based process
 - Paper requisition
 - Paper results: fax, courier
- Leverage existing LIS and HIS registration capabilities
- Outreach patients are registered at the site of presentation
 - “Mini reg”
- MD’s credentialed on the fly or pre-credentialed as a part of contracting services
- Billing back to client or to patient insurance as contracted

Modern Approaches to Outreach

- Information Technology Enabled
 - Paper processes remain important to some client, however most aspects of outreach can be supported by IT
 - Laboratory Portal
 - Order Entry
 - Requisition generation
 - Label generation
 - Shipping manifest
 - Results available electronically

Modern Approaches to Outreach

- Information Technology Enabled
 - Sample tracking
 - Courier management and routing
 - Customer Relationship Management
 - Client management, knowledge base
 - Sales and marketing efforts
 - Issues tracking
 - Web site support
 - Laboratory users guide
 - Supplies
 - Newsletters etc.

How to build an Outreach Program

- Consulting and market analysis
- Slow and steady wins the race
- Resource the program
 - Leadership
 - Management
 - Sales and marketing
 - IT support
 - Portal and other applications
 - Microcomputers, network
 - Couriers
- Significant investment for a new program!

How to build an Outreach Program

- Create an infrastructure first
 - You may be able to leverage paper based processes for a short time
 - Design effective teams and processes
- Choose initial clients carefully
 - Consider them early adopters
- Don't let sales outpace operational capacity
- Deploy informatics solutions sequentially as the program grows
 - Select proven vendor partners that blend well with current information technology

Outreach at Henry Ford Health System

Henry Ford Medical Labs



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Outreach at HFHS

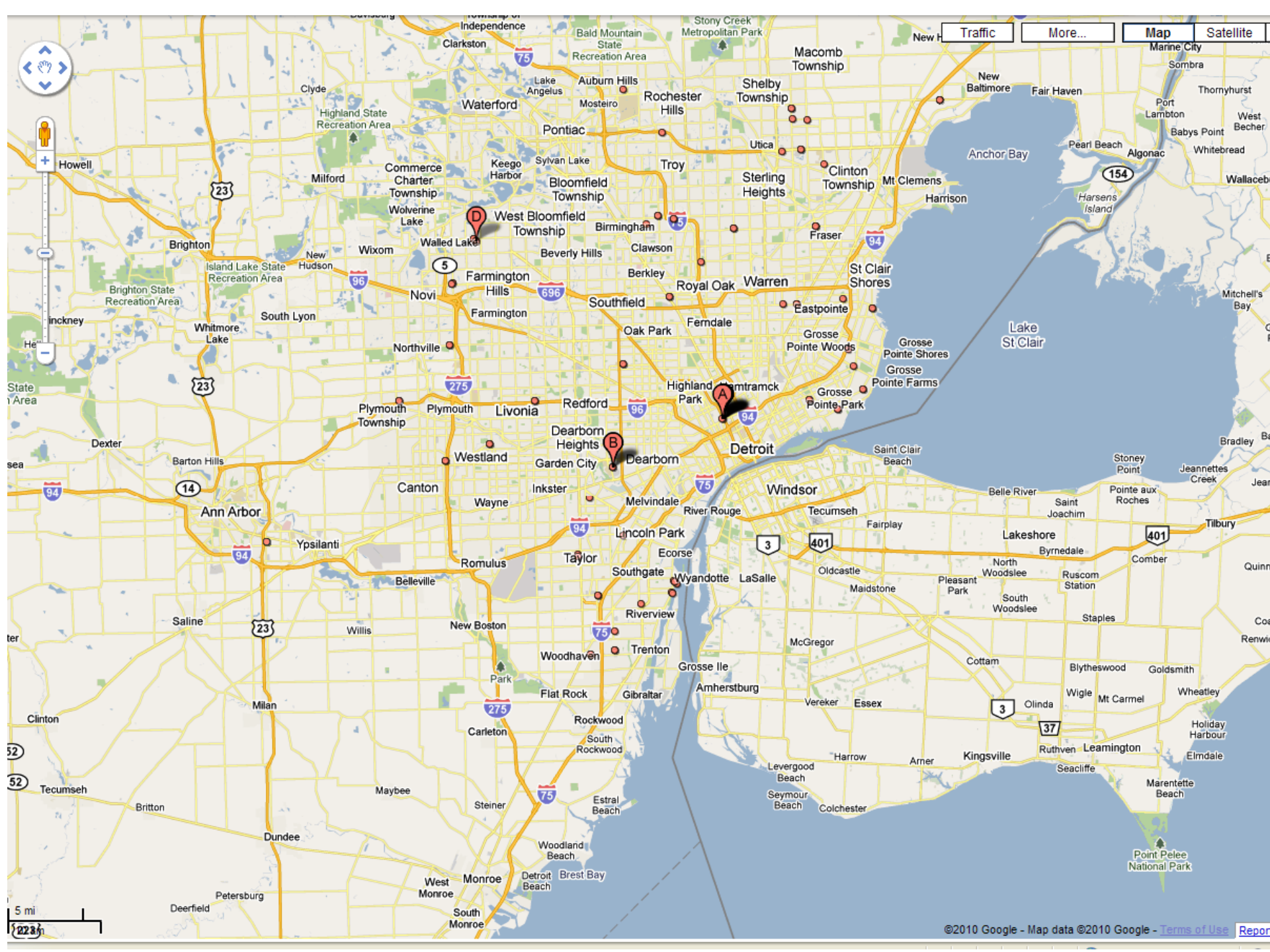
- HFHS is an integrated delivery network
 - MD's are employed
 - All outpatient visits are to HFHS operated clinics
 - Hospital lab is used at all HFHS sites
 - Little driver for outreach
- Some outreach activity had evolved outside the main laboratory prior to creation of the lab service line
 - Traditional approach using HIS registration and LIS
- Interest in consolidating and growing outreach was envisioned as a way attract new MD's and patients to HFHS services

Outreach at HFHS

- Consultants were engaged to do market analysis, provide direction on approach and IT services (2007)
- MD leadership was recruited to lead development of outreach program (2008)
- An IT solution was selected via an RFI/RFP process
 - Atlas LabWorks (2008)
 - LabWorks was designed and implemented prior to any clients or formal resources were involved
- Sales and marketing staff were hired and clients recruited (2009)
- Manager hired (2010)
- Informatics team reorganized (2011)

Consultant Recommendations

- Start slow in a focused region of our catchment area
- Recommended Sunquest Encompass as the best fit for our environment
- Leverage current courier routing
- Use traditional approaches to outreach as lab portal and other technology's and teams were being developed
- HFHS Response?
 - For a variety of reasons that defy logic we ignored most of these suggestions
 - You get what you listen to and do from what you paid for from consultants!



Outreach at HFHS

Impact of Design Choices on Informatics

- Due to evolution of the program, the IT infrastructure was well established prior to resources for sales and couriers were hired
 - IT oriented build, with little business driven insight in the design
 - Key customers weren't involved in IT design
- Cultural clash between sales and informatics created tension, unfulfilled expectations, client relationship challenges
- Informatics and technology requirements were significantly complex and could not keep pace with sales activities
 - Happily, this is resolving as we have gotten the correct pieces in place

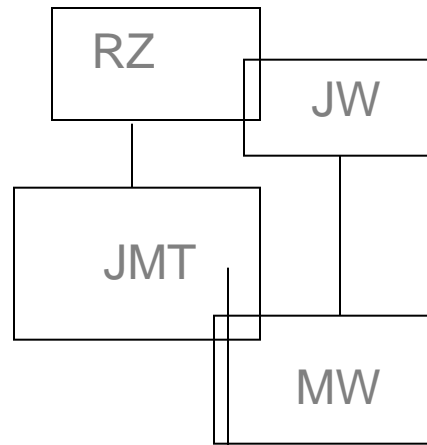
Outreach at HFHS

Current Status

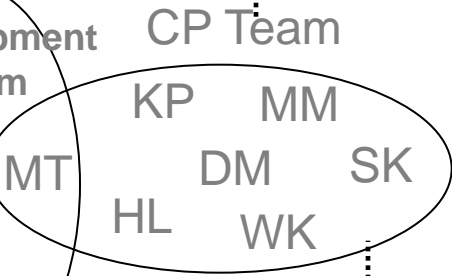
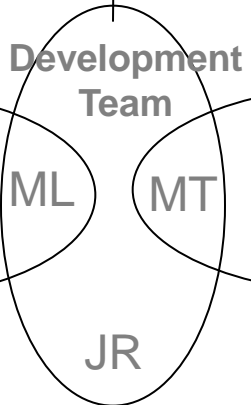
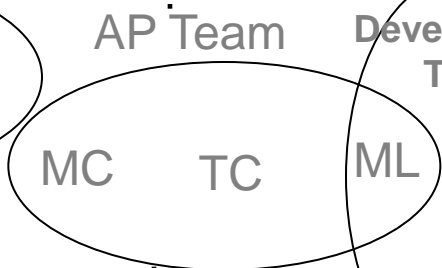
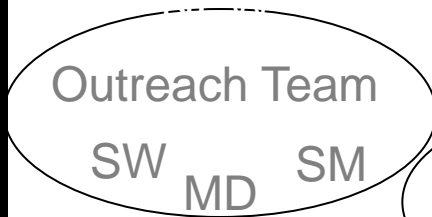
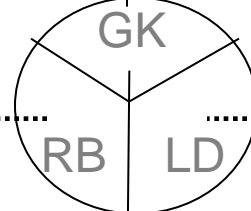
- Recently formed dedicated section of the informatics division to support portal, client build out
- Standardization of IT platforms where possible
 - Vendor to support microcomputers and internet setup
- Sales staff, informatics and laboratory service center working in lock step
- Operations manager in place
- New dedicated courier hired (now at three)
- Result: increased capacity, higher quality, smoother operations
 - Revenue on pace to double for this year

Pathology Informatics Organization Structure

Central IT



Cross Divisional
Cross Departmental
Cross Institutional



- Local Support
- HFMH-Warren
 - HFMH
 - WYH
 - Cottage
 - WBH



Academic Programs

The Portal

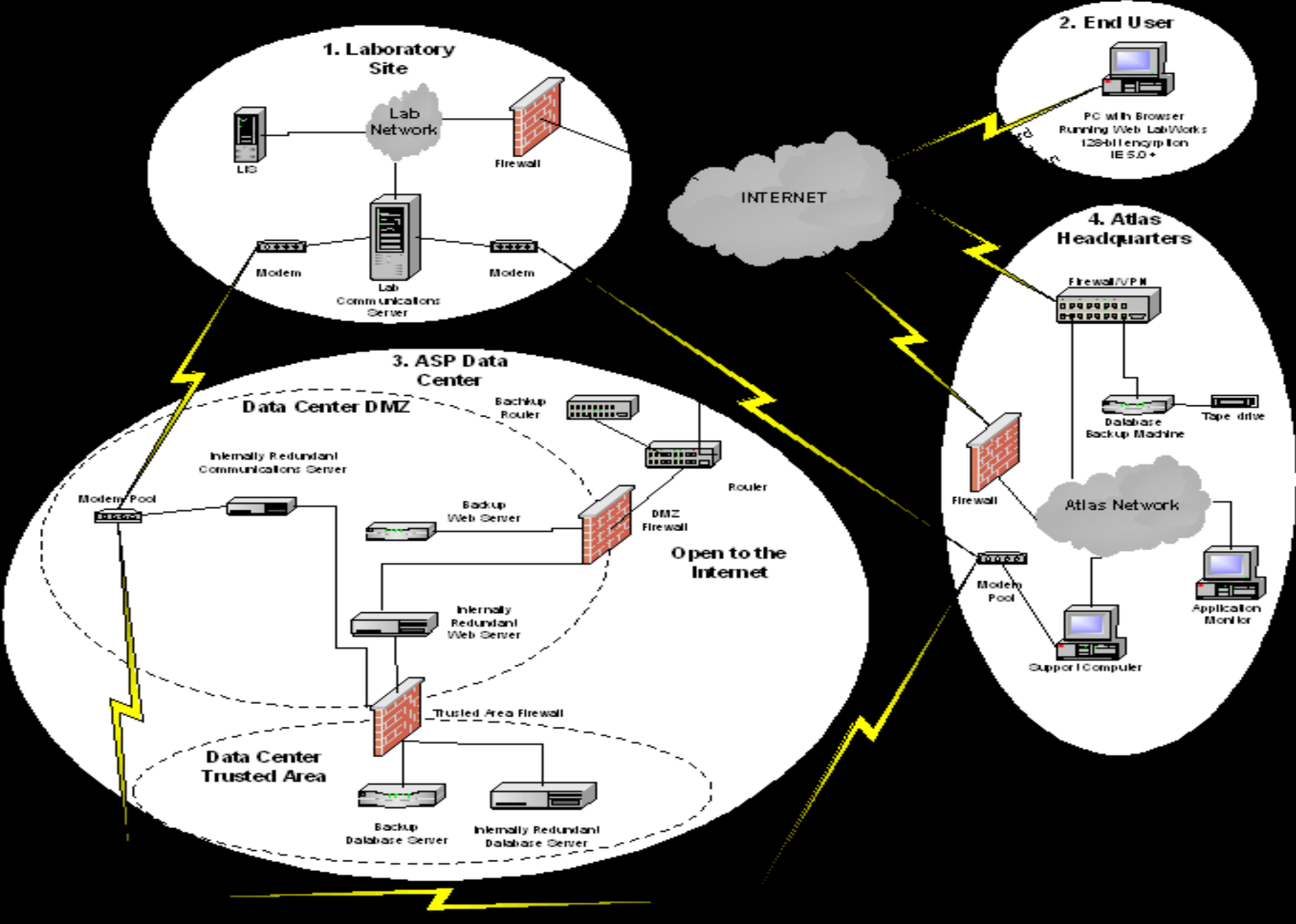
Deployment



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Web Portal Deployment

- Atlas Labworks interfaced to Sunquest CoPathPlus and Sunquest Clinical lab using HL7 interface
 - No information transmission to HFHS EMR
 - True Stand alone implementation
- Billing information
 - 3rd party billing vendor
 - ADT files from Sunquest and testing and result files from sunquest
- 3rd party company recruited to provide microcomputer deployment, support and internet lines implementation



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HENRY FORD MEDICAL LABORATORIES

User Name	<input type="text"/>
Password	<input type="password"/>

Login

Exit

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[ActiveX Installation & Browser Settings](#)

Please Select a Site

Site Name	Site ID	Unread Reports
(Lab Administration Site)		
Affiliated Troy Dermatologists	ATD	2
Allure Medical Spa	AMS	0
Ann Arbor Endocrinology & Diabetes	AAEDA	0
AntiCoagulation Service of the U of M	ACSUM	1
Associated Internists of Macomb	AIM	11
Associates in Physical Medicine and Rehabilitation	APMR	0
Benchmark Health	BMH	2
Brian Sandler MD, General, Surgical & Cosmetic Derma...	GSCD	2
Cardiology Associates	CARDAS	2
Cardiology Associates of Michigan	CAM	5
CardioVascular Institute of MI	CVIM	2
Center for Healthy Living	CFHL	1

filter by: Site Name Site ID

Patient Search

Patient Prim. Phys	DOB-Age SSN	ID Gender
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Lookup By

Patient Recently Selected Patients

Name	ID	SSN	DOB	Gender	City

Show Deleted Patients

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Patient Search

Patient: TEST,APTWO DOB-Age: 01/01/1961 - 50 Y ID: TUT000028
Prim. Phys: Tuthill,Mark SSN: XXX-XX-5544 Gender: Male

Lookup By

Patient Recently Selected Patients

Name	ID	SSN	DOB	Gender	City
TEST,APTWO	TUT000028	XXX-XX-5544	01/01/1961	Male	DETROIT
TEST,ACCOUNT	I00002	XXX-XX-1122	04/17/1971	Male	BEVERLY HILLS
TEST,PATIENT	I00001	XXX-XX-1111	04/17/1971	Male	BEVERLY HILLS
TEST,INSURANCE	I00003	XXX-XX-1133	04/18/1978	Male	BEVERLY HILLS
JONES,INSURED	TUT000016	XXX-XX-2121	04/01/1940	Female	LIVONIA
TEST,MEDICARE	I00006	XXX-XX-1166	06/06/1966	Male	BEVERLY HILLS
IMMUNO,IMMUNO	40304240		03/12/1955	Female	LAKE ORION
SMITH,MEDICARE	TUT000025	000TUT00009	05/05/1988	Female	ANN ARBOR
MEDICARE,JOE	TUT000002	000TUT00007	01/01/1911	Male	EAST LANSING
JONES,MEDICAID	COT000022	000TUT00008	09/09/1929	Male	BLOOMFIELD
MEDICAID,SUSIE	MBM000001	000TUT00004	01/01/1988	Female	GROSSE POINTE FAR
INSURANCE,LES	TUT000015	XXX-XX-2333	01/01/1965	Female	DETROIT
MEDICARE,LES	TUT000013	XXX-XX-3123	02/02/1902	Male	HIGHLAND PARK
JONES,PTBILL	TUT000017	XXX-XX-4444	04/04/1944	Male	DETROIT
SMITH,ACCOUNT	TUT000019		08/08/1928	Female	
INSURANCE,MINNIE	COT000003	000TUT00002	01/01/1960	Female	CLINTON TOWNSHIP
ACCOUNT,DAPHNE	COT000004	000TUT00003	01/01/1949	Female	CASEVILLE

New Patient Demographics Insurance Delete Patient Delete / Undelete Reasons Show Deleted Patients

Search In LES

- [Patient Lab Reports](#)
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- [Cumulative Reports](#)
- [Order History](#)
- [Orders Pending Results](#)
- [Demographics](#)
- [Insurance](#)
- [New Lab Order](#)
- [New Standing Order](#)
- [Standing Order List](#)

Patient Demographics

Patient TEST,APTWO DOB-Age 01/01/1961 - 50 Y ID TUT000028
Prim. Phys Tuthill,Mark SSN XXX-XX-5544 Gender Male

Details Insurance

Details Required Fields

Billing Type	<input type="text" value="Patient"/>	Address	<input type="text" value="11111 somewhere"/>
Name (L F M)	<input type="text" value="TEST"/> <input type="text" value="APTWO"/>		<input type="text" value="1 w grand blvd"/>
AKA	<input type="text"/>		<input type="text"/>
Marital Status	<input type="text"/>	City	<input type="text" value="DETROIT"/>
Patient ID	<input type="text" value="TUT000028"/> <input type="button" value="Auto Assign ID"/>	State	<input type="text" value="MI"/> ZIP Code <input type="text" value="48202"/>
SSN	<input type="text" value="XXX-XX-5544"/>	Phone #	<input type="text" value="(313)111-1111"/>
DOB	<input type="text" value="01/01/1961"/>	E-mail	<input type="text"/>
Physician	<input type="text" value="Tuthill,Mark"/>	Notes	<input type="text"/>
Gender	<input type="text" value="Male"/>		
Language	<input type="text"/>		
Ethnicity	<input type="text"/>		

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Unassigned Insurance Provider

Insurance Provider Name	Insurance Provider Type	Pre Approved/Local	Policy#	Group#

New Lab Order

Patient TEST,APTWO DOB-Age 01/01/1961 - 50 Y ID TUT000028
 Prim. Phys Tuthill,Mark SSN XXX-XX-5544 Gender Male
 Ord. Phys Tuthill,Mark Order # RR01148166

Order Info Tests ICD-9s Questions

Order Tests

Tests filter by: Code Name Mnemonic

Short List Site Physician Specialty

- | | | | |
|--|--|---|--|
| <input type="checkbox"/> CBC | <input type="checkbox"/> Chem 7 Basic | <input type="checkbox"/> Creatinine | <input type="checkbox"/> D-Dimer |
| <input type="checkbox"/> Electrolytes, Ser | <input type="checkbox"/> Factor IX Antigen | <input type="checkbox"/> Glucose,Random,Bld | <input type="checkbox"/> GYN-CYTOLOGY |
| <input type="checkbox"/> Potassium | <input type="checkbox"/> Prothrombin Time/INR | <input type="checkbox"/> PT/INR/PTT | <input type="checkbox"/> PTT |
| <input type="checkbox"/> Referred Test Surgical Path | <input checked="" type="checkbox"/> SURGICAL PATHOLOGY | <input type="checkbox"/> Troponin I | <input type="checkbox"/> Urine Culture |
| <input type="checkbox"/> Vitamin D | | | |

Ordered Test	Code	Comments	Delete
SURGICAL PATHOLOGY	HFHSURG		

Delete All Tests Test Catalog

Tubes/Containers Copy Results To

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New Lab Order

Patient TEST,APTWO DOB-Age 01/01/1961 - 50 Y ID TUT000028
 Prim. Phys Tuthill,Mark SSN XXX-XX-5544 Gender Male
 Ord. Phys Tuthill,Mark Order # RR01148166

[Order Info](#) [Tests](#) [ICD-9s](#) [Questions](#)

Apply ICD-9s to Selected Tests

Ordered Test	ICD-9s
SURGICAL PATHOLOGY	250.01, 244.8, 428.0

Delete ICD-9s

ICD-9 filter by: Code Name Mnemonic

Short List

Site Physician Specialty

- 250.01 DMI WO CMP NT ... V77.1 SCREEN-DIABETES... 599.0 URIN TRACT INFEC... 710.0 SYST LUPUS ERYTH...
- 391.1 ACUTE RHEUMATIC... 244.8 ACQUIRED HYPOT... 286.7 ACQ COAGUL FAC... 493.2 CHRONIC OBSTRU...
- 286.3 CONG DEF CLOT F... V12.52 HX-THROMBOPHL... 286.9 COAGULAT DEFEC... 428.0 CONGESTIVE HEAR...
- E942 ADVERSE EFFECT C... 774.4 FETAL/NEONATAL H... 285.3 ANTINEO CHEMTHE... 235.0 CA IN SITU EYLID
- 997.91 SURG COMP - HY... E858.9 ACC POISONING-... E934.5 ADV EFF COAGUL... 185.0 CONGESTIVE HEART FAILURE

[Tubes/Containers](#) [Copy Results To](#)

-
- [Patient Lab Reports](#)
- [Results History](#)
- [Cumulative Reports](#)
- [Order History](#)
- [Orders Pending Results](#)
- [Demographics](#)
- [Insurance](#)
- [New Lab Order](#)
- [New Standing Order](#)
- [Standing Order List](#)

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New Lab O

Atlas LabWorks - Test Site

SURGICAL PATHOLOGY - DERMATOLOGY Required Fields

Add Specimens Test Notes
Remove Specimen

ID	Specimen Site	Site Detail	Procedure

Print Labels Cancel OK

Atlas LabWorks - Test Site - Number of Specimens

Number of Specimens

Please Enter the number of Specimens(1-99)

3

OK Cancel

Order Info

Test Questions

SURGICAL P

MA

Tubes/Containers

Search

Reports

History

Reports

History

Pending Results

Specimens

Order

Order Order

Order List

Order Search

Report Search

Test Catalog

SURGICAL PATHOLOGY - DERMATOLOGY

Required Fields

Add Specimens

Test Notes

Remove Specimen

ID	Specimen Site	Site Detail	Procedure
1	HEAD		
2	HEAD		
3	NECK		

- SCALP
- CHEST
- BACK
- LEFT ARM
- RIGHT ARM
- LEFT LEG
- RIGHT LEG
- OTHER

Print Labels

Cancel

OK

SURGICAL PATHOLOGY - DERMATOLOGY

Required Fields

Add Specimens

Test Notes

Remove Specimen

ID	Specimen Site	Site Detail	Procedure
1	HEAD		CURETTING
2	NECK		EXCISIONAL BI
3	BACK		PUNCH BIOPSY

Print Labels

Cancel

OK

New Lab Order

Patient	TEST,APTWO	DOB-Age	01/01/1961 - 50 Y	ID	TUT000028
Prim. Phys	Tuthill,Mark	SSN	XXX-XX-5544	Gender	Male
Ord. Phys	Tuthill,Mark	Order #	RR01148166		

Order Info Tests ICD-9s Questions

Test Questions Required To Save Required to Order

SURGICAL PATHOLOGY / HFHSURG

MAIN SOURCE DERMATOLOGY Specimen Info

Date of Surgery 09/30/2011 📅

Clinical History/Radiologic findings Multiple skin lesions

Pre-Op/Post-Op diagnosis Possible BCC's

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- [➤ Order History](#)
- [➤ Orders Pending Results](#)
- [➤ Demographics](#)
- [➤ Insurance](#)
- [➤ New Lab Order](#)
- [➤ New Standing Order](#)
- [➤ Standing Order List](#)

- [Go to Lab Order Search](#)
- [Go to Lab Report Search](#)
- [Go to Lab Test Catalog](#)

[Tubes/Containers](#) [Copy Results To](#) [Cancel](#) [Continue >>](#)




HENRY FORD MEDICAL LABORATORIES -
PATHOLOGY
2799 W. Grand Blvd.
Detroit, MI 48202
313-916-LABS

Physician Information		Patient Information	
Name: Tuthill, Mark Account #: 166 Acct. Name: Dr. Tuthill's Office Address: 2799 West Grand Blvd. K6 Detroit, MI 48202 (313)916-2524		Name: TEST, APTWO Pat ID: TUT000028 POR0000003  DOB: 01/01/1961 Gender: Male Room: Address: 111111 somewhere 1 w grand blvd DETROIT, MI 48202 Phone: (313)111-1111 Billing Type: Patient	
Order Information		Secondary Insurance	
Order #: RR01148166 Coll. Date/Time: 09/30/2011 14:46 User Initials: Tuthill, Mark		Name: Type: Address: Policy #: Group #: Subscriber:	
Primary Insurance		Secondary Insurance	
Name: Type: Address: Policy #: Group #: Subscriber:		Name: Type: Address: Policy #: Group #: Subscriber:	
Clinical Info:			
Notes:			
Copy-To Info:			
PSC:			

Ordered Procedures

Specimens	Temperature	ICD-9 Codes
1) HFHSURG SURGICAL PATHOLOGY		244.8, 250.01, 428.0
Date of Surgery..... 09/30/2011		
Clinical History/Radiologic findings. Multiple skin lesions		
Pre-Op/Post-Op diagnosis..... Possible BCC's		
1. RR011481661 - DERMATOLOGY - HEAD - CURETTING 2. RR011481662 - DERMATOLOGY - NECK - EXCISIONAL BIOPSY 3. RR011481663 - DERMATOLOGY - BACK - PUNCH BIOPSY		

		Henry Ford Hospital Pathology and Laboratory Medicine 2799 W Grand Blvd Detroit, MI 48202 Tel: (313) 916-LABS Fax: (313) 916-9433	
Surgical Pathology Report			
Patient Name:	TEST, APTWO	Phone #:	(313)111-1111
Med. Rec. #:	TUT000028	Client:	8- Portal
DOB:	1/1/1961 (Age: 50)	Location:	TUT (POR)
Gender:	M	MPID:	POR0000003
Physician(s):	Mark Tuthill	Accession #:	PS11-2
		Taken:	5/11/2011
		Received:	5/11/2011
		Reported:	5/11/2011

Clinical History
Clin hx test

Operative Diagnoses
OP dx test

Operation / Specimen
A: Skin, curettage, head
B: Skin, excision, scalp
C: Skin, excisional biopsy, neck
D: Skin, punch biopsy, chest

Pathologic Diagnosis
A. Skin, curettage, head: test
B. Skin, excision, scalp: test
C. Skin, excisional biopsy, neck: test
D. Skin, punch biopsy, chest: test

Comment
Dx comm test

Electronically Signed Out By JM Tuthill, M.D., System Manager

jmt2/5/11/2011 J.M. Tuthill, M.D., System Manager

Intra-Operative Consultation
IOC test

Gross Description

Results History

Patient **TEST,APTWO** DOB-Age **01/01/1961 - 50 Y** ID **TUT000028**
 Prim. Phys **Tuthill,Mark** SSN **XXX-XX-5544** Gender **Male**

Patient Results Filter Criteria **Abnormal** **Updated** **Notes** **Historical Result**

Selection: SUSCEPTIBILITY, Abnormal

Result:

Result Date Range: To

Sort Results By: Result Name Order Received Major/Minor Sort

Result Name	Collected	Resulted	Result	Units	Ref. Range	Test Code	Lab	
Blood Culture	07/29/11 10:28	07/29/11 14:44	Results Below			BLDC	HFH	N
Platelet Estimate	07/29/11 10:28	07/29/11 10:38	Adequate			CBCD	HFH	
RBC Comment	07/29/11 10:28	07/29/11 10:38	Macrocytosis			CBCD	HFH	
Basophil,Abs.	07/29/11 10:28	07/29/11 10:38	0.00	K/uL	0.00-0.20	CBCD	HFH	
Eosinophil,Abs.	07/29/11 10:28	07/29/11 10:38	0.00	K/uL	0.00-0.70	CBCD	HFH	
Monocyte,Abs.	07/29/11 10:28	07/29/11 10:38	0.00	K/uL	0.00-0.80	CBCD	HFH	
Lymphocyte,Abs.	07/29/11 10:28	07/29/11 10:38	6.05	K/uL	1.10-4.00	CBCD	HFH	
Neutrophil,Abs.	07/29/11 10:28	07/29/11 10:38	6.05	K/uL	1.80-7.70	CBCD	HFH	
Basophil,%	07/29/11 10:28	07/29/11 10:38	0	%		CBCD	HFH	

Test Name: **SUSCEPTIBILITY**

Test Notes:

Result Notes: Organism
Gram positive bacilli
Method

Results | **Notes**

Historical Results

Result Name	Resulted	Result	Units	Ref. Range	Test Code	Lab

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Key Components for IT Support of Outreach

Problems and Pitfalls

Solutions



Key Components for IT Support of Outreach

- Core systems: LIS, ADT systems
- Lab portal
 - Orders, requisitions, labels, e-results, printing
 - Billing
 - Courier management and routing
 - Tracking
- Microcomputer support, networking
- Supply requests
- EMR Interfaces
- Customer relationship management tools

Technology Development Strategy

- Align with core informatics teams
 - Develop strategy to support outreach
- Plan communication
- Leadership involvement
- Technology selection
 - Features versus core technology and integration
- Business workflow
 - Constantly redevelop
 - Political barriers
- Parallel Pathways with hospital planning and programs
 - Duplicative, disruptive

Operations

- Application Support
 - Complex system in our world
 - Simplify where possible
 - LIS, Portal, multiple test catalog management, interface engine
- Micro computing and networking
 - PC and Internet in offices
- Workflow smoothing
 - Many efforts require development
 - Bug fixes, enhancements, activation of features

Operations

- Daily support
 - On call
 - Issues resolution
 - Communications
 - Vendor complexity
 - LIS
 - ASP
 - Third party vendors
 - Internet providers
 - Office IT groups

Development Support

- System fixes
- Workflow enhancement
- New sites
 - Implementations
 - New requirements
 - Each site is unique
 - Setup is complex and time consuming
- Typical working 30-40 issues
 - Over 250 issues resolved this year to date
- System stability and consistent site implementation has been elusive to date

Microcomputer and Network Setup and Support

- Most client offices require PC and Internet services
 - Some office want to use their network and computers do to space and other constraints
 - This results in the use of non standard PC's which can be difficult to support
- Hospital IT which provides PC's, networking and support was not able to be leveraged for outside customers
- Contracted with 3rd party vendor (Suntel Inc.) to provide:
 - PC's
 - Procure and manage internet installation (ATT and Comcast)
 - Support of PC's and printers with issues

Microcomputer and Network Setup and Support

- Each setup has been unique and complex
 - Back in the computer support business!
- Timelines vary by requirements and are not pleasing to sales team
 - Internet line can take up to 30 days
 - A simple office setup can take a week
- Develop service level agreements with sales and clients
- Many office have contract IT groups which can increase complexity
- Teams involved in a typical setup: Internet provider, Suntel, Atlas, Pathology Informatics, Sales, Operations teams

Customer Service Center

Laboratory Support Center

- We utilized our current customer support team and process to support outreach
 - Initially the design of the team, space, process and procedures were not well adapted to support outreach customers
- Team was re-organized with a dedicated outreach support team
- Many process are done on paper or spreadsheets with client configuration and contact information
 - This is inefficient, time consuming and decreases customer satisfaction with issues resolution

Customer Service Center

Laboratory Support Center

- We have re-defined support processes and issues resolution pathways to create standard work
 - Communication to Pathology Informatics
 - Communication with Sales and operational team
 - Communication with customer
 - Documentation
- Implementing the Sunquest Outreach Advantage Customer relationship management (CRM) module
 - Issues tracking
 - Client configuration knowledge base
 - Sales and marketing activities

Reporting

- The heart of the laboratory business is report to our customers
 - With outreach there is a loss of control for report distribution
 - This can lead to a return to couriered paper reports or faxing!
- We using auto-printing and auto-faxing solutions with Atlas when possible
 - Failure of report printing or faxing is the most common issue we receive at the helpdesk
- No clients are using e-reporting as the primary method of reviewing lab results
 - Think of ways to incentivize clients to use the portal to review results

Sample Labeling

Foreign CID

- Our goal was to produce instrument ready labels at the client site
 - This was a key component of the RFP and vendor selection process
- This has been very challenging due to
 - Issues with Sunquest
 - Limitation to FCID functioning as a true CID
- Instrument requirements
 - Limitations in the number of characters that instrument will support in a bar code
- Label design issues

Sample Labeling

Foreign CID

- Our approach has been to utilize true CID's from Sunquest in our large draw areas (Patient service centers)
 - Data sent from Atlas to Sunquest with the label being printed from Sunquest
- In offices that do phlebotomy we produce an FCID that can be used for non complex testing
- In the worst case scenario we re-label tubes when we have to
 - As the volume of testing increases, this will become decreasingly palatable!

EMR Interfaces

- Interest in EMR implementation is being driven by:
 - Meaningful use
 - Creation of the Henry Ford Physician Network (HFPN) our ACO
- Continual challenge
 - Can take weeks to months
 - Many vendors and versions of EMR's
 - EMR's handle laboratory data poorly
 - Data Integrity
 - Data display and report printing issues
 - Compliance issues with CLIA 88
 - Building orders sets in client EMR is daunting!

EMR Interfaces

- Validation of data display
 - We use Software Testing Solutions to order and result in the laboratory system
 - Interface design testing using vendor test case
 - Detailed scenario testing (HFH created)
 - Volume testing of all results
 - Design of the interface typically goes rapidly
 - Bottleneck for these interfaces is the receiving system's display and printing problems
 - These can take weeks to months to resolve
 - Frustrating for sales and clients

EMR Interfaces

- Possible solutions and approaches
 - Work to set appropriate expectations for leadership, sales and clients
 - Carefully choose EMR's and client for whom interfaces will be established with leadership
 - This can be a source of tension for sales team and outreach growth
 - Limit EMR interfaces to results which significantly simplifies the implementation
 - Use of PDF's to display data in EMR versus HL7
 - Technology solutions such as Atlas Ion or Sunquest outreach connect
 - These are not magic and will not mitigate display problems on the vendor side
 - They can decrease effort for second connection to an identical EMR
 - Ultimately we need standards base EMR solutions to streamline setup

Summation



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Summation

- Outreach is a difficult undertaking for the hospital laboratory as a new enterprise
 - Cultural clash
- Success in outreach is most dependent on:
 - Planning
 - Appropriate resources
 - Communication across teams
- Aligning expectations of leadership, sales, and operations teams requires continued care and feeding
- Technology solutions can increase success but are not a panacea as technology can increase complexity and the time it takes to setup a site.

Summation

- Despite challenges HFML is succeeding and we continue to learn and refine our processes
 - Revenue continues to climb and is doubling every six months
 - Revenue goals for five year vision were achieved in two years
 - Outreach revenue has created a positive financial picture during the economic downturn
 - Customer satisfaction surveys show a high degree of satisfaction
 - We are competing well against commercial laboratories!

Outreach at HFHS

Next Steps

- Continued expansion of client base
- Formalization of operational processes
- Implement Sunquest Call back module
- Implementing Sunquest CRM tool (part of outreach advantage package)
- Interfacing of portal results to EMR's
 - Hospital
 - Physician Office
- Additional IT capabilities
 - Courier
 - Tracking

Web-based Order Entry Portal in Support of Outreach Testing

Time for Questions???

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