

# Using IT to Solve Process Problems

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# Business Plan

- Determine if an IT solution will benefit
  - Cost savings
  - Higher productivity
  - Improved quality
- Resources
  - In house resources
  - Contracted resources



13.09.2011 16:06



08.09.2011 14:52





09.09.2011 15:56

# Team Objectives

- All new processes should be IT based.
  - Develop only 1 process.
- Move from paper based communications to electronic.
- Have the person lowest in the process tree do the work or the best qualified.

# Getting Started

- Need to have RDBMS
  - Flat file system not good enough
  - Licenses? Permission to access.
- Start simple (Crystal Reports)
  - Learn DB structure
  - Learn SQL....
  - Answer some simple questions
  - Work up until you can't go farther
  - Time to hire professional???

# Structured Query Language (SQL)

```
If {Alert_Actions.Due Date} in DateTime (2003, 01,
    01, 00, 00, 00)
to DateTime (2006, 05, 01, 00, 00, 00) then
    ({Alert_Actions.Done Date}
in DateTime (2003, 03, 31, 00, 00, 00) to DateTime
    (2006, 05, 01, 00, 00, 00))
and ({Alert_Actions.Type} like "a pap recall*") and
    ({Demographic.Search Key 2} like ("FHN"))
OR {Demographic.Search Key 2} like ("include FHN"))
and {Demographic.Birth Date}
in DateTime (1936, 03, 31, 00, 00, 00) to DateTime
    (1956, 04, 01, 00, 00, 00)
```

# Examples for Study

- New Patient Process
  - The “waiting list”
  - Collecting demographics
  - Collecting clinical data
  - Booking first appointment.
- Patient Health Portal
  - Patient self management tools

# Scope of Work and Complexities

- Over 1000 new patients annually for the past 5 years.
- Physicians demand high quality EMR records. (They will only update a limited subset)
- Health Care Connect time frames and complex patient billing codes.
- Limited resources.

# New Patient Registration (Admin)

- The Old way:
  - Wait list was opened and closed to manage volume.
  - Data was record on spreadsheets
  - Many phone calls / very labour heavy.
  - (this was before HCC came into affect)

# Patient's First Visit (Clinical)

- 2.5 hours per patient to interview and create medical record.
- One staff member could only do 3 per day (4-5 needed)
- Was done by NP which was a waste of a valuable resource.
- We tried having a RN do them with limited success.

# Process Problems

- Too costly
- Inconsistent records
- Patients did not have all the information at their visit.
- Staff did not like doing them.

# What we developed.

- Web based registration screens for our staff and HCC.
  - Allows HCC to manage the wait list.
    - Enter new patients
    - Monitor their progress
    - Add referral dates

# HCC Screen Features

- Enter patient data without contacting us.
- Monitor the stages in the process for specific patients.
- Search capability to find a patient.
- Display future appointments.

# YOUR Health Portal

Add New Patient

First Name: 
 Last Name: 
 Telephone: 
 Email: 
 OHIP Number: 
 Work Load:

Show all archived patients

Show only those records without a Referral Date:  
 No  Yes

Show only those records that have an Appointment within the next...

Search

Clear Search

Show Rejected Patients

Total Patients found: 334

Patient Name	OHIP Number	Email Address	Date Registered	Created By	Stage	Work Load	Referral Date	Appointment	Provider Name
Rabih	554 1691	terri_lynne_@com	Aug 2, 2011	Bonita @ HCC	Accepted	1. Low	Aug 31, 2011	Sep 12, 2011	Robert Stecher
Brian	482 87	@mac.com	Jun 17, 2011		Accepted	1. Low	Aug 18, 2011		
Syed Jawad	53 754	@yahoo.com	May 10, 2011		Accepted	2. Medium		Sep 26, 2011	Robert Stecher
Ahmed	38 581	2005y@hotmail.com	Apr 11, 2011		Clinical Survey Requested	1. Low			
Ameen	423 049	2005y@hotmail.com	Apr 11, 2011		Clinical Survey Requested	1. Low			
Leonisa	246 3998	nin@bell.net	Jun 23, 2011		Demographic Survey Requested	1. Low			
Alexander	5 105	son08@gmail.com	Aug 2, 2011	Bonita @ HCC	Accepted	3. Complex	Aug 31, 2011	Sep 8, 2011	Robert Stecher

First Name: \*

Last Name: \*

Has NO email

Gender: \*

Date of Birth: \*

  
Format: Apr 5, 1970

Postal Code: \*

  
Format: K1K1K1

Preferred Practitioner Gender: \*

Home Phone: \*

  
Format: 613-555-5555

Cell Phone:

  
Format: 613-555-5555

Work Phone:

  
Format: 613-555-5555

Work Ext:

OHIP Number: \*

Version Code:

OHIP Issue Date:

  
Format: Apr 5, 1970

OHIP Expiry Date:

  
Format: Apr 5, 1970

Work Load: \*

Referral Date:

  
Format: Apr 5, 1970

Comments

Created By:

Dave

Last Modified By:

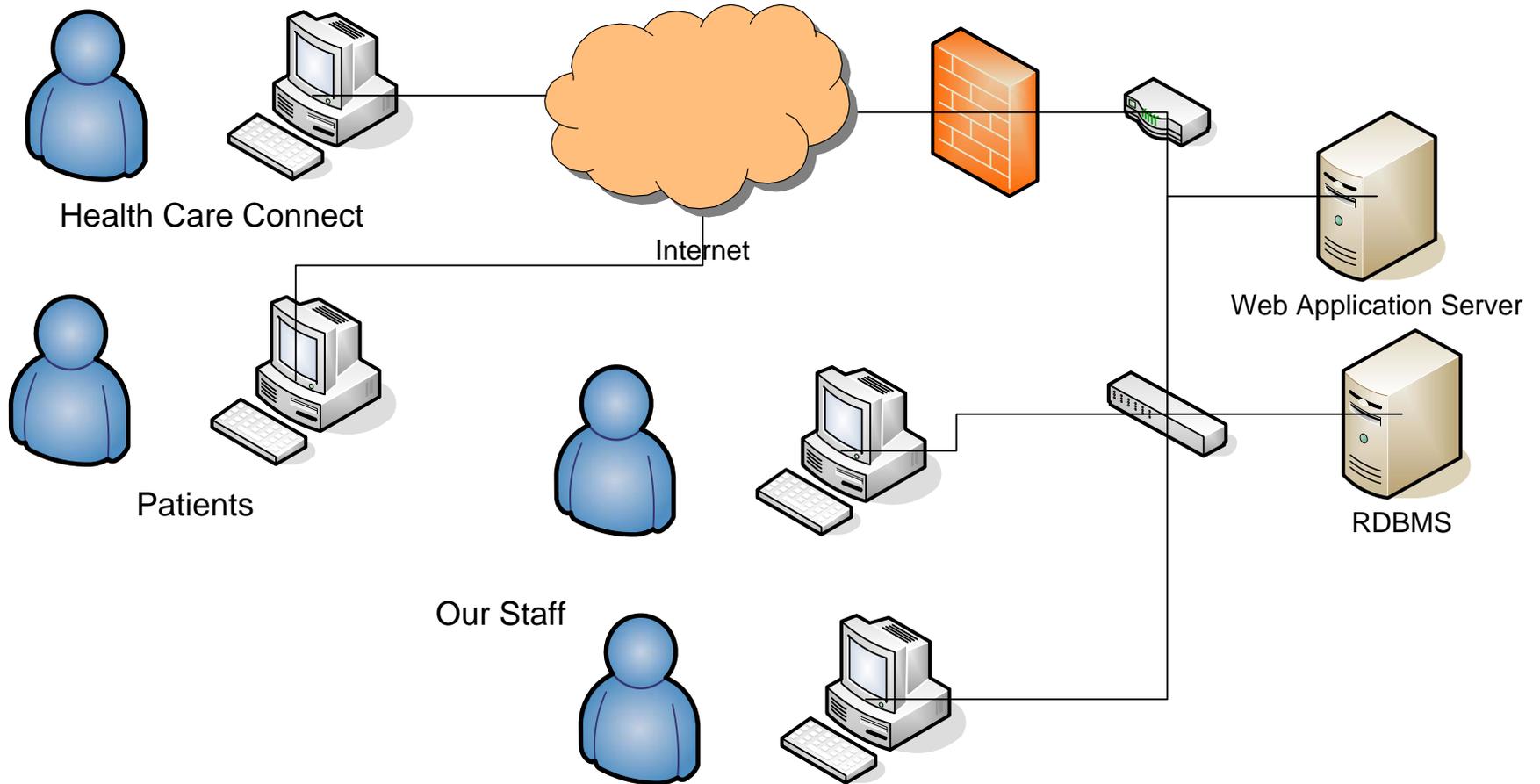
Unassigned

Save

Cancel

# For the Patients

- Web based:
  - Demographics screens
  - Clinical Questionnaire
- Advantages:
  - Patients do data entry (saves us lots of time)
  - Patients can enter their medical history in the privacy of their home.
  - Consistent (format) records for the physicians



# Patient Communications

- Emails sent to patient at each step
  - Keeps them informed
- Request to complete information give in email with link to secure page on our web server.

# Administration

- New Patient Dashboard
  - Summaries all active entries
  - Edit data
  - Upload to EMR system.
  - Resend emails
  - Monitor the stages:
    - Wait, contacted, demographics requested, clinical requested, appointment

# New Patient Dashboard

Stages: Demographic Survey Requested  Show Only Rejected Patients

Search for:

Last Name:  First name:  Telephone:  Email:  [Clear](#) [Search](#)

211 Patients found

Patient	Work Load	Date Created	Date Last Promoted	Status	Enrolled FM	(Potential) Duplicate Entry	Telephone	Postal	
, Valerie <a href="#">New</a> <a href="#">Edit</a> <a href="#">Resend Email</a>		Jul 5, 2011	Jul 5, 2011				613--5087 *	K7V 1 *	<a href="#">yates</a>
, Sarah <a href="#">New</a> <a href="#">Edit</a> <a href="#">Resend Email</a>	1	Jun 30, 2011	Jul 4, 2011				613--6677 *	K2K. *	<a href="#">semha</a>
<a href="#">Resend Email</a>	1	Jun 28, 2011	Jun 29, 2011				613--1046	K2T. }	<a href="#">lisami</a>
Barry <a href="#">New</a> <a href="#">Edit</a> <a href="#">Resend Email</a>	1	Jun 28, 2011	Jun 29, 2011				613--7486 *	K2L. *	<a href="#">bbelda</a>
, Jeffrey <a href="#">New</a> <a href="#">Edit</a> <a href="#">Resend Email</a>	1	Jun 28, 2011	Jun 29, 2011				613--6465 *	K2K: *	<a href="#">jeffrey</a>
, Daniel <a href="#">New</a> <a href="#">Edit</a> <a href="#">Resend Email</a>	1	Jun 28, 2011	Jun 29, 2011				613--6669 *	K2W 5 *	<a href="#">dan.m</a>
, Cheong <a href="#">New</a> <a href="#">Edit</a> <a href="#">Resend Email</a>	2	Jun 28, 2011	Jun 29, 2011				613--8301 *	K2L: *	<a href="#">yeohc</a>
on, Mark <a href="#">New</a> <a href="#">Edit</a> <a href="#">Resend Email</a>	1	Jun 28, 2011	Jun 29, 2011				613--7560 *	K2T: *	<a href="#">mark@</a>
, Mary Jane <a href="#">New</a> <a href="#">Edit</a> <a href="#">Resend Email</a>	1	Jun 28, 2011	Jun 29, 2011			✓	613--3215 *	K2L: *	<a href="#">ricking</a>
Lay <a href="#">New</a> <a href="#">Edit</a> <a href="#">Resend Email</a>	2	Jun 28, 2011	Jun 29, 2011				613--8301 *	K2L: }	<a href="#">yeohc</a>
Amanda <a href="#">New</a> <a href="#">Edit</a> <a href="#">Resend Email</a>	2	Jun 28, 2011	Jun 29, 2011				613--0111 *	K2K: *	<a href="#">acs29</a>
, Luc <a href="#">New</a> <a href="#">Edit</a> <a href="#">Resend Email</a>	2	Jun 28, 2011	Jun 29, 2011				613--3753 *	K2M 8 *	<a href="#">luc_ga</a>
, Amy <a href="#">New</a> <a href="#">Edit</a> <a href="#">Resend Email</a>	1	Jun 28, 2011	Jun 29, 2011				613--8090 *	K2L: 5 *	<a href="#">amyve</a>
, Daniel <a href="#">Resend Email</a>		Jun 24, 2011	Jun 24, 2011		✓	✓	613--9754	K2B: 3	<a href="#">whaler</a>

Refresh

Update

Close

Promote

Reject

Accept

CIS Upload

Surname:	First Name:	Initial:
<input type="text"/>	Leana	<input type="text"/>
Alias:	Date of Birth:	Email:
<input type="text"/>	05/02/19	leana@.com
Title: Ms. ▼	Gender: Female ▼	Marital Status: Common-Law ▼

**Home**

Care Of:

Address 1:  
755 Street

Address 2:

City: Ottawa      Region: ON ▼

Country: Canada ▼      Postal: K1G

Home Phone:  
613-4920

Cell Phone:  
613-6064

**Work**

Employer:  
Self

Address 1:  
755 Street

Address 2:

City: Ottawa      Region: ▼

Country: ▼      Postal: K1G

Work Phone:  
613-4920 x

Fax:

**Next of Kins**

[Edit](#)

True

**Payment Information**

OHIP Number	Version Code		<input type="checkbox"/> No OHIP Coverage
2356	33	HG	
Exp. Date:	Issue Date		<input type="checkbox"/> Old OHIP Card
05/02/201	02/01/20		

# Patient Clinical Questionnaire

- Over 180 questions asked
- Questions are presented based on age and sex
- Most are mandatory, with an exit such as "Did not answer", etc.
- When completed uploaded to the EMR

Completing survey for Ethan

Skip to page:  [Refresh](#)

## Smoking Status

(Hide Details...)



At the West Carleton Family Health Team, we have programs to help patients with tobacco addiction, break their addiction. These questions will help our team understand your needs.

I am a nonsmoker (have never used tobacco for more than 2 weeks in my lifetime)

YES  NO  Did not answer

I am an ex-smoker (have not used ANY tobacco in the past 2 weeks)

YES  NO  Did not answer

I am a smoker (have smoked tobacco in any form during the past 2 weeks)

YES  NO  Did not answer

I use chewing, snuff or smokeless tobacco

YES  NO  Did not answer

I have been exposed to second-hand smoke during my lifetime.

YES  NO  Did not answer

For current smokers, how would you rate your readiness to consider stopping at this time?

Not ready at all 0 / 10 very ready

What roadblocks have you encountered in trying to quit?

## Activity dates

Activity	Date	Signed	Reason for visit
Progress Note	26/06/2011	No	Major Medical Tests
Progress Note	26/06/2011	No	Sexual Preference
Progress Note	26/06/2011	No	Work Satisfaction
Progress Note	26/06/2011	No	Healthy Habits
Progress Note	26/06/2011	No	Other Health Questions
Progress Note	26/06/2011	No	Alcohol Use
Progress Note	26/06/2011	No	Additional Demographic Data
Progress Note	26/06/2011	No	Previous Primary Care
Progress Note	26/06/2011	No	Health Related
Progress Note	26/06/2011	No	Medical History
Progress Note	26/06/2011	No	Personal History
Progress Note	26/06/2011	No	Family History

( NO): Carries a signed organ-donor card  
( NO): Positive skin test for TB in the past  
( NO): Received BCG inoculation  
( NO): Regular blood donor  
    Frequency: N/A  
( NO): Blood product(s) recipient  
    Last Received Date: N/A  
( NO): History of foreign travel or tropical diseases  
    Foreign travel regions: N/A  
( NO): History of jaundice or hepatitis  
    Year: N/A  
( NO): History of adverse reaction to general anesthesia

( NO): Wears ear protection

(YES): Brushes and flosses daily

( NO): Wears eye protection

( NO): Practices fall and fracture prevention

( NO): Regularly wears sunscreen (SPF 30+), hat and cover-up

(YES): Regularly wears shoulder and lap belts while driving or as passenger

( NO): Wears helmet when cycling, skiing or snowboarding

( NO): Wears an approved flotation device while boating

(YES): Regularly washes hands before food preparation, eating and after using toilet

(YES): Family eats together most days of the week

2 hours per day: spent in front of TV and/or computer

# Fallbacks

- For those without emails or internet access (very few)
  - We will take the demographic information on the phone.
  - We will mail out a “Clinical Questionnaire” for the patient to complete.

# Other Initiatives

- Patient Health Portal – Patients can..
  - View their Labs results
  - Ask questions
  - Input vital signs such as BP and weight
  - See their appointments and referrals
  - Set self management goals
  - Information Library



### My Info

#### Welcome to the West Carleton Family Health Team Portal!

Burt Tester

September 2, 2011 1:58 PM  
 For Security and Privacy reasons the system will automatically log you off in 539 minutes. The system will end your session after 30 minutes of inactivity.

### My Status

#### Blood Pressure

Last reading: 170 / 101  
 Goal: 120 / 80

#### Waist

Last reading: 42 inches  
 You have no goal set for this health factor.

#### Weight

Last reading: 230 lbs  
 Goal: 125 lbs

### Edit My Info

View / Edit My Demographic Info

### News

#### My Messages

08/30/2011

This is a new feature for the delivery of automatic notices to the Portal User. You will be notified by email that messages are waiting.

#### Do you need to know how to use the features?

02/25/2011

A User document now can be found in the Library section. It explains how to use many of the features. It will be updated when new features are implemented on the site.

### My Messages

Inbox: Delete

<input type="checkbox"/>	From	Subject	Date	Priority
<input type="checkbox"/>	West Carleton Family Health Team	Smoking Cessation Survey Invitation	2011/09/02	

1 Message(s)

### My Appointments

With	Date	Time
Brown, Karen	March 17, 2011	05:00 PM
Rosenkrantz, Alicia	April 13, 2011	10:00 AM
DIETITIAN, WCFHT	April 13, 2011	11:00 AM
. University Cardiology Cons.		

### My Preferences

Change Your Password

Change Your Secret Question/Email Settings

### Places Of Interest

Here are a few sources of information that we feel may be of interest to you.

- [West Carleton Family Health Team](#)
- [Health Links](#)
- [Diabetes and You](#)
- [Community Diabetes Education Program of Ottawa](#)
- [College of Family Physicians of Canada](#)
- [Healthy Ontario](#)
- [Canadian Cancer Society](#)
- [Eat Right Ontario](#)

### My Bookmarks

Add Bookmark

Anyware Home Page

### My Blood Pressure Goal

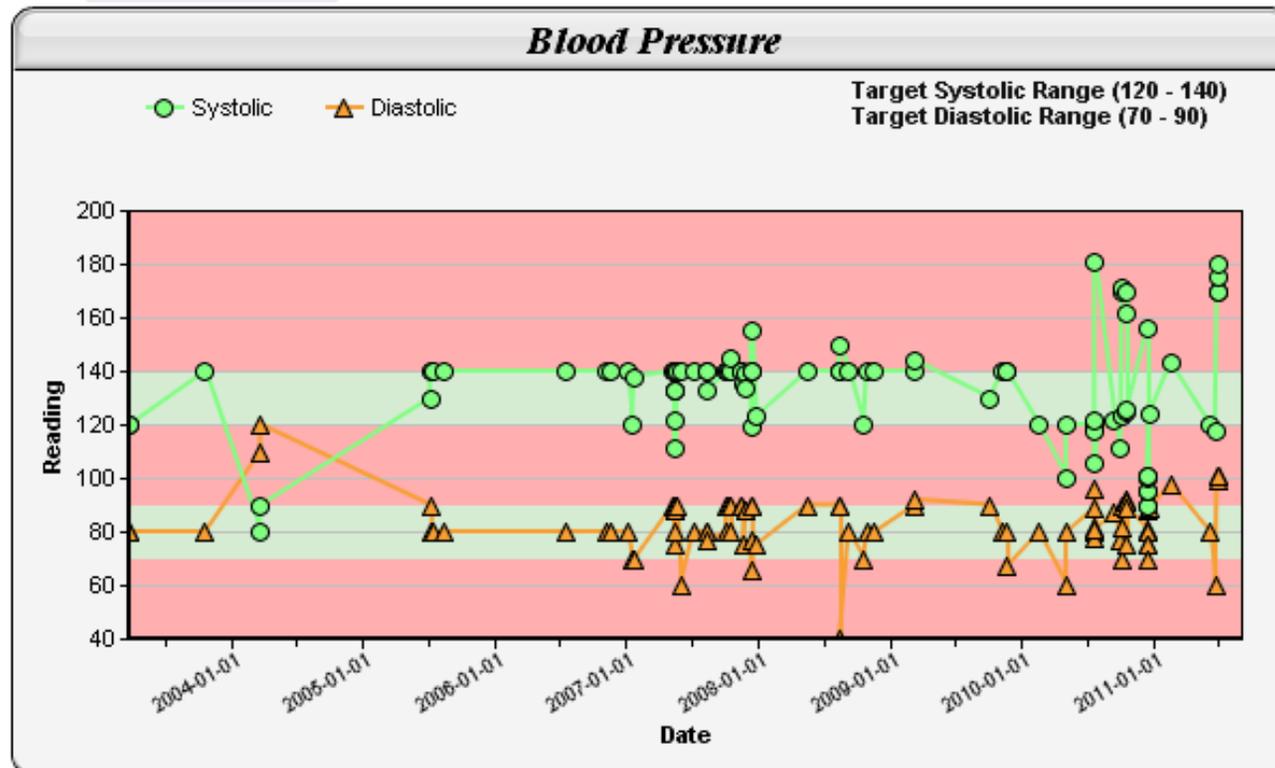
	Goal Title	Target
	better manage bp	120 / 80

### My Blood Pressure Education

[Hypertension Canada](#)

### My Blood Pressure Results

View:  ▼



### Ask A Question

#### Question

[View Questions and Answers](#)

Disclaimer: Please note that this feature is for non-critical type questions only. In case of emergency, contact your doctor or local hospital emergency department

### Ask a New Question

**Subject:**

**Question:**

Submit Question

Clear Form

# Future Features (6 months)

- Health Maintenance Plans
- Add BMI, Haemoglobin, Sodium
- Appointment booking
- CVD Risk Calculator
- Drug List

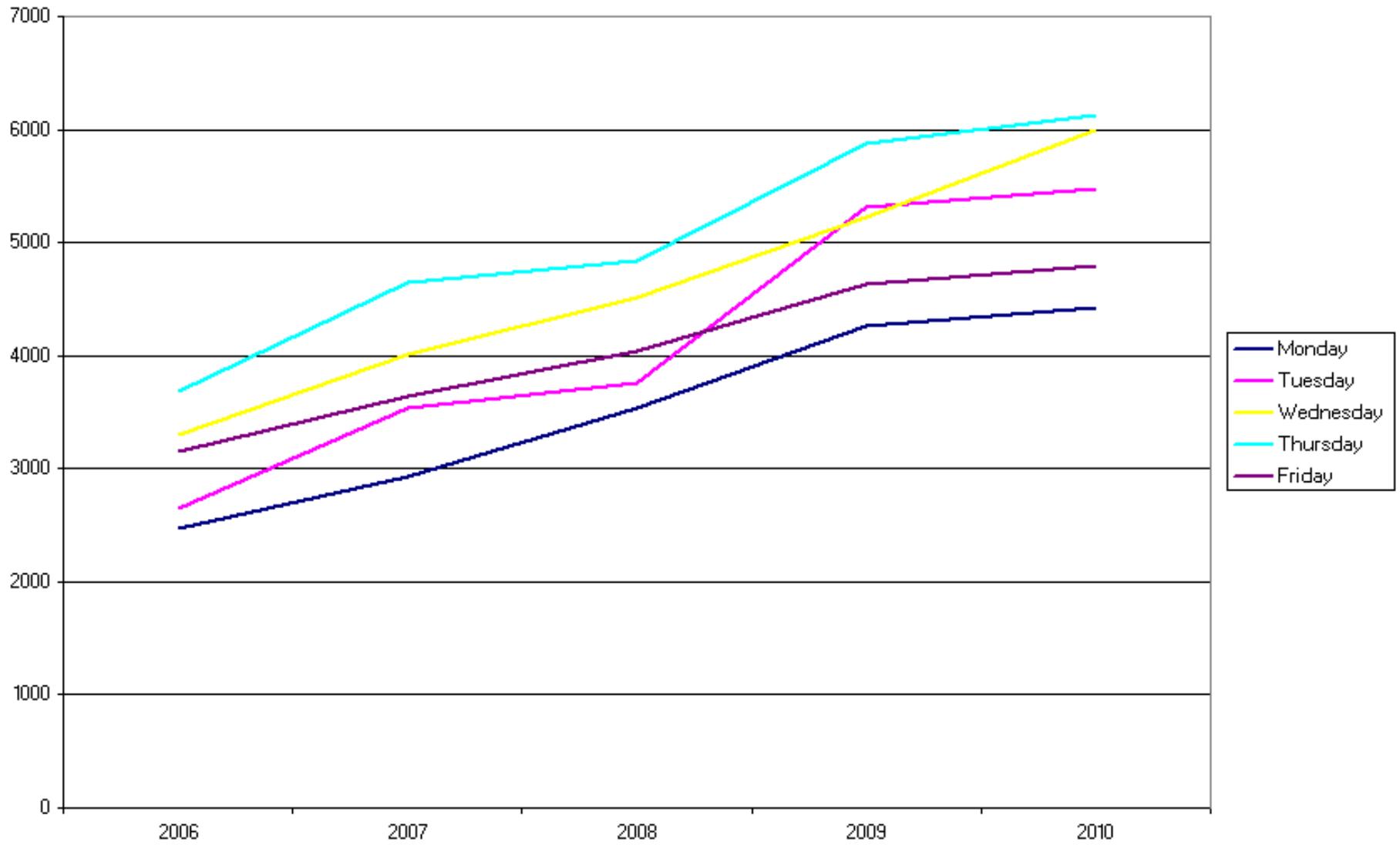
# How we did this.

- IT Contractor for internal custom development work.
- Outsourced:
  - External web site
  - Patient Health Portal
- All designs done by our staff & Docs.

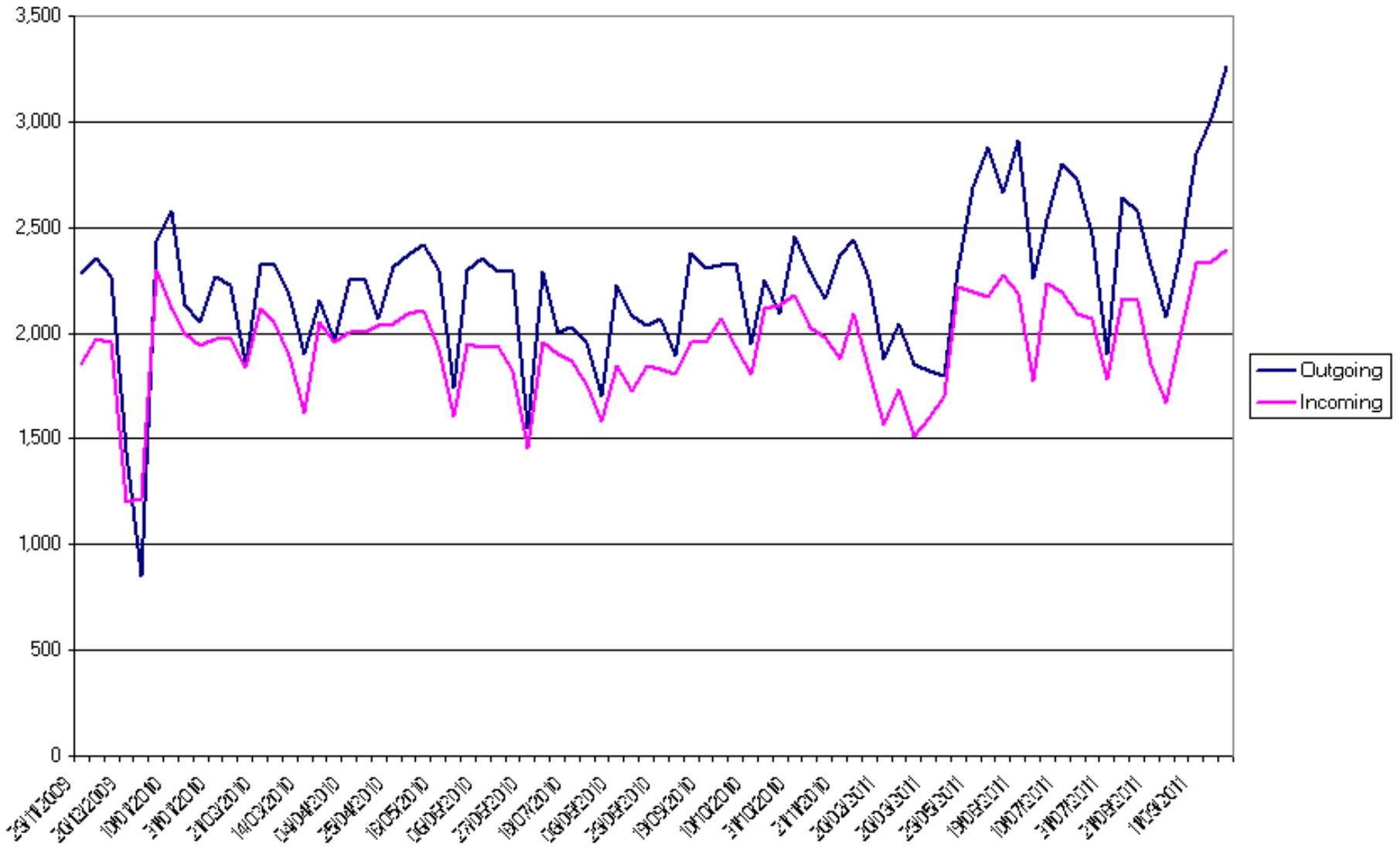
# Other Initiatives

- Registries –
  - Diabetic
  - Hypertension
  - CHF
- Reports – Quality analysis, Logs, Billing errors, and many more...

### Acute Care Appointments



### Telephone Calls



# Contacts

- Nova Networks – 888.296.6682
- AnyWare Group – 888.894.7793