

## case study: Hamilton Osteoporosis Diagnosis Services Inc.

### background

The Hamilton Osteoporosis Diagnosis Services Inc. (HODSI) is a set of 8 medical offices specializing in the discovery and diagnosis of bone density related illnesses. HODSI uses advanced scanning equipment to capture images and statistics of critical areas for each patient. HODSI also serves as a repository of data for research firms and pharmaceutical companies. The information obtained at HODSI, coupled with research studies, leads to advancements in modern treatment of osteoporosis and other bone density related illnesses.

### problem overview

The health care industry has always been one that sees a great deal of change. Technological advances in the field of medicine occur on a daily basis. However, in contrast to the rapid advances in medical technology the patient and office management processes are lagging behind and doctors are feeling the strain of administrative work. In December 8, 2003 an article published by MacLean's Magazine entitled "*The doctor is in... pain*" stated that "60% of family doctors say billing and paperwork take up from 10% to 25% of their time - 21% say It's even more". Furthermore, the article also shows that 86% of surveyed doctors feel that their time spent on administrative matters has worsened over the past decade.

### *issues facing the client*

- ⇒ Excessive amounts of paper work
- ⇒ No clinic interconnectivity
- ⇒ Possibility of anomalies in data
- ⇒ Increased shipping and supply costs
- ⇒ No advanced search capabilities of patient records
- ⇒ Inability to quickly gather statistics
- ⇒ Long turnaround time on report generation
- ⇒ Increased labour required to manage patient records and scheduling
- ⇒ Manual billing consuming man hours and contributing to anomalies in data

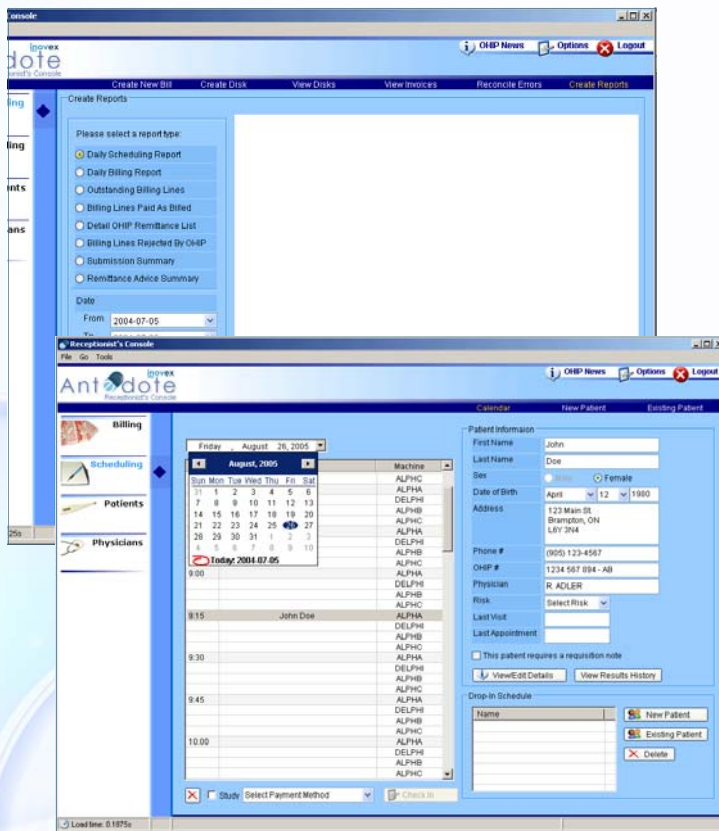


## solution

After performing a detailed work domain analysis of HODSI, Inovex was able to identify the issues listed on the opposite page. The next step involved designing an interconnected office solution to suit their needs. After careful consideration, and numerous designs, Inovex decided to use a combination of Windows based software and a web interface to provide HODSI with the interconnectivity and accessibility they required. This suite of software, known as Inovex Antedote, contains a set of tools that can be adapted for use in any clinical environment.

## software components

### Receptionist's Console



This module of the Antedote suite is responsible for scheduling new patients, validating health cards, creating new patients and physicians, managing the relationships between physicians and patients, entering patient results, and managing bills and bill submission. Results entered are used to automatically generate new bills. The bills can then be submitted electronically or by disk depending on the interface used by the local billing agency.

Furthermore, custom billing and scheduling reports can be generated through this console. These reports are highly customizable and can be built to meet the needs of any institution.

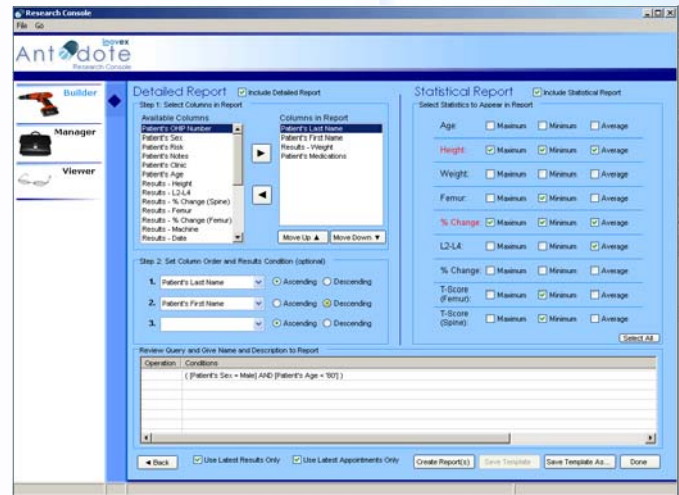


## software components

### Research Console

The Research Console is a unique tool developed with flexibility and ease of use in mind. The purpose of this console is to provide the user with the ability to generate reports and retrieve data dynamically.

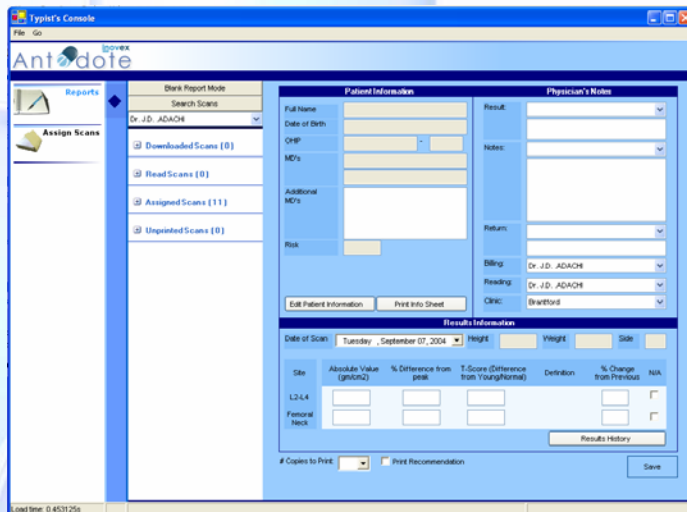
The user has the ability to create any statistical report they wish. They can export these reports to Excel, save them as a template to perform on a recurring basis, or simply write them to file for later use. Custom built reports are created with little turnaround time, making HODSI an attractive research partner.

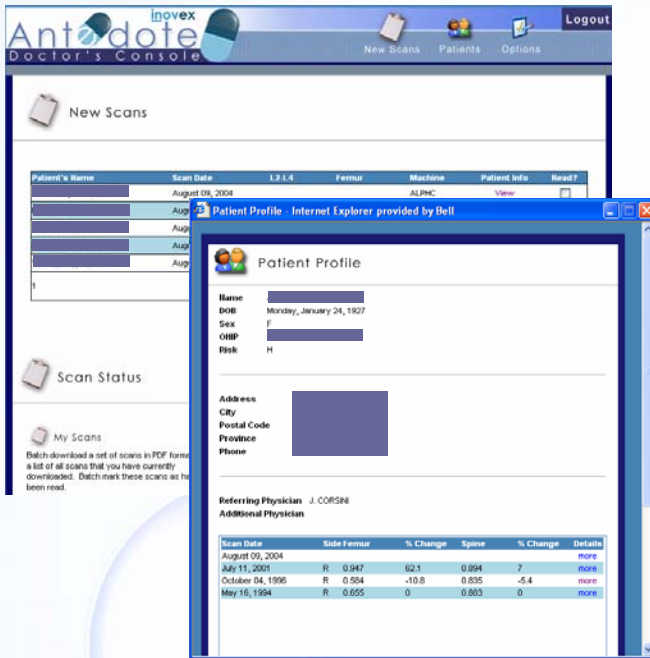


### Typist Console

The Typist Console is the final step before automated billing. Any additional comments from physicians are entered into the patient's profile in addition to the results of the corresponding visit. The user can record results for all clinics from one location. They can also perform these actions through the web interface.

This console gives the user the ability to assign volumes of patients to the physician of their choice for billing and analysis.



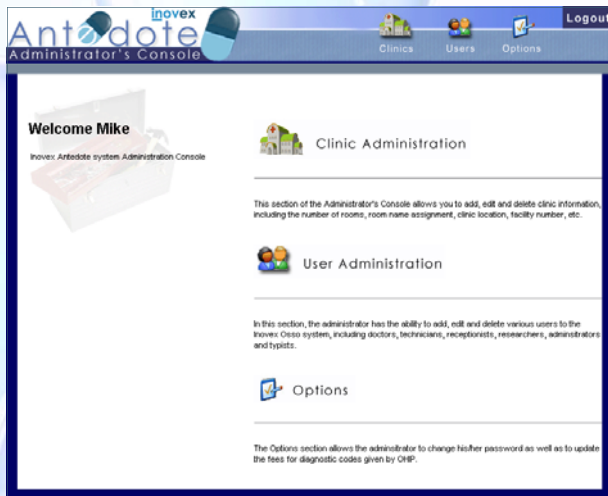


## Doctor's Web Interface

In addition to the windows based software there is a secure web component to the Antedote suite. The Doctor's Web Interface allows physicians to view and edit patient information from anywhere. After the patient's visit, their scans are converted to digital form and linked to their profile. Once their results are entered the typist will assign them to a physician for analysis. This physician can then download the patient's scan, edit their results, and even view their history all via the web.

## Administrator's Web Interface

All administration is also performed over the web. New users and clinics can be created. In this manner Inovex Antedote can grow as the number of medical clinics it services does.



## Scan Conversion

The scan conversion component of the Antedote suite runs behind the scenes to convert scans to digital form. This component periodically checks each scanning machine for new printouts. If there are new scans printed, the software extracts information from the scan and uses this to find its corresponding match in the patient database. These scans are then converted from their original form into PDF format allowing users of the web interface to view, or even reproduce, these scans for analysis.



## benefits

Using the Antedote suite HODSI enjoys the following benefits:

- Eliminated paper trail
- Quick search capabilities that drastically reduce research time
- Reduced research time that results in increased studies
- Office interconnectivity making patient management and accounting a breeze
- Ability to schedule for all clinics from a central location
- Remote reading and analysis of patient information and medical scans through secure web interface.

Inovex Antedote caters to the issues facing HODSI, creating a highly beneficial tool that has ultimately decreased administrative overhead and man hours while increasing data accuracy and accessibility.

## Problems solved

## Solution Components

	Excessive Amounts of Paperwork	No Clinic Interconnectivity	Possibility of Anomalies in Data	Increased Shipping and Supply Costs	No Advanced Search Capabilities of Patient Records	Inability to Quickly Gather Statistics	Long Turnaround Time on Report Generation	Increased Labour Required to Manage Patient Records and Scheduling	Manual Billing consuming man hours and contributing to anomalies
Receptionist's Console	✓	✓			✓	✓		✓	✓
Research Console	✓	✓			✓	✓	✓		
Typist's Console	✓	✓	✓					✓	✓
Doctor's Web Interface	✓	✓	✓	✓	✓	✓			✓
Administrator's Web Interface		✓							
Scan Conversion	✓	✓		✓					