



CUSTOMER USE CASES FOR IPEOPLE ECHO

Vancouver Island - Jay O'Donnell

"IPeople Echo was initially purchased for use at the Island Health Authority to provide detailed GL JV detail data that was not available in the MT DR at the time nor could it be generated with an NPR report since the amount of data was too large to run daily as required for the GL subject area build on the data warehouse. Since implementing IPeople Echo we have also found that it not only provides us with access to the MT GL detail data but it also gives us access to many other tables that were not available in the MT DR including dictionary and audit tables which have been very helpful in building other DW subject areas as well as providing data for some relational reports and queries used for the business. The ability to search for MT tables and fields and preview the data has also been a very helpful in IECHO. I think the most valuable thing about IPeople Echo is the reliability of the data since the MT DR has historically had issues with missing and corrupt data that needed to be updated and cleaned up that usually involved MT support however with IECHO we are in complete control of the data we download and can schedule the downloads as needed (usually once a night) so have found the IECHO data much more reliable as a result. "

Cape Regional Hospital - Mike Thompson, Manager Revenue Cycle Systems

"Things are going well regarding ECHO and IPeople support. One thing we struggle with is that as a small community hospital, we maintain a small IT staff and do not have a DBA on staff. This typically isn't an issue as we rely on vendor support if there should be any problems with any of our applications. Although we know that IPeople is not responsible for our SQL Server installation, we appreciate the support and guidance to insure we have things set up correctly and in the most efficient way possible. We use Echo as our Revenue Cycle data repository/reporting solution. We pull all of our MEDITECH data into our IPeople Echo tables for reporting and to maintain a historical copy of our data which is eventually purged from MEDITECH. We also have views which tie together the data from our previous data repository and the IPeople data which we pay monthly maintenance on as well. We depend on IPeople to support these downloads, views and the data issues we encounter from time to time. I believe this has been a successful partnership and look forward to moving forward together."

Huron-Perth Healthcare Alliance - David Rothbauer

"Anyone whose worked with the MEDITECH Magic Hospital Information System knows that sometimes it can be a challenge to pull useful and timely statistical data from it.

Late last year, the Huron-Perth Healthcare Alliance implemented the IPeople Connect product which includes IPeople Echo, an application that allows us to build our own SQL Server based data-repository, specifying what data we want



from our MEDITECH system, and how frequently to update it. What this does is allows us to provide our client base with a broad range of reports and reporting tools instead of the text based reports generated by MEDITECH's NPR report writer.

One of the very first requests we received was to provide near real-time patient census data. The project, dubbed **Atlas**, asked for many data elements including empty beds, occupancy rate, isolation patients, and ALC patient counts. Anyone who has ever faced pulling data from MEDITECH knows that it be difficult figuring out where the data is stored.

With the help of IPeople Scout, an application that allows us to search the table/fields and view joins, we were able to find the best MEDITECH source table giving us the bed census data for each location, as of the midnight run on any given date. While all this *seems* straight forward, there was a complication in how to define a bed.

I know what you're thinking, "a bed is something that you sleep in, or on...and its where hospitals keep patients!". You'd be correct, except that our organization may have several entries for the same physical bed in the MEDITECH dictionary. The reason for this is that some beds may be either acute, or chronic. It all depends on what type of patient gets admitted.

My preference is that data elements be identified programmatically. After spending several hours running test queries, trying to ensure that our virtual bed count matched our physical bed count I realized that this was impossible. The reason is that those pesky humans might get in there and create a bed that wouldn't fit the existing naming convention. I opted instead to use an associative array within the PHP script that contained the official bed counts for each facility and location. The next, and most difficult challenge to solve, was how to identify ALC patients.

For those unfamiliar with the term, ALC means (*Alternative Level of Care*). This term refers to patients occupying acute beds, who are ready for discharge, but do not have a place to go. They still require care (long term facility, chronic or palliative etc.), but there are no beds for them to go to.

When I first reviewed the specifications, I figured this would be a flag, perhaps a custom query somewhere within ADM. I was somewhat mortified to learn that the only way to identify an ALC patient was through ALC orders. This was complicated by the fact that a patient who has been in hospital for some time, could be designated ALC several times through their stay.

Within the organization we have several ALC order types in our OE.ORD dictionary.

- Identify: *indicates that the patient is an ALC patient*
- Change: *changes the order*
- Discontinue: *discontinues the order, however the patient remains in that bed, and*
- Discharge: *the patient is discharged*

It took several days to work this out, and it was only with the assistance of our Nursing Informatics team, as well as input from Bed Management that I managed to figure it out at all.

In order to identify, and add a patient to the ALC tally, while compiling the information, I was able to query OE.ORD for each in patient, looking for any ALC orders for their current visit. I pull the data sorted in descending order by order date and time.

This is the logic I use:



- *If the query gets no results, then patient is not now, nor has ever been an ALC patient. I then set the ALC flag within the XML node for this patient to “no”.*
- *If there are results, I check to see if the last result is a discontinue or discharge. If it is, this indicates that the patient was an ALC patient. I set the ALC attribute to “expired” for these patients.*
- *The only option left at this point is that the patient is an alc patient. I increment the appropriate counters, and set the ALC flag to “yes”, which is used for display and functionality as the user can pull up a patient’s entire ALC order history in this case.*

Other data types, such as Isolation and Pending Discharge are determined by checking custom query fields which are exported into the SQL Server database. All this information is formatted into an XML document by a PHP script. In order to save time on processing, the script is run every 10 minutes by a cron job, and the results written to a file on the web server. When a user accesses the Atlas home page, it is this file that is accessed, saving the user a long wait each time they go looking for data. There is functionality that checks the age of the data, and, if it is older than 10 minutes, the user be flagged, and notified to call IT to report a problem. The front end is a simple web page, with JQuery/javascript programming that will take the XML document and dynamically create tables using Document Object Model traversal methods. The user has the ability, via checkboxes, to limit which sites within the organization they want to see. Upon page load, each site is collapsed. The user can view or hide site specific locations by clicking on the desired site.

Other functionality includes the ability to view a list of patients in each location. The list only uses account numbers, reducing the risk of a privacy breach. Within the individual patient list, the user can view a history of ALC orders for patients that have them. They can also view a list of patients for whom there is a pending discharge. Managers and other stakeholders receive a static copy of this report via email every morning at 7am.

The IPeople DR, combined with the ability to use modern programming languages has allowed us to improve patient flow, and service delivery to our patients.”
