



## **Cost Reduction, Revenue Enhancement and Productivity Improvement through Integration**

There are significant revenue enhancement and cost reduction opportunities today that are not being fully exploited by physician groups and hospitals. This paper will elaborate on some such opportunities, related integration aspects to realize the gains from such opportunities and what CTech has been able to offer to its clients in this regard:

### **A. Different Practice Management (PM) and Electronic Health Record (EHR) Systems in Physician Offices**

As PM and EHR systems have evolved over the last few years, it is now very prevalent to have PM and EHR systems from two different vendors. A single-vendor functionally robust integrated PM/EHR system is an ideal situation. However, often times its PM/Billing solution is not as rich in functionality compared to other best-in-class PM/Billing solutions. On the other hand, EHR functionality of a single-vendor integrated PM/EHR system does not compare well with what other robust specialty-specific EHRs offer. Then there are other common scenarios where hospitals have provided PM/EHR solutions to physicians and in turn physicians, for various reasons, have chosen to continue to utilize legacy or another PM/Billing system.

In all the above situations, to get information from one system to the other, the only way is to do double data entry of patient Demographics, Insurance, Appointments and manual entry/reconciliation of charges generated out of EHR. This is an expensive and error-prone way that causes significant wasteful spending, whether billing function is conducted by the physician's staff or by a third-party billing agency.

### **B. Professional Billing for Hospital-based services**

Hospital-based Practices have the major issue to keep a track of and reconcile rendered versus billed procedures, consults, H&Ps etc. Such process is almost always manual with physician or third-party billing staff accessing Census information from the hospital system, usually through on-line view access, custom spreadsheets or just paper. Physicians are often times carrying note cards, crumpled pieces of paper in their coat pockets, homegrown "super bills" and often forget to turn some of those to their billing staff. Some of the rendered services that sometimes do not even have an order entered in the hospital's systems never get billed.

Traditionally, some hospitals have been providing demographics and charge information to the professional groups covering services like Radiology, non-invasive Cardiology, Anatomic and Cytopathology, Anesthesiology etc. Depending upon the size and sophistication level of hospital IT and physician's IT staff (or third-party billing agency), such information can come as a report, TXT, CSV, Excel, delimited file or a real-time/batch HL7 format.



However, even at the highest level of sophistication (e.g. a real-time bidirectional HL7 interface), full potential of cost reduction and revenue enhancement is not realized. To go over the reasons behind it, here are some specific examples in the following areas:

### **Radiology**

In case of outpatient Radiology, if the hospital provides proper CPT code and Dx information, through an HL7 interface, creation of a charge can be automated for all practical purposes. However, that is not the case for inpatient Radiology services. While for the outpatient charges, the diagnosis for the procedure is provided by the Ordering Physician that is not the case with inpatient Radiology. Inpatient encounters are coded by the hospital staff. There is often no one-to-one correspondence between Radiology procedures and the diagnosis related to that procedure. For professional billing such correspondence is required and that typically will require intervention by the billing staff (physician's or third-party billing agency). However, this manual intervention can be eliminated to a great extent by intelligently matching through computer-based logic CPT codes for the procedures with one or more of the diagnoses applicable to the inpatient encounter.

A simple HL7 interface cannot handle this. For inclusion of such logic, either hospital sending such charges has to utilize scripting language of HL7 Interface Engine (e.g. TCL) or receiving system needs a robust Application Programming Interface (API) capability to include such logic. Majority of hospitals do not like to introduce any scripting language at the Engine level but rather use it only for store-and-forward function. The logic is handled best through a Middleware that accepts input in form of any electronically readable data, applies specific business rules, conversions, exception handling and then produces an appropriate output for importing data into the recipient system. Middleware can then handle robust reporting and log capability as well.

### **EKG Interpretations**

This is a high-volume low reimbursement activity that few want to deal with. Cost of billing such services is disproportionately high and as such number of physician groups have negotiated a fixed amount for such services and shifted the burden to bill such services to the hospitals. Revenue Cycle Management function of hospital is typically judged by days in receivables and sending such low value claims is of little interest....several don't even care to bill with the underlying reason that it takes more dollars to bill than the potential reimbursement amount. However, for a large volume, these dollars add up even at \$7-\$12 per EKG interpretation.

A good solution for the hospital in this case would be to outsource the EKG Interpretation professional billing and negotiate a competitive fee by providing necessary electronically readable data required for robust integration that automates the process as much as possible. Without any provision for such integration, it will not be cost-effective for the third-party billing agency that receives such work and the same issue would simply have been passed on to the agency. Similar to Radiology example above, a Middleware solution can accept HL7 data from the hospital and apply business rules, conversion and exceptional handling logic and automate claim submission to a large extent.



## **Clinical Pathology**

Majority of third parties do not pay for professional fees associated with clinical laboratory activity however some of the Pathology groups bill for these services in the hope of collecting a small portion (3-5%) of the total activity. In view of a small % of payers paying for these services, it is important that the information coming from the hospital or the Lab is flowing into the professional billing system in an automatic fashion to realize any net benefit. Here again, a Middleware approach greatly automates claim submission and makes it economically feasible to do so.

## **C. Ambulatory Procedure Coding (APC) Billing for Acquired/Contracted Services**

Over the last several years, Hospitals have acquired practices for controlling market share and also for improved Medicare/Medicaid reimbursement. Although the benefits for improved Medicare/Medicaid reimbursement have reduced significantly because of the new regulations/policies, the increased market share motive still remains. Majority of the hospitals do not have good billing systems to bill for professional charges. These acquisitions in particular have had a dramatic impact on third-party billing agencies (and the PM/Billing software vendor) with many losing their acquired clients' professional billing business altogether to hospital's CBO at times because the capability to export data in right format to the hospital does not exist with the PM/Billing software in use. Rather than sever the relationship for all professional billing activity from physician's or third-party billing agency, a cost-effective solution for such hospital-based practices would be to continue to use existing professional billing system and just change the Location of Service for the third-party that UB04 bill for the APC will be sent to. All CPT and Dx data can then be easily extracted from the professional billing system on a regular basis and fed to hospital's billing system in the desired format.

## **CTech's Solution**

All the above scenarios, if handled manually, can not only be very costly and error prone, there is every possibility of revenue leaks – in these days of declining reimbursements and collection issues with high-deductible plans, every penny counts.

To solve some of these issues, there are solutions available in the marketplace – of note, point-of-care Mobile Charge Capture is somewhat popular but has the same issue of populating the device with Census information obtained from HIS or third-party EHR. The method also entirely relies on the physician to enter the charges accurately and timely, an assumption that does not always hold true.

There are also conversion solutions available in the marketplace that convert and map HL7 data or electronically readable data. Such solutions typically have to be installed on-site and do not offer the level of sophistication required to drive full value of an integrated solution. They also are inflexible and require a lot more time (next version upgrade!) to make simple client-driven changes. They are also IT "intensive" for the clients and not in line with the general industry direction towards hosted and cloud-based delivery.



CTech has been working to mitigate these issues and has developed a robust Middleware solution (CTechNexus®) that addresses them and dramatically improves productivity in the following manner:

- CTechNexus® accepts any form of electronically readable input from/to PM/EHR/HIS system(s) – HL7, XML, HTML, TXT, CSV, XLS etc. so any sending system does not have to modify anything on its end. CTech has direct integration experience with systems such as AdvancedMD®, AllMeds®, AmazingCharts®, GMed®, Epic®, AllScripts®, GE®, MediTech®, SMS®, MedSym®, Soapware® and many more. CTechNexus® is technology-agnostic and rather relies on electronically readable input from the sending system and capability of the systems to import external data as needed.
- In line with the growing popularity of hosted and cloud-based delivery, CTechNexus® operates as a hosted solution thereby eliminating any need on the Client's side for expensive IT support.
- Since it is a hosted solution, functional modifications and enhancements can be done quickly thereby making the solution highly customizable versus an on-site system.
- For hospital-based practices in particular, CTechNexus® has the capability to reconcile Census information with corresponding charges thereby creating a robust mechanism where all rendered services are certainly billed.
- CTechNexus® produces ample logs and reports to provide transaction-level detail so each line item is accounted for and can be audited. In other words, there is complete chain-of-custody established here with insight into repetitive issues and exception handling.

CTech's solution is being extensively used by several clients and payback period on initial investment is within 3-6 months with on-going and sustainable hard savings from then on. Some clients have been able to cut their labor expenses by 50-70% by using the integration solution.