Transforming the implant bill-only process

How UChicago Medicine improved workflow, transparency and efficiency

Key points

- The implant bill-only process is filled with multiple challenges and inconsistent, manual processes that affect providers, clinical staff, finance and sourcing teams and suppliers, and cost health systems valuable time and money.
- Putting the healthcare provider in control of the billing process improves key metrics such as contract compliance, pricing accuracy and billing cycle.
- UChicago Medicine implemented a cloud-based solution, coupled with process improvement, automating the end-to-end bill-only process — achieving an estimated value of $200,000 in annual cost avoidance savings for all service lines.

The implant supply chain and bill-only processes are riddled with challenges that affect providers, clinical staff, finance and sourcing teams, and suppliers. Manual procurement processes with little oversight or accountability increase the likelihood of ordering errors, resulting in millions of dollars of undermanaged hospital product. Inconsistent systemwide manual processes reduce visibility to necessary information and create a drain on employee time.

Disconnects among bill-only workstreams and multiple information technology (IT) systems make contract compliance and optimal price enforcement more difficult. For example, early process breakdowns in implant billing occur during case scheduling due to lack of product standardization across scheduling systems and physician offices, while a lack of communication between providers and suppliers regularly leads to off-contract product use. However, with implants and related accessories representing a significant portion of surgery spend, optimizing product selections that align with contracted suppliers is crucial to time and cost efficiencies.

The highly complex nature of implant surgery requires careful pre-procedure selection of appropriately sized products and accompanying supplies and instruments. When surgeons use items that are not prepurchased products, supply chain teams often have a harder time reconciling billing and accounting.

Ultimately, these unresolved issues also affect post-surgery and support areas where staff wastes significant time researching and correcting the discrepancies.

Common bill-only implant supply chain challenges:

- Labor shortages
- Manual processes
- Lack of visibility
- Contract compliance
- Pricing discrepancies
- Billing reconciliation

Bill only: With respect to surgery, bill only typically refers to products delivered the day of or the day prior to a procedure, most often by a supplier representative. Because of the specialty per surgeon and patient, and cost, the hospital inventory does not have a record of these items as it does for most products. The bill-only process involves purchasing and paying for these goods after they are used.

What is Surgery Exchange?

In September 2021, Vizient announced a strategic partnership with Surgery Exchange LLC to enable greater access to a cloud-based solution that enables efficient surgery planning and case management. This collaboration creates both clinical and operational efficiencies by eliminating manual ordering, tracking and billing of implant bill-only cases by streamlining the surgery workflow.

The Surgery Exchange Platform, a comprehensive implant/bill-only process technology solution, allows members to automate their inefficient manual processes. Supply partners also benefit from the ability to add other supply chain technologies and applications to the platform, which can quickly automate and complement existing processes.

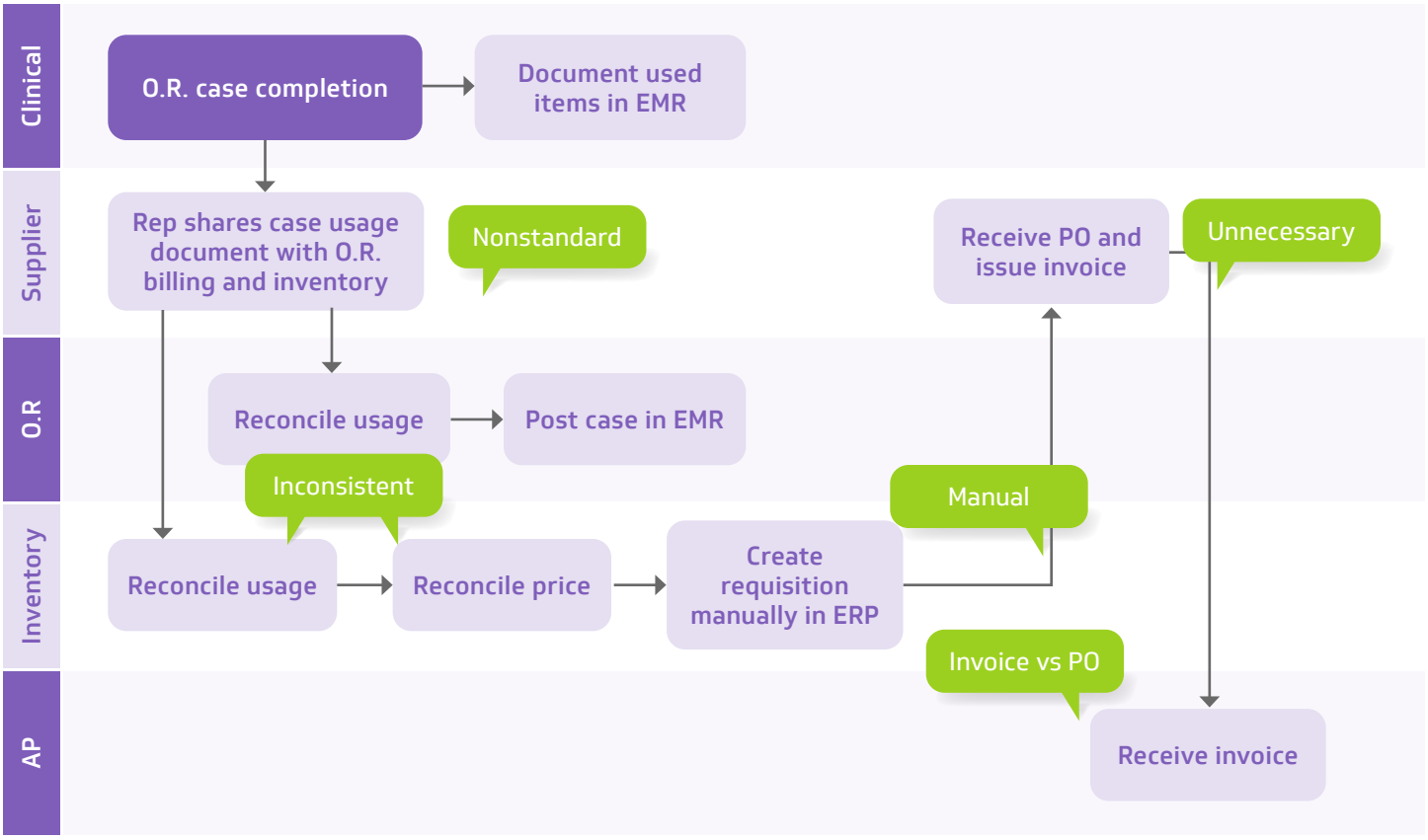
With many implant-related surgeries, providers wait until after surgery to submit details on the device and products used for procurement and billing purposes. With Surgery Exchange, potential contract exceptions or compliance concerns are identified prior to surgery — allowing providers to proactively resolve issues.

UChicago Medicine: identifying and resolving implant billing issues

UChicago Medicine (UCM) previously used a manual, inefficient implant billing processes, resulting in inaccurate purchase orders (POs), long payment cycles, invoice holds and off-contract purchasing. Data inputs also lacked standardization.

The UCM clinical team documents product use in the electronic medical record (EMR), while supplier representatives previously submitted product usage in various formats to the operating room billing and inventory teams. These teams then manually reconciled usage and price across the EMR, enterprise resource planning (ERP) and contracting systems to identify inaccuracies. The process was highly time-consuming and prone to error (Figure 1).

Figure 1. UChicago Medicine's former implant billing process



Abbreviations: AP = accounts payable, EMR = electronic medical record, O.R. = operation room, PO = purchase order
Source: University of Chicago Medicine, 2020.

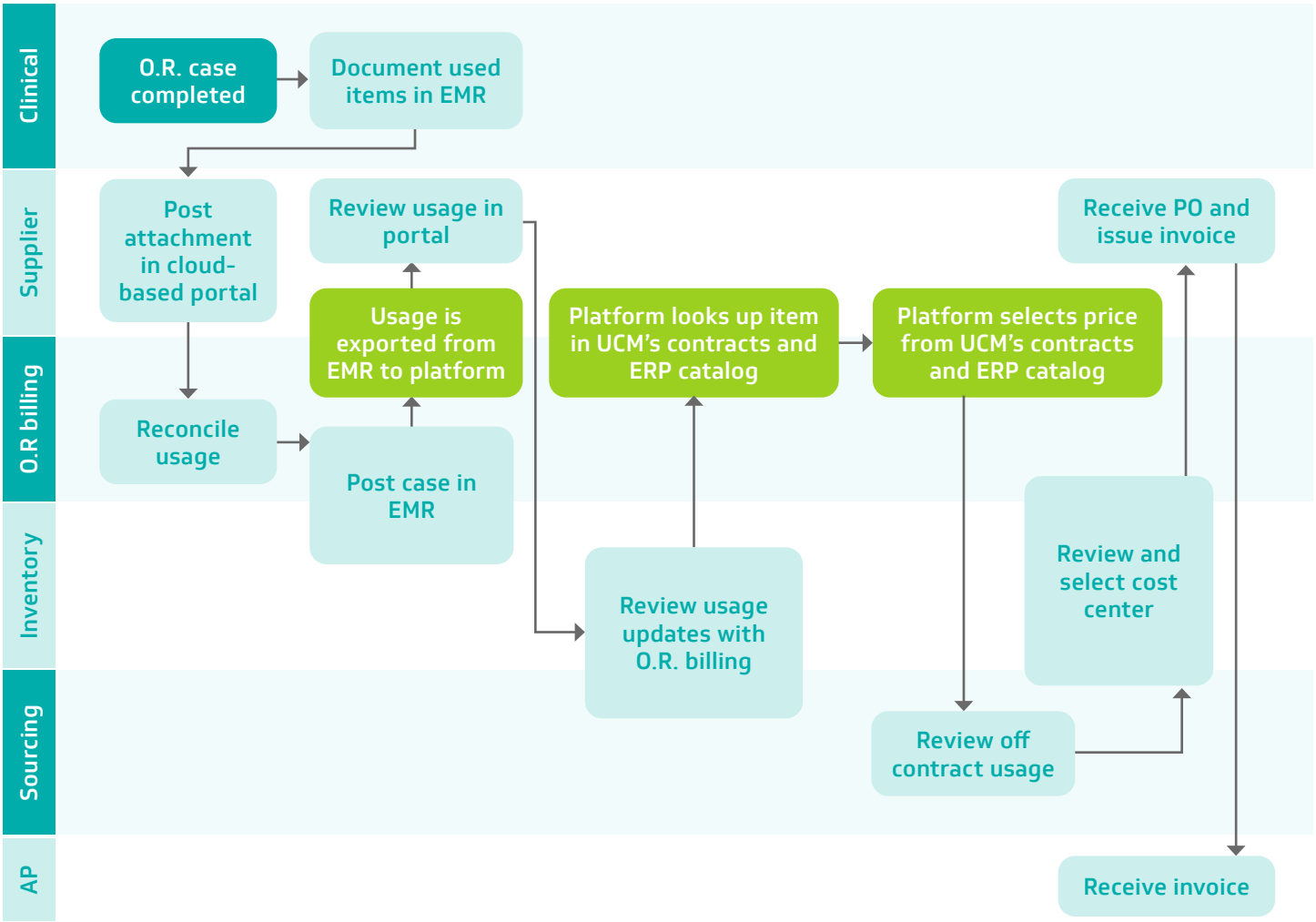
Standardizing and streamlining

UCM sought to automate bill-only requisitions using contract price and point-of-use information from its existing systems. The process improvement team wanted to standardize data input by staff and by supplier reps who participated in the process — while proactively validating price and usage early in the process. An ideal workflow would reduce unnecessary communication between O.R. staff and inventory, sourcing, purchasing, and billing teams — saving the organization valuable time and money.

To refine product data, UCM partnered with hospital billing solutions developer Surgery Exchange to implement a cloud-based platform that automates case usage import from the EMR that holds product use data entered by the clinical team, validates price and quantity, and creates requisitions to ERP, where purchase orders are generated and dispatched. UCM also relies on process standardization and ERP custom programs for greater efficiency and accuracy (Figure 2).

The collaborative project involved stakeholders in supply chain strategic sourcing, inventory management, information systems, purchasing, IT, and operating room billing and scheduling. To date, implementation is complete in nearly all service lines and UCM processes more than 70% of bill-only purchase order lines through Surgery Exchange, achieving an estimated value of $200,000 in annual cost avoidance savings.

Figure 2. UChicago Medicine's new implant billing process



Abbreviations: AP = accounts payable, EMR = electronic medical record, ERP = enterprise resource planning, O.R. = operation room, PO = purchase order
Source: University of Chicago Medicine, April 2021

Pre-transformation UCM implant bill-only process:

- **51.7%** of lines were noncatalog (manually typed)
- **50.5%** of these were items in ERP catalog (false noncatalog)
- **19.06%** of lines had a price mismatch
- **16%** of invoice holds were bill-only
- **40** hours required weekly to process bill-only requisitions

Post-transformation UCM implant bill-only process:

- Processing more than **70%** of bill-only PO lines through Surgery Exchange
- Automated the end-to-end bill-only process
- Reduced buyers' manual queue by **95%**
- Reduced case date to purchase order date time by **70%**
- Reduced bill-only invoice holds by **50%**
- Achieved estimated annual cost avoidance savings of **$200,000**
- Increased contract compliance
- Achieved proactive contract maintenance

Streamline the bill-only requisitioning process using a cloud-based solution:

1. Map current state (stakeholders identify opportunity areas)
2. Map ideal future state (stakeholders identify improvements and planned benefits
3. Design new workflow and automation solution
4. Test automation solution
5. Onboard and engage suppliers (staged approach)
   - Staged approach for onboarding suppliers
6. Onboard and engage clinical team
7. Track post-go-live progress
8. Manage ongoing efforts

Key takeaways

Transitioning from a manual to an automated process is challenging and complex. The UCM team knew that the compatibility of IT infrastructure would present difficulties as they began automating across four separate systems. The team aligned internal stakeholders to set clear expectations and secure cross-functional buy-in.

Like most hospitals, UCM uncovered some price misalignment within its own systems and between UCM and supplier systems. An extensive master data cleanup was crucial to successfully automate the bill-only process and align all data points for the supplier, the item and the price.

UCM categorized automation challenges into three primary areas — IT, people and data and determined focus points for each.

Challenges		
IT	People	Data
Lack of compatibility between ERP, contracting systems, EMR and cloud-based portal	Supplier engagement and buy-in	Price alignment between ERP and contracting system
	Internal stakeholders' engagement and buy-in	Extensive review of off-contract item use
		Extensive pre- and post-go-live master data cleanup
		EMR documentation

UCM perspective

"We no longer have nonstandard data input. The usage data is now coming from our EMR in a standard tabular form and the platform verifies prices from our contracts and ERP catalog — all automatically. If we have a noncontract usage or an item, it goes to our sourcing team to review and approve. Further, 99% of the requisitions coming from the platform are dispatched automatically, which allows our buyers to transition non-value at work to a value at work. This was not possible with the old manual process.

Our new process of automation, data standardization and early product validation has significantly reduced our inefficiencies and waste, and delivered sustainable value to UCM. We have reduced the time from case date to purchase order date by 70% and bill only invoice hold by 50%. And because we are feeding our contract and ERP catalog into Surgery Exchange and prices are being automatically identified and reconciled, we are able to increase contract compliance and improve our contract maintenance — leading thus far to an estimated annual cost avoidance of $200,000."

Hussam Bachour

Manager
UCM Supply Chain Systems

Looking forward

To achieve sustainable automation:

- Involve all stakeholders in the process, from technology selection to future state design to post-go-live support.
- Create feedback opportunities throughout the project and be receptive.
- Be prepared to manage expectations (issues surface early).
- Improve data quality and alignment between systems before applying new technology.

"It's essential to involve all stakeholders in the entire process and encourage continuous feedback," said Bachour. "It's not just about technology selection and process design. It's about discussing those issues that will come at every step, working on them together, managing expectations and establishing clear communication."