The Healthcare Analytics Summit 2021 *Virtual* Sept. 21 – 23, 2021 (half-day sessions)

- Industry-Leading Featured Speakers
 - Steve Kerr
 - Rana el Kaliouby, PhD
 - Vin Gupta, MD, MPA, MSc
 - Chris Chen, MD
 - Amy Compton-Phillips, MD
 - Brent C. James, MD, Mstat
 - Sadiga Mahmood, DDS, MPH
- 21 Educational Breakout Sessions
- CME Accreditation for Clinicians
- Analytics and Al Showcases, Networking, and More
- Virtual Platform optimized for a live experience

"The virtual experience was beyond any other that I've attended. You all did a wonderful job of creating an "in-person" feel and I appreciate that as a learner. The virtual platform was very intuitive and fun."







How COVID Has Impacted Hospital Charge Capture



Disclaimer Statement

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Agenda

Today we will cover:

- Identify areas of the facility most impacted by the pandemic
- Identify area of potential cost and charge implications
- Implications for preventative visits and primary care
- Charge capture and cost management more important than ever

Objectives

Today we will cover:

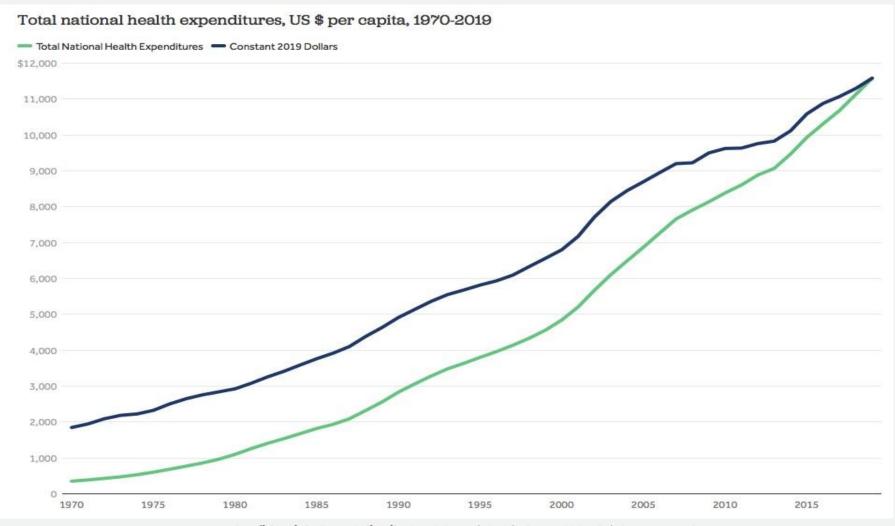
- Be able to state two areas of the facility impacted by the pandemic
- Be able to state why charge capture metrics are important post pandemic
- Be able to state why preventative services will need to be a priority
- Discuss why cost management becomes more important post pandemic

Overview of Pandemic Effects

Pre-Pandemic Baseline

US expenditures growing

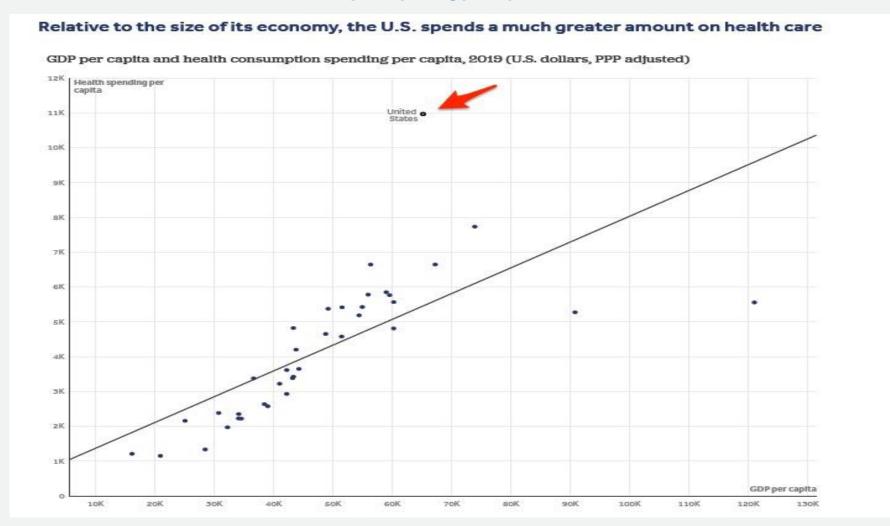
https://www.healthsystemtracker.org/chart-collection/u-s-spending-healthcare-changed-time/#item-usspendingovertime_3



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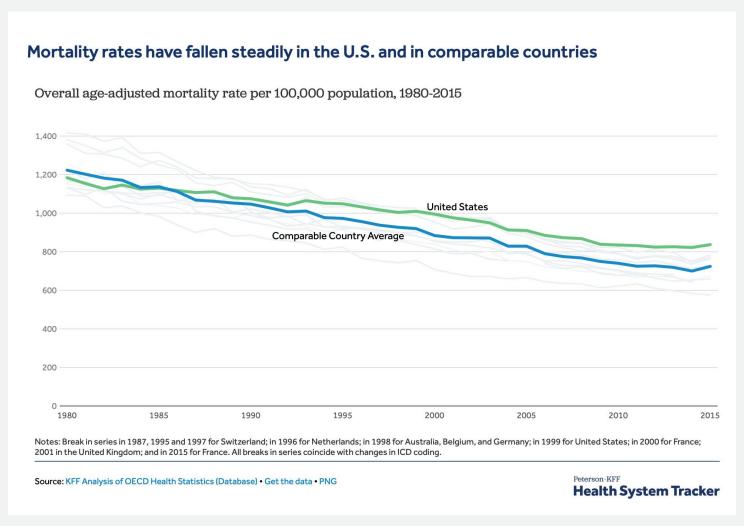
US Per Capita High Vs. World

https://www.healthsystemtracker.org/chart-collection/health-spending-u-s-compare-countries/#item-spendingcomparison_gdp-per-capita-and-health-consumption-spending-per-capita-2019



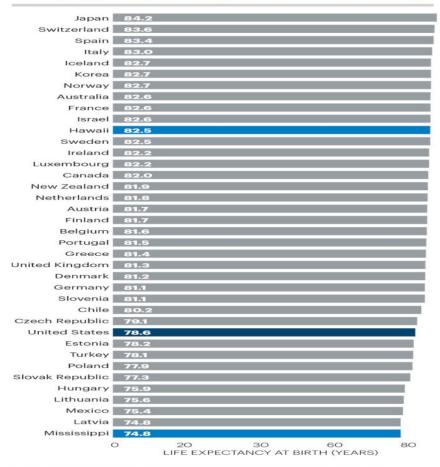
Mortality Not High Compared to Spend

https://www.healthsystemtracker.org/chart-collection/mortality-rates-u-s-compare-countries/#item-overall-age-adjusted-mortality-rate-per-100000-population-1980-2015-3



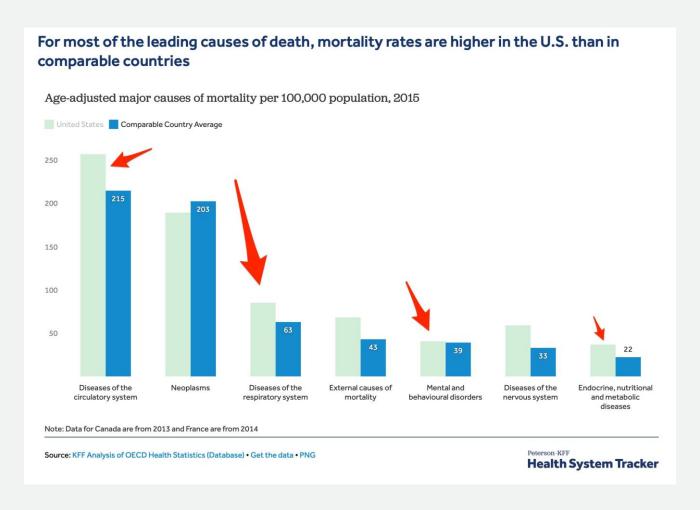
Longevity Lower

Figure 26
Life expectancy at birth by OECD member countries and top- and bottom-ranking U.S. states, 2019 edition



Data presented for OECD member countries came from the OECD Health Statistics 2019 online database for the most recent data year available. Life expectancy values for states are from Measure of America's *Mapping America: Health Indicators*. New York: Social Science Research Council, 2018.

Pre-Existing Health Concerns Significant Before Covid and Led to Poorer Outcomes



The COVID Pandemic

Sick Care Vs. Well Care Models

- The US is based on a reimbursement system that rewards for procedures and services rendered
- These services are generally rendered when a person becomes ill and they approach the industry for care
- In other countries, the debilitating factors are prevented by encouraging life long preventative services
- In other countries, reimbursement is driven by quality outcomes and community health versus volume of services rendered
- US started off the pandemic behind due to diseases that are endemic and to some degree socioeconomic

The Commonwealth Fund

Country	Total population, millions	Older adults, 65+ (%)	Older adults, 80+ (%)	Diabetes prevalence (current, type I, II) (%)	Hypertension prevalence (self-reported lifetime), 18+ (%)	Chronic lung disease prevalence (self- reported lifetime), 18+ (%)	Heart disease prevalence (self- reported lifetime), 65+ (%)
Australia	24.6	15.6	3.9	5.1	20	8	14
Canada	36.7	17.3	4.3	7.4	24	14	18
China	1409.5	11.2	1.9	9.7	- 2	-	_
France	66.9	19.7	6	4.8	18	13	16
Germany	82.7	21.4	6.2	8.3	24	6	22
Italy	60.5	22.6	7	4.8	_	_	-
Netherlands	17.1	18.9	4.5	5.3	17	9	18
New Zealand	4.8	15.4	3.6	8.1	19	9	9
Norway	5.3	16.9	4.2	5.3	24	12	19
Singapore	6.2	13.7	_	-	_	_	_
South Korea	51.4	14.3	3.2	6.8		_	_
Spain	46.6	19.2	6.2	7.2	_		-
Sweden	10.1	19.8	5.1	4.8	23	14	22
Switzerland	8.5	18.3	5.1	5.6	21	9	18
Taiwan	23.6	13.9	2.2	a. 	_	_	_
United Kingdom	66.1	18.2	4.9	4.3	18	8	14
United States	325.7	16	3.9	10.8	32	→ 15	→ 21

Note: - = Data not available.

Data: See Sources and Definitions in the Risk, Capacity, Affordability tables.

https://www.commonwealthfund.org/blog/2020/how-us-compares-other-countries-responding-covid-19-populations-risk-health-system

Other Impacting Factors

- Loss of employment and/or healthcare provided by the workplace
- Severity of co-morbid diseases present (obesity, diabetes..) creating poorer outcomes with COVID
- Isolation creating more mental health concerns
 - i.e. drug overdoses, increased suicide rates, lack of access to mental health services
- Inability to access a provider outside of Emergency Departments
 - Primary care overwhelmed
 - Shift to urgent care, convenience medicine (CVS, Walgreens) for testing and minor illnesses

Other Impacting Factors

- Stay at Home Orders:
 - Moved care into a "Zoom" environment with increased adoption of Telemedicine
- Hospitals confined to the sickest patients only
- Elective but non-emergent procedures delayed or cancelled estimated to be 161.4 billion (1/1-5/1/2020)
- Demand for specialty medical equipment and disrupted supply chains increasing costs due to low supply
- Staffing in facilities impacted front end workers became ill, burned out or financial impact of covid on staffing
- Fewer physicians than other countries therefore fewer visits

AHA Report May 2020

https://www.aha.org/guidesreports/2020-05-05-hospitals-and-health-systems-face-unprecedented-financial-pressures-due

- "...report attempts to quantify these effects over the short-term, which are limited to the impacts over a fourmonth period from March 1, 2020 to June 30, 2020.
- Based on these analyses, the AHA estimates a total fourmonth financial impact of \$202.6 billion in losses for America's hospitals and health systems, or an average of \$50.7 billion per month."
- Hospitals incurring costs to support providers child care, enhanced PPE, transportation and housing costs

AHA Report May 2020

https://www.aha.org/guidesreports/2020-05-05-hospitals-and-health-systems-face-unprecedented-financial-pressures-due

- "Claims were classified into three categories: emergency department (ED)-related; non-ED-related medical; and non ED-related surgical. Medicare revenues were calculated from claims data, and revenues for other payers were estimated using ratios of net revenues from the other payers to those from Medicare, derived from the ASDB. Three different levels of service interruptions under which hospitals may operate were then identified:
- Level 1: cancellation of 67% of ED-related services; cancellation of all non EDrelated services
- Level 2: cancellation of 67% of ED-related services; cancellation of 50% of non ED-related medical services; cancellation of all non ED-related surgical services
- Level 3: cancellation of 67% of ED-related services; cancellation of 50% of all non ED-related services

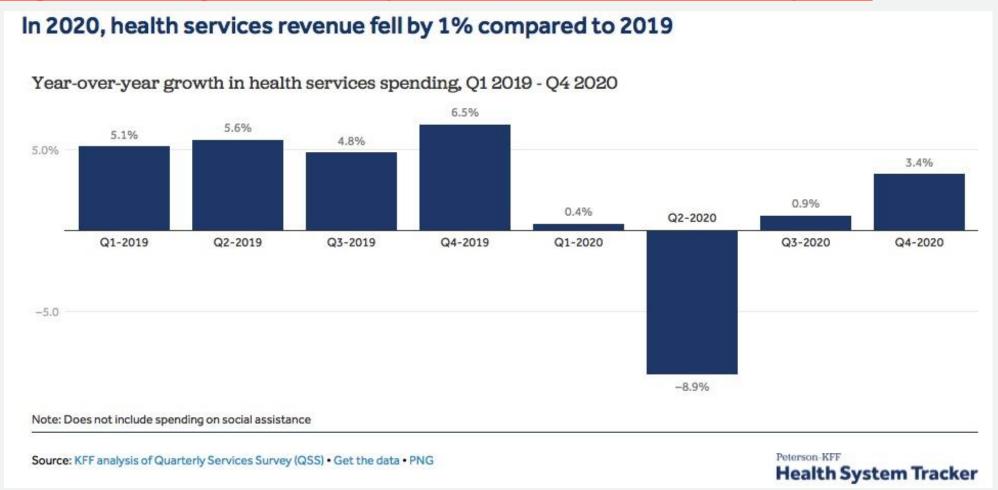
Finally, these levels of service interruptions were blended over a four-month timeframe to estimate the lost revenue due to cancelled services."

AHA Report March 2021

- Report issued by Kaufman Hall to the AHA in March 2021 analysis indicated:
 - A pre-pandemic baseline had 25% of hospitals with negative margins
 - With the post pandemic outlook
 - Optimistic view is 39.2 % with a negative margin
 - Pessimistic view has approximately 50% with a negative margin
 - Rural health will be severely impacted
 - Recovery will be based on multiple items as outlined in the report
 - https://www.aha.org/system/files/media/file/2021/03/Kaufman-Hall-2021-Margins-Report-final.pdf
 - https://www.aha.org/press-releases/2021-03-23-new-analysis-shows-continued-negative-impact-covid-19-hospital-health

HealthSystemTracker.org

• <u>https://www.healthsystemtracker.org/chart-collection/how-have-healthcare-utilization-and-spending-changed-so-far-during-the-coronavirus-pandemic/#item-covidcostsuse_marchupdate_7</u>



Picking Up The Pieces

Re-evaluating Where We Are At

- Cessation of "temporary hospitals" that were set up
- Beginning to see swing normal ICU admissions
- Vaccinations underway
- Initiation of non-scheduled procedures / surgeries again
- Re-implementation of scheduled procedures / surgeries
- Re-evaluating the charge capture process and ensuring that prior policies / procedures are still current and do not require modification
- May still see middle revenue staff working remotely

Post COVID Evaluation

- What are the revenue implications
 - Collections
 - Bad Debt
 - Payer contracts
- What are the cost implications
 - Supply chain
 - Pharmaceuticals
 - Cybersecurity
- What are the quality implications
 - Demand impacts quality
 - New quality metrics post-pandemic

Post COVID Elements www.healthcatalyst.com

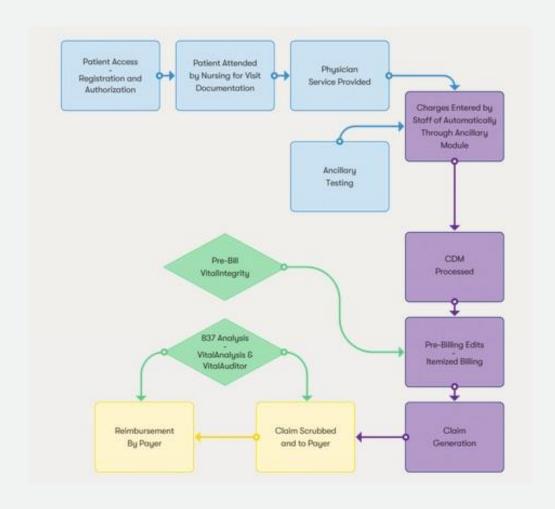


Revenue Impacts

Key Success Measures

- Increase primary care to accommodate services delayed during pandemic
- Institute elective procedures to create revenue
- Minimize cost to provide
- Maximize quality outcomes
- Continue to focus on keeping patient within the system
- Maximize population health to move from "sick" to well patient management

Revenue Cycle Flow



General Revenue Cycle Considerations

- Processes that work to increase patient involvement must take primary focus
- Aggressive programs that address cancellations and noshow rates will result in more patient revenue
- Multiple step internal controls to alleviate demographic, eligibility and authorization errors / inaccuracies
- Revenue cycle must audit through either software or manual approaches to increase clean claims, avoid charge leakage and prevent denials

Charge Capture and Cost Management

- Post pandemic revenue cycle contains two significant components
 - Charge capture
 - Ensuring CDM is current
 - Review preference cards for OR and Cath Lab
 - Utilize a process with or without software to review charges and endure that the correct charge and the correct CPT/HCPCS/Units of service on the claim
 - Decreasing reimbursement and increase in packaged services
 - Cost analysis and mitigation
 - Enhanced focus on utilization and practice patterns
 - Systems depending on data through cost accounting and activity based costing
 - Many facilities find more ROI in the cost management than the reimbursement

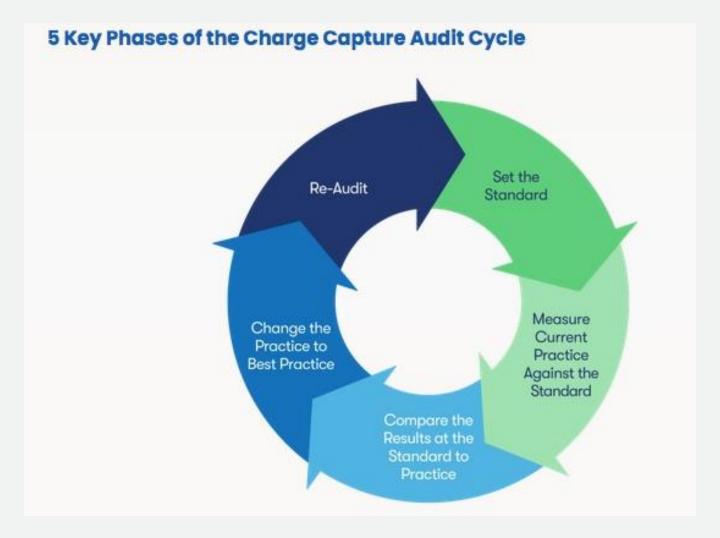
Charge Capture

- Hospitals again will focus on charge capture
- Software allows for 100% consumption of daily charges and sets of rules with targets and triggers to queue concerns

Rule ID :	Rule Name	Rule Scope	Service Area	Potential Net
23	Missing Blood Product	2019-12-13	Blood Bank	\$167.42
23	Missing Blood Product	2019-12-15	Blood Bank	\$167.42
23	Missing Blood Product	2019-11-10	Blood Bank	\$167.42
23	Missing Blood Product	2019-12-13	Blood Bank	\$167.42
23	Missing Blood Product	2019-12-11	Blood Bank	\$167.42
23	Missing Blood Product	2019-11-30	Blood Bank	\$167.42
23	Missing Blood Product	2019-12-10	Blood Bank	\$167.42

Charge Capture Audit

https://vitalware.com/resources/articles/how-to-design-a-hospital-charge-capture-audit



Primary Care Considerations

Primary Care Impact

- Review routine preventative screenings and identify those that are behind of missed all together
- For patients with active disease initiating care models and frequency are essential
- Many patients are unemployed therefore primary care will also need to focus on socio-economic and potential for coverage (i.e. Urgent Medicaid)
- Will need to be a source of education about the vaccine for those who are hesitant to vaccinate

Primary Care Impact

- Many commercial payers encouraging Telemedicine
- Preventative visits were delayed during the pandemic
 - Opportunity exists to re-engage patients on preventative care
 - Population Health now comes into focus more than before as it is a key and essential element of ensuring that screenings continue to occur
 - Co-morbidity (obesity, diabetes, hypertension and respiratory diseases) are higher in the US than other countries and a renewed emphasis on management and preventative services will continue
 - Fewer primary care providers and increased turnover in mid-levels will continue to challenge the services.

CMS Preventative Services

https://www.cms.gov/Medicare/prevention/prevntiongeninfo/medicare-preventive-services/mps-quickreferencechart-1.html

Medicare Preventive Services × Select a Service FAOs Resources Alcohol Misuse Screening Counseling to Prevent Cardiovascular Disease Colorectal Cancer **Bone Mass Measurements** Cervical Cancer Screening Annual Wellness Visit 🖪 & Counseling 🖪 **Screening Tests** Screening Tobacco Use 🖪 Diabetes Self-Management Hepatitis B Shot & Flu Shot & Administration Glaucoma Screening Hepatitis B Screening Depression Screening 🖪 **Diabetes Screening** Training 🖪 Administration IBT for Cardiovascular **Lung Cancer** Initial Preventive Physical Hepatitis C Screening **HIV Screening** Mammography Screening Disease 🖪 Exam Screening 🖪 **Medical Nutrition** STI Screening & Prolonged Medicare Diabetes Pneumococcal Shot & Pap Tests Screening **Prostate Cancer Screening** Prevention Program Preventive Services HIBC to Prevent STIs Therapy B Administration Screening Pelvic Exams Ultrasound AAA Screening

Facility Based Weight Loss Revenue Decline

- Nutritional Consults, Diabetes Education/Management is impacted and needs to resume through gaining patients back
- Many patients moved away from facility based to self management through delivered meals and supplements which grew considerably during pandemic
- "Medical weight loss programs: The value of all medical weight loss programs is forecast to decline 16.3% in 2020 to \$7.78 billion. This segment of the weight loss market was hit hardest, due to 8-10 week closures of programs based in hospitals, clinics, and physician offices. Hospitals were scrambling to service Covid-19 patients, not weight loss patients. Weight loss surgeries are forecast to fall by 17%"
 - https://blog.marketresearch.com/71-billion-u.s.-weight-loss-market-pivotsto-survive-pandemic

Elective Procedures

2019 Study on Revenue Impact for Elective Procedures

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7388821/

- "The estimated total annual cost of elective inpatient and outpatient surgical procedures in the United States was \$147.2 billion, and estimated total hospital reimbursement was \$195.4 to \$212.2 billion. This resulted in a net income of \$48.0 to \$64.8 billion per year to the US hospital system. Cancellation of all elective procedures would result in estimated losses of \$16.3 to \$17.7 billion per month in revenue and \$4 to \$5.4 billion per month in net income to US hospitals"
 - The likely economic impact of fewer elective surgical procedures on US hospitals during the COVID-19 pandemic

Bread and Butter - Electives

- Elective procedures were a significant contributor to the bottom line prior to Covid
- As the pandemic changes to be more like a "normal" prepandemic appearance payors are indicating that the pendulum is swinging back to care from a backlogged need
 - https://www.healthcaredive.com/news/humana-warns-of-uncertaintyin-medical-usage-amid-rising-covid-19-cases/603998/
- With the return to the "electives" it will be crucial that revenue cycle review, update and re-implement charge capture and cost management protocols

Revenue Cycle Initiatives Electives

- Revenue cycle must be re-examined as electives come back into play
- Front End:
 - Pre Pandemic noted that a significant number of claims have inaccurate or outdated demographic data and/or inaccurate eligibility confirmation
 - This can lead to medical mistakes through wrong patient identification and additional costs
 - Performance of procedure without appropriate eligibility / authorization can lead to a denial and increased costs and/or lost reimbursement
 - A focus on correct demographics ensuring eligibility and attaining the appropriate authorization for the procedure.

Revenue Cycle Initiatives Electives

Joint Replacement

- More commercial payers are instituting a package process somewhat similar to CMS (Comprehensive Care for Joint Replacement)
- See more integration between physicians, facility and post discharge for a specified amount of time
- Focus on cost management, labor and device costs and enhanced patient interaction to prevent readmission / complications.
- Utilize enhanced data analytics, quality metrics and patient activity cost analysis to provide metrics to create ROI
- Companies that follow the patient through the orthopaedic experience create ROI by enhanced involvement, early detection of concerns and effective management (https://www.twistle.com/orthopedic-patient-engagement-software/)

Supply Chain Focus

Guidehouse 2019 report stated:

- Unnecessary U.S. hospital supply chain spending has reached \$25.7 billion a year a 11.8% or \$2.7 billion surge from 2017 according to a Guidehouse analysis of 2,127 hospitals.
- For individual hospitals, the average annual supply expense reduction opportunity jumped 22.6% from 2017 to \$12.1 million, an amount equivalent to the average annual salaries of 168 registered nurses or 51 primary care physicians, or the average cost of 3,100 knee implants.
 - https://guidehouse.com/insights/healthcare/2019/study-hospitals-annual-supply-chain-savings

Correct Coding of Supplies Essential

- One of the most frequent concerns with percentage of charge and carve out for devices is an inaccurate HCPCS code.
- In our experience errors occur with:
 - Vascular versus non-vascular catheters
 - Pacemakers
 - Implants
- It is essential that the device or implant on the claim matches the implant log in medical record and HCPCS code designated for the device

Software Compares Model to HCPCS codes

Model Number	UPN	GTIN	Device Name	Manufacturer	Manufacturer Subdivision	CPT/HCPCS
338845			Axios DR Pacemaker, dual- chamber, rate- responsive (implantable)	Biotronik	<u>C1785</u>	
338170			Belos DR Cardioverter- defilbrillator, dual chamber (implantable)	Biotronik		C1721
338171		Belos DR-T Cardioverter- defilbrillator, dual chamber (implantable)	Biotronik		C1721	
344129			Belos DR-T Cardioverter- defilbrillator, dual chamber (implantable)	Biotronik	<u>C1721</u>	

Medicare SAF

- Medicare Limited Data Set (SAF) can help ensure that procedures using a specific device are identified.
- By reviewing the SAF the department can identify potential procedures / supplies / pharmaceuticals that are frequently placed on a claim with the device code

Medicare SAF with C1785

Code Detail	Revision History	APC Info	ASC Info	Rev Codes	Modifiers	Fac SAF Analytics	Transmittals	MLN Matters	AHA Coding Clinic	MUEs	Dev
<u>J3010</u>	Injection, fentar	yl citrate, 0.1	1 mg							7	1.5%
J0690	Injection, cefazolin sodium, 500 mg							67	7.1%		
J2250	Injection, midazolam hydrochloride, per 1 mg							64	4.1%		
33208	Insertion of new or replacement of permanent pacemaker with transvenous electrode(s); atrial and ventricular							57.5%			
C1898	Lead, pacemaker, other than transvenous VDD single pass							58	5.3%		
80048	Basic metabolic panel (Calcium, total) This panel must include the following: Calcium, total (82310) Carbon dioxide (bicarbonate) (82374) Chloride (82435) Creatinine (82565) Glucose (82947) Potassium (84132) Sodium (84295) Urea nitrogen (BUN) (84520)						5	1.8%			
93005	Electrocardiogram, routine ECG with at least 12 leads; tracing only, without interpretation and report							48	8.4%		
71045	Radiologic examination, chest; single view							48	5.9%		
85610	Prothrombin time							48	5.8%		
33228	Removal of permanent pacemaker pulse generator with replacement of pacemaker pulse generator; dual lead system						3	7.9%			
36415	Collection of venous blood by venipuncture						37.3%				

Pharmacy

COVID Impact on Pharmacy

- Enhanced shortages
- Hospitals changed practice to have increased days of inventory thereby increasing hospital costs
- Growth of ICU beds and use of expensive drugs escalated
- Pharmacist resorted to telehealth for patient interactions
- Enhanced use of outsourced vendors to manage pharmacy supply chain
- Operational changes around return of medications from patient treatment area.
 - No credits issued straight cost to the facility for safety

ASHP Report operational changes post pandemic

Change	n	%
Continue use of premixed/add-a-vial formulations	72	77.7
Expanded telehealth for pharmacist clinic visits	65	73.9
Continue expanded use of outsourcing vendors for sterile products	68	67.3
Remote medication order verification	81	54.1
Permanent increase in days' supply of selected inventory	249	42.4
Staffing reductions/not replace staff/FTE reductions	150	29.4
Permanent increase in days' supply of all inventory	24	0.0

Payer Impact on Pharmaceuticals

- Enhanced medical necessity guidelines
- Compassionate Use and payer requirements
- Payers requiring Brown, White or Clear bag for cancer drugs
 - Oncologists concern include safety and wastage
- CMS and payer guidelines for specific COVID treatment medications

Enhanced White, Brown and Clear Bagging within Facility

Clear Bag

 Facility internal retail pharmacy receives the order, creates the medication and delivers it to the administration area

White Bag

- External retail pharmacy receives the order, creates the medication and delivers to the administration area
- Area must hold the medication until the patient arrives which could create wastage

Brown Bag

- Patient has a prescription and takes it to the pharmacy who then creates the medication and delivers to patient home
- Patient transports it at their time of service
- Can create sterility concerns / safety concerns

Pharmacy Charge Capture Essential

- CDM must match NDC inventory
- Mapping from ordering system, Pharmacy, Dispensing Cabinets, CDM and billing modules must be confirmed and tested to ensure accurate charge capture
- Multipliers are key to billing success
- Test claims for high cost drugs are mandatory
- Software may need to be implemented to look for charge capture errors due to the volume of medications

Charge Capture Software

Drug Charges Below Therapeutic Dos	age: Abatacept
Start Date	
01/01/2019	
Present On	
DOS	8
Average Gross Charge	
0	10
Conditions	
WITH	
+ ANY	
Hospital CPT/HCPCS	
J0129 x Add value[s]	
Add condition	
+ ALL	
Net Quantity (Units of Service)	
< 50 🗶 Add value(s)	
Patient Age	
> 17 🗶 Add value(s)	

Charge Capture and Costing Software

- With so many pharmaceuticals charged daily software is required to consume 100% of the daily charges
- Rules and ability to create specialty rules based on practice patterns become more essential
- Activity based costing will also become important to detect patterns that could result in cost savings

Summation

- Pre-pandemic factors and per capita spending outpaced other countries
- US has significant comorbidities that represent a cost to manage such as obesity, diabetes, mental health
- COVID has increased suicide rates, a preventable death
- Fewer physicians, fewer patient visits and utilization of more expensive testing such as MRI
- During pandemic routine preventative care and routine care were not obtained due to isolation requirement

- Supply chain for supplies and pharmaceuticals were drastically impacted, especially for medications and PPE
- Hospitals put elective procedures on hold
- Facilities continue to lose revenue
 - Kaufman Hall report indicated that pre-pandemic margins were negative up to =25% of the time. Post pandemic the negative margin range could be range between -35 and -49%
 - https://www.aha.org/system/files/media/file/2021/03/Kaufman-Hall-2021-Margins-Report-final.pdf
- Facilities will also see reduction in elective surgeries to payer requested lower cost setting such as ASC

Aggressive management of revenue:

- Front end demographics, eligibility and authorizations for commercial payers
- CDM
- Mapping between service and charging modules to ensure correct charge capture
- Charge capture processes and reconciliation
 - Charge capture leakage results in loss of earned revenue which further degrades the bottom line margin
 - Consider charge capture software that consumes 100% of daily charges
- Supply and Pharmacy Supply Chain management
 - Correct coding, mapping and units of service

Aggressive management of cost:

Enhanced use of activity based costing and cost accounting

Aggressive management of patient interactions:

- Enhanced use of telemedicine
- Software that helps to manage patient interactions throughout the lifespan of the care (ex: Twistle Patient Engagement)
- Management of referrals at discharge keeping patients within the system

Aggressive management of Population Health

- Population health has been impacted during the pandemic
- Re-engagement with pop health measures and resultant revenues and cost mitigation through enhanced focus on wellness

Questions?

Thank you!