Marlowe Dazley: Thank you, Brooke. We are happy to be here today to discuss the revenue cycle and understand how that is operating in today's environment. Our real objective of today's discussion is to be able to give participants an opportunity to understand how the revenue cycle fits together and how to enable attendees to be able to assess their own organizations performance in their revenue cycle and look for opportunities. Years ago, the revenue cycle was called billing and collections, and it's evolved into so much more than just billing and collecting, as there's so many integral parts of the hospital operations that are impacted by the revenue cycle.

We want to show how we conduct a comprehensive revenue cycle assessment using data and using best practices to help inform that understand on how all of those inner workings impact the financial statements and talk about how efficiencies can be gained through improved staffing, improved throughput and so on. Throughout this process, we really hope to make this fun and informative.

For starters, we'll talk about the need for change. We're going to show a little video clip that has a fun message that really illustrates the need for change. We'll talk about some historical perspectives of where the industry has come from, why revenue cycle is important, and especially now, and understand some of the financial implications that revenue cycle has on an organization from the income statement and balance sheet. We'll get into a little bit more detail in terms of what are the major functions of the revenue cycle and what are the keys to success that organizations have deployed to be successful in the revenue cycle, and be able to identify and operationalize the opportunities that are surface through data and analytics.

Then we'll end with a look ahead in terms of where the industry is going and where revenue cycle is evolving. For starters, we wanted to begin with a video clip that talks about the USS Montana. The USS Montana really, is an epic ship. It was a battleship. There's an important punchline at the very end. It's a little bit hard to hear, but I'll articulate that, but pay close attention to that as we look at this video clip, and recognize that the industry, and in revenue cycle, especially there's a need to identify change in the ability to change. We'll talk about that in the moment.

VIDEO CLIP

Speaker 3: Again, this is just the USS Montana requesting that you immediately divert your course 15 degrees to the North to avoid a collision. Over.

Speaker 4: Please change your course 15 degrees to the south to avoid collision.

Hancock: This is Captain Hancock. You will divert your course. Over.

Speaker 4: Lighthouse, change your course. Over.

Hancock: This is the USS Montana, the second largest in the North Atlantic fleet. You will change course 15 degrees north, or I will be forced to take measures to ensure the safety of this ship. Over.

Speaker 4: This is a lighthouse. It's your call.

Marlowe Dazley: Thanks for listening through that. The punchline of that is he's talking to a lighthouse, and maybe some of you can think of individuals perhaps in your organization that aren't going to change their course, no matter what that they're on the right path, but inevitably, they're speaking to a lighthouse and lighthouse is obviously not changing course. It's important to kind of frame things in that sense that there is a need for change across the industry. There is a need to have a data inform change to accomplish that.

On this slide, we'll just talk about some of the strategic priorities that the C-suite has. This is from a survey in 2019 that that cost containment was the number one strategic priority for executives in 2018. That moved to revenue growth in 2019. Some of those challenges are just the obvious revenue pressures to keep up with the reimbursement challenges in costs and rising utilization. Now, especially is COVID recovery, and how do we recover elective and ambulatory procedures?

There's budget constraints, labor reductions, and need to expand and a limited capital expenditures due to the environment that we're in. So, how do we optimize that and look at initiatives to either improve the supply chain, improve quality and safety, look at paper performance contracts, and really invest in technology that's really going to enhance the overall operations in the revenue cycle specifically. There's a lot of opportunity right now to capitalize on the need for revenue growth and look for ways where we can creatively do that.

Given where we're at in the industry, on the top left is total margins and operating margins. That took a dip in the late 2000s, but historically our operating margins had been on a trajectory to be around 6% and fairly healthy compared to where we'd come from in the early 2000s. Now, with COVID, there's an estimated negative 8% operating margin on average is some of the current estimates. No one exactly knows how the year might end up. Nevertheless, margins will not be the same as they were. Historically, one in three hospitals were, even prior to COVID, were operating at a loss.

Meaning that they were depleting reserves in order to reinvest in capital and be able to reinvest in our operations. That issue has even compounded even greater now. An important need to understand where our margins at currently and what can we do within the revenue cycle specifically to improve that performance. Some of the financial considerations organizations are thinking through right now, just from a daily operation standpoint is understanding what volumes are doing and understanding claim production, looking at what I would

call blocking and tackling within the revenue cycle to harvest unbilled receivables, be able to track daily cash and recover dollars that are out there.

Obviously most organizations will have already now conducted an impact analysis of COVID, understanding what that length of state has become, what their case mix index is, and most importantly, what is the gap analysis from where we were performing previously to where we're at now, and the ongoing implications of cashflow and how do we back flow that cash flow in terms of our recovery and building a recovery strategy around that? There's some immediate considerations that organizations are really trying to go through in order to be a financially viable organization in the months to come.

Where are some of those opportunities? We'll start with income statement and balance sheet. As mentioned the revenue cycle doesn't just impact billing and collections. The revenue cycle actually hits a lot of different areas within the organization, starting with charge capture. Those could be in the form of late charges, it could be in the form mischarges, it could be setting prices, but as a starting point, charge capture and capturing charges correctly and timely is an extremely important aspect of the revenue cycle. Adjustments are those things that we've contracted with payers to adjust our charges or a negotiated rate.

Within that are controllable loss or denials or bad debt. There's contracting strategies that come into play in that as well as what non-profit missions are in terms of providing charity care and financial counseling. Those items, of course, deduct what ultimately our gross charges are and our ability to generate revenue. There's also labor, and we'll talk in a moment about cost to collect, but labor is an important aspect of large workforce that's required to produce a claim and accurately bill and collect from third parties. There's opportunities to optimize technology and to improve some of the efficiencies within labor, as well as looking at organizational structures and reporting relationships.

There's also outsourcing agencies and vendor management strategies that can be deployed to optimize what our core capabilities are within the healthcare setting and leverage where we can possibly use a third party to enhance our operations. On the balance sheet, the obvious is cash, and being able to collect that cash in a timely manner and not deplete that cash. There's also receivables that are outstanding cash waiting to be collected. Those also are in the form of unbilled receivables that perhaps are waiting for final documentation and for medical record, a physician's signature, but a delay in the process that Todd will speak to here in a moment.

There's also credit balances and refunds that are a liability on the balance sheet that need to be managed for compliance reasons and a number of various reasons. We want to make sure that we understand credit balances. A number of impacts across the income statement and balance sheet. As we look at organizations as a whole, this is an example of ways that an organization might strategically align their endeavors, perhaps through enhancing operations,

improving outcomes, improving their physician enterprise, or perhaps very specifically looking at revenue cycle and looking at opportunities to improve just the revenue cycle within that organization.

To improve revenue, there's various levers such as buying market share or reducing revenue cycle leakage or perhaps differentiating with quality and patient experience and service offerings. All that coupled together with operations improvement, but in terms of pure revenue growth and optimizing what our current revenue streams are, there's a number of handoffs that need to happen across the revenue cycle to ensure that we're collecting and optimizing our ability to bring in revenue to the organization. On average, we typically see anywhere from 1.5% to 2%, upwards of 5% of net revenue leaked at some point in the revenue cycle. So, it's important to understand where that leakage is occurring.

We will start with a question, and this question is what is the best practice for percentage of total hospital revenue collected at the time of service from patients?

Brooke MacCourtney: Thanks, Marlowe. I'll go ahead and launched that poll question for everybody. So as Marlowe said, we'd like to know what is the best practice for percent of total hospital revenue collected at time of service from a patient. You've got a few options to select. You got 0.5%, 1%, 1.5% or 2%. We'll give you a few seconds to respond. Thanks everyone for engaging in these polls. We'll a few more throughout the presentation, and so we appreciate your responses. All right, looks like the votes are starting to level off. We'll go ahead and close that poll and share the results.

8% said 0.5%, 14% said 1%, 24% said 1.5%, and 54% said 2.0%. Is that what you expected to see Marlowe?

Marlowe Dazley: Excellent. That is a great response. It shows me that the attendees are thinking about best practices and what organizations are doing. 2% is really a stellar number for organizations to be able to achieve. But most do begin in that half a percent range as they start to migrate this. It's extremely important to understand that a lot of revenue does now come from the patient, and being able to at least identify that, especially given a lot of uninsured that's occurring as a result of COVID, it's important to understand what that migration of patient responsibility is towards more of service.

If there's not the ability to pay, we want to make sure that there's a clearance mechanism that we can put them in touch with a financial counselor, enroll in Medicaid and such. The graphic below represents various percentile of what organizations are doing in terms of their time of service collections. On the right, are just what some of these successful organizations have done to really deploy time of service collection strategies.

First being, engaging with the patient early in the process, establishing mechanisms to verify that there's eligibility and putting estimations in place and predictive analytics to understand the likelihood of payment. Third is ensuring that there's clinical buy-in of the financial initiative to support that initiative. As many clinical areas touch the financial area as well, and we want to make sure that we have that buy-in. The fourth is establishing very clear goals and metrics, and even offering incentives for employees to exceed those goals.

Other successful organizations have established payment plan mechanisms or loan programs and such to ultimately provide the patient the ability to make that payment and be able to at least identify what that financial exposure might be for the organization. With that said, I'll turn the time to Todd, and we'll talk about the journey of a claim.

Todd Halpin: Thanks, Marlowe. Just to comment on that point of service collections, historically, it's been a cultural issue of whether the hospital wanted to ask its community or patients for funds upfront, or pre, or time of service. But now, even our organization, I am on a high deductible plan, quite a significant high deductible plan. So, being able to kind of understand as a patient at the time, or even pre-service what I'm going to owe and take care of that before I go in for a significant or emergent procedure is also actually a positive for the patient.

Great explanation there, Marlowe. So, journey of a claim. Let's kind of get into, and this all just feeds into revenue cycle. So, journey of a claim. Sounds like the name of the movie that Marlowe and I were going to release this summer, but obviously COVID kind of ruined that, so Marlowe, maybe we'll put it out on Netflix or something. That's a great story. As you know, across the revenue cycle, there are so many different touch points. Marlowe had mentioned that, back 20 years ago, revenue cycle was just thought of billings and collections, and was very, mostly focused on the backend without understanding all of the work and rework that's being done because of all the many things that have to happen upstream, starting with preregistration.

Maybe this is kind of an old example that Marlowe and I used to use, but Marlowe, I'm going to throw this out there real quick to kind of guide as we think through this. Marlowe and I travel a ton, obviously as we go around the country and speak and engage in revenue cycle optimization with several health systems. Back in the day, we used to fly United a lot. I don't know if any of you recall this, but United had a channel that you could plug your headphones in and listen to, I think it was called Channel 9. You could hear everything that was going on through the captain's headset.

So, you could hear all of the ramp agents speaking to the captain, at what time they were going to be able to push back, what time they were going to be able to exit the ramp toward the runway, which runway that they were supposed to take off from, which we know is mission critical. Then, they would give them permission to take off, and then as soon as they got in the air, you could keep

listening. It would get a little boring after that. They would just transfer to the various contact points like from Cleveland and Denver and all the different touch points across the country.

As you fly across, they would hand them off to each of these communication spaces. Just as important were the landing procedures and all the communication. I was always fascinated by that. Marlowe and I kind of looked at that and compared that to what you're seeing right now. There are so many different handoffs that take place that are so vital to the optimization and the proper claims collection, etc., in the revenue cycle that we wanted to highlight these differently. So, obviously we start with the preregistration, and that's even before the patient comes in when we're working with our doctors and physician offices and trying to figure out what procedures they're coming into the hospital for.

Then we move that into a full registration process where we make sure we've captured all the information, and most importantly, that we've included any insurance coverage, that it's verified, that it's approved. Even before the patient comes in, or certainly by the time they're coming in for the procedure, all of that has been financially cleared. That's just on the patient side. Then we go into the actual procedure, whether in the emergency room, in one of the surgical suites, what-have-you, there are so many different codes and charge capture numbers that we use to make sure that, as we then prepare that claim for submission, that we've caught everything.

We've seen in many times in surgical suites and other areas where several things have been missed or either dropped off the charge sheet, and especially under manual charge sheets. There was a lot of opportunity for mischarges. Then as we go into utilization review, we have to make sure that those workers are coordinating with any additional days that the type of procedure, was it medically necessary, dd it meet all those criteria and are they communicating between what's happening with the patient, as well as what the insurance, or Medicare, Medicaid, whatever will approve and to keep coordinating that. Then denials will come in later, but they help with, but ...

Then it goes to coding. Again, you can see all these handoffs, just like the airplane that has to get across the country, now it's handed off the coding, and coding needs to make sure they've gathered all the notes or any dictation from the surgeons and physicians and what procedure happened, and then make sure that they code that appropriately so that the hospital and/or the physician are reimbursed correctly and determine the right levels that were used, whether it was just a low level procedure, or we need to capture those higher comorbidities or coding opportunities.

Then after all of that's done, then we have to make sure we submit the claim correctly, which includes scrubbing the claim to make sure all the information appears to be correct and making sure we have a clean handoff to our payers

through whatever intermediary we use, and to make sure that we don't get a lot of rejections from unclean claims. Then after that's all done, we have to hand that off to our third party collection, which is ... it's part of the healthcare system, it's part of a hospital system. But if you think about it, it's not necessarily the primary focus of a hospital.

They're treating patients and trying to save patient's lives and heal patients. Yet, we have a back office then that's involved in spending a lot of FTE and a lot of costs, and just following up with all the insurance companies and patients to make sure that they're paid, which also goes into the patient responsibility, which goes back to Marlowe's comment about point of service. It's a lot easier to collect those amounts pre-service or point of service than it is now, potentially seven to 11 days down the road when we're finding out, let alone, after the insurance has paid some 40 days later.

Then also, just as important is the remittance processing that takes place. Are we electronic and automated in that? Do we still have some manual checks coming through and manual processes that we have to address? Can we re-associate those payments back with the bill itself? Is that automated? That too is a pain point to make sure that we're as efficient as possible. Then finally, after we've done all of this, there's still denial prevention and denials follow-up that we have to coordinate with utilization review in our case management, and our follow-up teams sometimes with even our docs themselves.

It's a lot of rework. What we're trying to do is manage all that, reduce the cost and reduce that impact and increase our revenue capture and our revenue, or excuse me, our cost efficiency in processing a claim. That was a lot in that, the journey of a claim, but that's how all the different ways and areas and pain points that we have within the revenue cycle. On the next slide, we kind of look at this, and this kind of puts these things into data. If you look at, from discharge to coding, coding then to billing, billing to insurance payments, and then insurance payment to the patient payment, the average time for a claim to be adjudicated is a whopping 136 days.

You think about all the other services, professional services, manufacturing, etc., that is out there. Can you imagine going in and purchasing, for example, an iPhone, and iPhone has to sit on 136 days to get paid for that, is kind of silly. So, we're looking always for ways to become way more efficient with our throughput and efficiency. You can see that by, on the lower left there, we identify the bottlenecks and each of those things we just went through on the prior slide. We prioritize where we think we can have the biggest impact and just work down from there, from the highest impact down to even the low hanging fruit. Then finally, if we don't know what it's worth, it's hard to prioritize.

We're looking for, at least, a 25% reduction in the resources required, if not even more as Marlowe and I talk about automation. Then on the right, you can

just see, if we can take some of those worked hours per day out, it becomes a lot more efficient and a lot more profitable. In an industry where every penny literally counts against our ability to turn a profit and reinvest into new equipment and services, claims, throughput and efficiency is very important. Next slide Marlowe.

Just quickly, it also impacts what we call our revenue yield, and that's what I was talking about, is after everything is captured with revenue and everything is taken out from adjustments and then the cost to actually collect those items, we're left with what we expect to make. Of course, the healthcare financial executives of your institutions will look at what, and just the top left hand example is, what is the projected charges based upon the volumes and services? What do we think we need to take out? We often have reserved models that we predict how much, if contractual adjustments, bad debt, etc., that we'll remove and what our expected revenue is.

Then we turn to the business office and we look, how much did we actually collect? Well, I expected 1600 from the insurance and then 20% or additional 400 from the patient. That's actually flipping a little bit, as the high deductible plans are becoming more and more focused on pushing some of that cost to the patient. But what really happens is that same projected 2000, we actually are denied or underpaid, because there's so many payments coming through, and partial pays, because we didn't really go after our patient responsible balances. We're only capturing 73% of that.

You can see on the example to the right, that gap between collecting 100% of expected versus what insurance and/or patient responsible has paid over time. That's where bad debt write offs and charity care write offs come in, and we're looking to close that gap. Then down below, or just some real time, once you break it out into payer mix, the same thing that happens. What you expect to be paid and what your yield ends up being kind of shooting for upwards of, in this example, 98%, close to 100%, versus what you actually receive from a patient and insurance.

Again, this is an opportunity for y'all to go back and look at each one of those areas and make sure we're not leaking revenue. We'll move on from there, Marlowe.

Marlowe Dazley: I'll just make a very brief comment that it's extremely important for organizations to really understand what we would call, in the accounting terms, is that reserve, that contractual reserve. What that means is matching what is expected as net revenue. What services do we perform? We incur that service, we recognize that revenue, but do we collect the cash associated with that revenue down the road? And making sure that that's a one-to-one relationship. Otherwise, we are understating our revenue, or perhaps overstating our revenue, and our collections will never match that without having appropriate reserve.

That's one of the first starting point we always want to make sure organizations have a really good model to incorporate all of the intricacies that managed care contracts have and that you model the revenue and cash appropriately.

Todd Halpin: Well said, Marlowe, because that is the actual impact of expectations that then the financial executives have to make strategic decisions off of, so very important. Okay, Brooke, so question number two, we're going to talk about what we call, in revenue cycle terms, the cost to collect. The question is, what is the median revenue cycle cost to collect, to collect $1 of revenue, what is the median revenue cycle cost to collect? That includes patient access. We've now included HIM, or medical records and the business office functions.

Brooke MacCourtney: All right, thanks, Todd. We'll go ahead and launch that question, give you a couple of seconds to respond. The question is what is the median revenue cycle cost to collect $1? Your options are 1.5%, 2%, 3% or 4%. I'll give you a couple of seconds to respond. Looks like we've got lots of votes coming in. Thanks again for participating in these polls. I'll give it a couple more seconds and we'll go ahead and close the poll and share the results. So 2% said, 1.5%, 15% said 2%, 32% said 3% and 51% said 4%. What do you think Todd, is that in line with what you were expecting to see?

Todd Halpin: Actually, it is. Historically, we've really been trying to automate the revenue cycle and drive that cost to collect down. But historically, it is averaging in that 3% range, and adding medical records cost in that can begin to even creep up into the 4% range. But those folks, those 17% that responded in 2%, 1.5%, I really liked that because that's a focus on automation and analytics and ways that we can really take some of the heavy labor costs out of the revenue cycle.

I believe if we just move on to the next slide, we'll kind of highlight that. Using Health Catalyst advisory services and advisory board data in our experience, the meeting cost to collect has remained steady, around 3%, even though we've really been trying to drive that down and look for opportunities to become more efficient. Those folks that responded to that were right on. The cost to collect, as we've noted here, is a trending performance indicator, and it's measuring how efficient we are in the revenue cycle. I probably don't need to explain that to any of you that are participating.

We keep a close eye on that because we to know if there's opportunities to take some of that cost out. So, there's the definition, and again, we've included ... historically, it used to be just patient access and patient accounting and some of the software that was used, but we've really fully live with it now per HFMA. We helped develop the map piece several years ago and determined we want to do include medical records. Thanks for your feedback on that. Many of you were spot on.

Let's just quickly talk about, this is like preaching to the choir, but this is how we look at revenue cycle and how we look to manage the revenue cycle. We'll start

with this slide that just shows you what is the revenue cycle for us and the way we view it. You can see the continuum across the trope kind of is what I talked about in the life cycle of of a claim. There's pre service work to do, time of service work to do, then there's post-discharge service to do, to get the final bill out, collect those amounts and make sure that our final payments match what we expected to be paid.

That's the continuum. Then we break it down into four areas, patient access, obviously that involves what you can see, their scheduling verification point of service, etc. Then we get into revenue integrity, which is kind of in the middle and also could be at the end or before. But looking, did we capture the charges from the procedures we performed, so audit some of that and make sure we're not leaking revenue, how well was the clinical documentation and charge master management and coding? Obviously we can hire experts to come in and audit us and see how well the organization has done through that.

There's the back office or a business office, where all the billing and accounts receivable, follow-up, and payment posting, and all the customer service and collections follow-up, and coordinating with agencies that we have. On the back end, this could fit before patient access or kind of a review or audit after the fact, but it's who and how have we contracted with third parties, and have we carved out appropriate items for things that should be reimbursed separately? Do we have good reimbursement, or at least, reasonable reimbursement with those insurance payers? Are we managing and really closely monitoring denials?

Also, after we've contracted with some of our payers, are we auditing the payments to make sure that, under the contract management, that we're managing all of the underpaid claims, and if it's a huge issue, do we build those up and record those and then take those back to the payer? Then there's also a pricing, strategy, and looking at how we manage the fee schedules and how we've come up with pricing. Many organizations have done just year over year pricing increases, flat price increases, and we would certainly encourage much more detailed and strategic thought process around pricing and revenue recognition.

That's the way we look at the revenue cycle. We'll just move on Marlowe to the next slide. Now, from each of those areas, and I'll just move through these quickly, there are leading practices for each of those areas that we try to capture, that when we come in and meet with the managers and executives around these areas, that these are items that are in place or practices that are in place. You can look through each one of those that staff have at least one quality and one productivity metric we're very much into measuring. You'll see that in a moment. It's one of our keys to success, and that we standardize as much as we can.

You can see that, especially in decentralized areas like physician practices. Are we using any kind of software to help us manage financial responsibilities and

provide patients with opportunities to pay, especially ahead of their service, pre-service, let alone time of service, but before they have to go in for their procedure, it's nice to have that cleared. Then you can see a few more that are under there related to preregistration, etc. Marlowe, revenue integrity. So, are all charges accurately documented, completely documented, or are they posted to the patient account within 24 hours? Do we perform regular charge audits, especially in our high dollar key charge capture areas? Do we have any kind of automated charge reconciliation tools?

Is anyone reviewing the charge master? Do we hold medical records or health information management staff to at least one quality and one productivity metric that they're monitored against? Are we watching DNFB? Then, as it has been happening a lot over the last 10 to 15 years, putting in a fully electronic medical record system and utilizing that to reduce some of those issues that we've noted. Next slide, and then the business office which historically has been an area that's been monitored closely, but do we have well-defined and documented processes in place?

Have we built in edit capabilities into our claim scrubber, into the patient financial system itself? Do staff use specific automated work lists, and are they divided up appropriately? Especially on that next point, are there specific staff that are solely dedicated to a lower number of high balance follow-up accounts in order to make sure they touch those accounts within, at least every 30 days, versus the smaller balance accounts that we can spread that out more over time and over more people.

You can see other controls to follow up on anything over 30 days to try to keep 15% of receivables, less than 90 days old, etc. these are all just some great leading practices for the business office. Finally, on reimbursement, and this is again, a super important area because it's kind of the ... at the point, we've gone through the first three cycles. Are we now looking back to see how well we've done? Do we have a pair contracting strategy in place? Have we ever thought of actually dropping a pair, or at least letting them know if things aren't adjusted that they will no longer be a participant in the organization?

Are we looking after high utilized procedures and drugs and implantable devices that should be carved out separately because they're so expensive. Like I said before, are we looking at those contracts on a regular basis? Are we auditing them? Are we making sure we're getting paid? Do we have a dedicated case management and clinical appeals team in place? Is there a formal denials tool and team that is working closely and communicating back with our case management department? All kinds of things that we consider leading practices and reimbursement.

Question number three is regarding fatal denials. So, we're kind of focusing in now, and we'll talk about those. Brooke, I'll turn that back over to you to run this question.

Brooke MacCourtney: Awesome. Thanks Todd. I'll go ahead and launch this poll. What is the best practice for fatal denial write-Offs as a percent of total revenue, net revenue, your options are 0.5%, 1%, 1.5% or 2%. We'll give you a few seconds to get your votes in. Get a few more votes. It's like it's leveling off, and we'll go ahead and close poll and share the results. So, 28% said 0.5%, 38% said 1%, 16% said 1.5%, and 19% said 2.0%. What do you think of those results, Todd?

Todd Halpin: It's spot on. Again, the audience here is very well educated in this area and is very familiar with some of these key metrics that we look at. So, 0.5% to 1.5% is kind of in that range that we work with to get an initial fatal denials right off percentage. It looks like three quarters of our participants were right in that range. Then, let's go to the next slide, and I'll just make a quick comment about this. Thank you. As I mentioned, fatal denials range from 0.5 to 1.5%. We don't want to see it exceed that.

It's gotten really low because we're talking about net expected revenue now that's very important to us. We don't want to leak, really, any of that percentage if we can, but we know there's always going to be some errors and things that we have to write off, but we want to absolutely fanatically minimize that. Initial denials are payer responses indicating no payment or partial payment for services. That typically is anywhere from five to 15%. We call that our first pass, or initial denials. We look at that, and that's just a calculation on gross revenue.

How much was denied as a percent of what the gross charges were for that account? That just lets us know, initially, how well are we doing and getting clean claims and undenied claims to the payer itself. We've talked about here, fatal denials are the actual net write-offs that we lost and had to write-off. You can see some of those breakdowns to the left there graphically. 47% of initial denials are commercial managed care, and 10% of initiative denials are often fatal denials that are written off. Anything else you'd like to comment on that Marlowe?

Marlowe Dazley: Yeah, I would just note to your point that 10% of those initial denials are eventually fatal, but it does require a lot of rework to get to that 90%. We've estimated that between $125 to $150 per claim to finally turn that into a denial, but the leading organizations are successfully doing that, and they're appealing those and they're able to overturn those, but it's important to identify what is that root cause, and then integrate workflows to prevent that from happening in the first place.

Todd Halpin: Yeah, that's fantastic. Marlowe, I'll go ahead and turn it over to you now to talk about some of our keys to success and how this all integrates.

Marlowe Dazley: Thanks, Todd. This is where it gets fun. Now you have the context of all the moving parts within the revenue cycle. So, what do we do with all that information, and how do we now go about really understanding where is there

opportunity and is there opportunity? Some of the keys to success, what we call the flight wheel Health Catalyst on the left is using a data platform, using analytics, then using service expertise to really get data informed improvement, and then have measurable improved outcomes that really drive this whole flywheel.

At the center of that is having just world-class team members, world-class people at the center of that to drive improvement. When we apply that to the revenue cycle, there's these three components, and this is the evolution of, as we reflected on, what are leading organizations doing to be successful in their revenue cycle, unanimously, there were three components that we always found, and that was discipline, measurement and accountability. We'll talk through those. A phrase that our colleagues have coined is get mad about revenue cycle. So measurement mad accountability, the A and D being that discipline.

But keys to success, to be successful, beginning with that measurement. First, understanding what you want to measure, understanding what those data points are. Some of those might be revenue strengths, some of those might be uncollectable receivables, some of that might be throughput efficiencies, but incorporate the right metric at the right level at the right time to drive that success. As Todd pointed out in the airline example, revenue cycle is very similar. There's a handoff every single time we moved that claim across that journey of a claim.

We want to be able to measure each one of those handoffs. Ideally, we want an accountable individual for each one of those metrics. So, we don't want the structure on the right, which is a real organization that has a very discombobulated structure. We want very clear lines of accountability. So we really understand who has responsibility to control that metric, and who is accountable for driving the performance of that metric. Then we want discipline. We want to make sure that the workflows are very well documented, there's policies and procedures in place, and we can describe that workflow.

That workflow looks exactly the same, no matter what point of access you have within your organization. You want to make sure you have a well-documented workflow, but then you're disciplined in terms of following that to a T, every single time. Again, pulling those other two components, you can major those handoffs and also have that accountability for the individual responsible for driving that performance. Then you want to develop these KPIs and you want to be able to not just surface data, but you want real meaningful information and real decision-making output from what you were looking at.

Metrics aren't just KPIs. It needs to be something that's really going to help solve problems, that help is really going to drive changes in workflow. So, choose those appropriately, make sure that they're relevant because important decisions will be made off of those KPIs, so choose those wisely, and integrate

those into your operation. So everybody knows what those metrics are, they're well-communicated, they're well-defined, and it's a natural evolution in terms of staff meeting, perhaps of taskforce meetings around revenue cycle, and everybody has the same frame of reference.

It's important to have the right metrics at the right level within the organization. An executive, a CFO isn't necessarily going to be as interested in bill edits or late charges, as much as they might be in more overall metrics. However, at the VP director level, there are very more granular metrics that might be important to the VP or director level, as well as down to the managerial level, what are those production type metrics, those edits, the overturned denials and such, that are really meaningful to that manager that they can really control? Really, think through your organization, think through who sees what information, and what information do they need, and how do you structure the output of your data and analytics so it goes to the right individual at the right time?

Our next trivia question here, what is the median number of days, revenue outstanding held in coded not-final-billed status? So, it's been coded, but not final billed. Brooke, I'll hand that to you.

Brooke MacCourtney: All right. I'll just go ahead and launch this poll. So, what is the median number of days of revenue outstanding held in coded not-final-billed status? Your options are two days, three days, five days or seven days. Give you a couple seconds to answer that. Thanks again for participating in these polls. Hopefully, they're interesting to you as we share the results. Also, it looks like votes are leveling off, and I'll go ahead and close and share. All right, 7% said two days, 33% said three days, 44% said five days, and 16% said seven days. Is that what you expected to see, or is that different, what do you think?

Marlowe Dazley: Somewhat different, Brooke. It shows a little bit more emphasis on the five to even seven days, but a lot of folks still in this three day category, and we can look at the next slide here that shows what we typically might see in this, in that the median days is about 3.7 days. If you look at overall discharge, not-final-billed, those are cases where the claim is not complete due to some coding or documentation. But a sub component of that is the coded not-final-billed, where we often find that this is a bottleneck. It's waiting for an edit to be resolved, it's waiting to be final billed, and a source of potential cash.

Putting this all together, an important aspect is that there's nuances about your organization that are unique to your organization, and it's important to recognize those, but have some kind of method or process that you can understand, what is the leading practice for that respective area and have a qualitative way of looking at those operations, for example, within patient access, or revenue integrity, or business office, or reimbursement. And identify, are these people issues, are they process problems, are they technology gaps? And have that qualitative perspective.

It's also important now, though, have a quantitative overlay to that. Benchmarks are one source, historical data are another source, but all of those are the right answers in terms of what's best for your organization to pull this information together, but at least be informed by what others might be doing and how can you leverage that to move your organization in the right manner. Ultimately, what really is meaningful for what we see organizations having is ultimately understanding where are those gaps in the revenue cycle from the income statement and the balance sheet, putting all this together, looking at unpaid accounts in a historical view to see why weren't those accounts paid, and ultimately, what is the root cause issue within the revenue cycle that caused that to be paid, to not be paid.

That becomes your prioritization, your work plan, and you put resources around initiatives to perhaps improve your strike pricing strategy, or deploy resources, or technology within verification and eligibility and such. Just an example, success story. This is an organization that was performing very well. They had a strong operating margin. They wanted to move from what was a really good metric of 1.1% fatal denial rate to a half a percent. This really was an exercise in being able to do what seemed impossible, but really starting to have more C-suite engagement, identify the resources, create a roadmap to ultimately be able to harvest those outcomes that are available in an already top performing organization.

There's always room to tighten the ratchet a quarter turn or so, or improve upon our process. What we're excited about, just in looking ahead briefly, the revenue cycle really has a large future ahead, especially around data and analytics and how data and analytics can help inform the revenue cycle. Historically, we put a lot of effort in terms of back office functionality. Our funnel is upside down, and we have the clinical and the financial encounter that goes into that. We have low quality claims sometimes, and we're spending a lot of time identifying issues and rebilling work, where what we want to do is separate that clinical and financial encounter, so we can financially clear that patient prior to, or at time of service, identify what financial needs name they might have and ensure that their clinical experience is as stellar as possible.

That way we're putting more emphasis on front-end processes. We're looking at first pass accuracy rates, and ultimately, in the back end, we're just auditing what might be necessary to continuously improve. Having that mindset of rightsizing that funnel and separating that clinical and financial calendar and putting more emphasis on the front end processes is where organizations have been successful. One more question to this, just in terms of where your organizations are at in terms of adopting advanced analytics, or artificial intelligence, robotic process automation and such. Brooke, I'll turn that to you.

Brooke MacCourtney: All right, let's go ahead and launch this poll. So, what are your organization's plans for adoption of advanced analytics to change revenue cycle workflows and improve performance? Your options are, you're utilizing advanced analytics

right now to drive revenue transformation, you're building and adopting advanced analytic tools, you have an advanced analytics roadmap, but you're looking to build or deploy in the next six to 12 months, or you have advanced analytics roadmap as part of your future step strategy, maybe a year or beyond that.

We'll give you a few seconds to respond. Votes coming in. Thank you again for voting, and we'll go ahead and close that poll and share the results. 5% said they're utilizing advanced analytics right now to drive revenue transformation, 36% are building and adopting advanced analytic tools, and then 59% responded, advanced analytics roadmap as part of their future strategy. What's your reaction to that, Marlowe?

Marlowe Dazley: That is great, that this is part of the future strategy. Not surprising, as this is really new technology, is very innovative in terms of adopting this and then integrating this into the revenue cycle. The fact that 60% have that part of their strategy, a lot of organizations just don't know how to use that yet, and that is a challenge is, where do we plug in this new advanced analytics? I'll talk about that in my final slide here. Historically, we really focused on the left around retrospective analytics, being able to trend what is our current understanding of performance, looking at historical performance and looking at variances.

What we want to move towards is more of an advanced analytics strategy. There's a number of levers that have to happen. We can apply artificial intelligence. For example, we can use that to start to identify patterns, predict behaviors, and have a continuous updating of those behaviors. We can visualize those advanced analytics, but most important to this is workflow intervention. Once we have this really great insight and predictive capabilities, how are we integrating that into our workflow to really drive change, to redesign workflow, to optimize the technology and align that stakeholder accountability.

That's where we can then really start to have a really meaningful conversation about how do we predict a denial and prevent that from happening in the first place. How can we use this type of thinking in terms of referral leakage and other revenue cycle initiatives? So, it's an exciting piece of where the revenue cycle is heading in terms of using advanced analytics. That said, I'll turn it back to you, Brooke.

Brooke MacCourtney: Thanks Marlowe. Before we move into our Q&A session, and we wanted to remind you about our annual healthcare analytics summit, or HAS, as you might know it. HAS, this year will be held virtually September 1st to the third. Our theme this year is the transformative role of data and analytics in the new normal. We'll be featuring speakers who've battled COVID-19 in the trenches, as well as other speakers who will discuss, adjusting and pivoting to the new normal. We plan to provide a unique and innovative digital experience, including nationally recognized keynote speakers, a few of which you can see listed here, and we will be announcing a few more soon.

We'll also facilitate individual connections throughout the summit with our analytics walk-about, networking brand date, and other virtual activities. So we're really excited about what we have planned for our virtual event this year, and we hope you'll be able to join us. You can get more information and registered to attend at hassummit.com. We want to give away three complimentary passes to HAS right now. Marlowe, if you can go to the next slide. We're going to launch a poll question. If you'd like to be considered for one of the complimentary passes, please answer this poll question.

We'll give you just a minute, couple seconds to answer that if you're interested, and you can attend again, in September 1st through the third. Give you a few seconds to respond, and we'll go ahead and close that poll. All right. Last poll, I know we've had a lot of polls today, and we appreciate you sticking with us. This is our final poll question. All of today's webinar was focused on revenue cycle management. Some of you may want to learn more about other Health Catalyst products and professional services. So, go ahead and launch this last poll.

If you'd like to learn more about Health Catalyst products and services, please answer this poll question, and I'll go ahead and leave that open for you to respond to while we begin our Q&A. If you have any questions for Marlowe and Todd, please enter those into the Go-To-Webinar control panel, and we'll try and get through a few of those. I know we're getting close to the top of the hour. Marlowe and Todd, are you okay to stay on for a few extra minutes to answer some questions?

Todd Halpin: Absolutely.

Brooke MacCourtney: Perfect. Okay. Our first question is from Dan and he said, will cost containment moved back to number one in the post-COVID environment?

Marlowe Dazley: That's a great question, Dan. I think that might be the case in the near term, but what we believe and what we're seeing organizations do is really trying to identify their gaps in revenue and understanding where that shortfall is. Not only bringing back that volume, but ensuring that all of their processes, internal processes to produce an accurate claim that will collect all that are sound, because now more than ever, it's important to harvest that. I believe, yes, in the near term, costs will be an imperative because we need to cut out some number of costs to accommodate for our volume shortfall.

Todd Halpin: Marlowe, I think you had mentioned before that probably post-COVID, there's upwards of 10% of an organization's revenue that's just gone. It's never coming back because of everything that's happened, including virtual visits and things like that. It's going to eliminate all of that. I don't think we can just kind of way out of it. We're going to have to again, use advanced analytics and other automated opportunities to find new revenue and such, so great question.

Brooke MacCourtney: Thank you. Okay, next question comes from Maureen. She says, what does value-based revenue such as risk sharing fit in, or where does value-based revenue such as risk sharing fit in?

Marlowe Dazley: Excellent question about that. That's an important piece of using data and analytics to really understand what is our risk tolerance, how much risk are we absorbing, and are we able to track our outcomes and metrics related to those contracts? So, it's an important aspect of that because we need to understand what still are the efficiencies that we can gain internally, and where do we might have bottlenecks or areas opportunity that we can adjust our internal workflows to then optimize those opportunities.

Todd Halpin: Yeah, and COVID-19 is going to interrupt that a little bit as the organizations are just trying to stay afloat and will probably receive continued federal and other state assistance. But that is where, as Health Catalyst is a data driven company and analytical company, data and analytics will become, in my mind, mission critical to really managing well and taking advantage of the upside of these value-based arrangements.

Brooke MacCourtney: All right. Perfect. Thank you. Okay, next question says isn't the percent collected based on the benefit design?

Marlowe Dazley: It's certainly based on that benefit design, but factoring that in, what is expected, and what are we actually collecting based on that expected is extremely important. As we find often, there's underpayments, or just our reserve models in terms of what we expected versus what is the reality is very different. Yes, at a plan level, that's absolutely true, and that's why it's important to have these complexities integrated into these reserve models so we can really understand what's unique about that plan and how they pay, and how does that impact our revenue and our ability to recognize that revenue.

Todd Halpin: I agree with that, Marlowe. It's just then the volume, the sheer volumes that come through our healthcare organizations are like, what you say, it kind of disrupts that perfect utopia balance. If we're not auditing or watching it, the payer's not going to do that for us. The onus is back on the healthcare organization to make sure we are holding the payer accountable for those procedures and arrangements, but I'd like the thought process, but it's just amazing how things blow up once we start running a lot of volume through it.

Brooke MacCourtney: Okay. Next question says, what do you think of remote workforce for RCM post-COVID-19?

Todd Halpin: That's a great one. Yep.

Marlowe Dazley: Yeah, really innovative. I had a client indicate their experience as they tried to move towards a more remote workforce. It would have taken them, prior to COVID, 18 months to fully operationalize that with technology, with political

barriers, bureaucracy and such. They were able to deploy that less than five days ultimately. There's a lot of efficiencies to be gained by that. There's a lot of infrastructure and overhead related to having people all together in one place to in the revenue cycle.

There's obviously security and productivity issues that need to be monitored, but I think those can be overcome. In some cases, it can even be a motivator for employees to be able to have that remote capability. So I think there's a lot of efficiencies that can be gained with that, and economies of scale, it can be achieved.

Todd Halpin: I think the remote, just the whole thought process, and now implementing this through even meetings, etc., and what Marlowe and I do as financial advisory consultants, that will be changed by this. I believe, absolutely, there's a lot to be gained from remote work. By the way, the organization that Marlowe was mentioning is a very large organization. So, it's nothing to sneeze at. I think it's very important going forward. Remote will start to change the way we do things.

Brooke MacCourtney: Perfect. Okay. We'll just do one more question. It says, how have organizations integrated data and analytics to be successful?

Marlowe Dazley: They have integrated that with the key focus on driving changes in workflow, so that data and analytics surfaces opportunity, it shows what performance is, but until an intervention is made in that workflow to stop that from happening in the first place, whatever that root cause is, or correct that issue, or put a control in place to identify it. All of that data and analytics isn't meaningful, and there's so much data and analytics in revenue cycle right now that are very fragmented and in multiple types of systems, so creates a challenge to do that. But once that is established, being able to have that intervention is key.

Todd Halpin: What we're working on, Marlowe and I, and our team, is like Marlowe said, revenue cycle, they've done a lot better on the cost and quality side with value-based reimbursement, etc. But on the revenue cycle side, it hasn't been fully implemented or addressed yet. If I'm thinking about the question correctly, it requires taking those five, or 10, or who knows how many different disparate systems that we use across the revenue cycle and pulling all of that data into a single data warehouse that we can then start to build meaningful tables and analysis tools off of that, and that's exactly what we do, and stand those up as quick as possible to produce those meaningful metrics and outcomes, that as Marlowe said, then you can focus on effectuating change, meaningful change.