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Series: Using Data and Information Systems in Partnered Research

Session: Strategic Analytics for Improvement and Learning, The SAIL Value Model

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Moderator: Hi everyone and welcome to Using Data and Information Systems in Partnered Research, a Cyberseminar series hosted by VIReC, the VA Information and Resource Center. A huge thank you to CIDER for providing technical support and promoting the series. This series focuses on VA data use in both quality improvement and operations research partnerships. This includes QUERI projects and partnered evaluation initiatives. This slide shows [unintelligible 00:30] schedule. Sessions are typically held on the third Tuesday of every month at 12:OO pm Eastern. You can find more information about this series and other VIReC Cyberseminars on VIReC’s website, and you can catch up on previous sessions at HSR&D's VIReC Cyberseminar archives. Heidi already covered this, but just a quick reminder to those of you just joining us, slides are available to download. This is a screenshot of a sample email you should have received today before the session, and in it you will find the link to download the slides.

Today’s presentation is titled Strategic Analytics for Improvement and Learning, The SAIL Value Model, and it will be presented by Dr. Yu-Fang Li. Dr. Li is the director of the Center for Innovation and Analytics. She oversees operations of the center and its collaboration with partner offices. She’s the architect for multiple high-impact VA projects such as SAIL, Early Warning Systems and Trigger Systems. Thank you for joining us today, Dr. Li.

Dr. Yu-Fang Li: Thank you. Okay, and you share my screen. [Pause 1:42 to 1:50] Okay. Can you see my screen okay?

Moderator: Yes, thank you.

Dr. Yu-Fang Li: Sure. Thanks. So thank you for having me here today. So I’m going to basically introduce the Strategic Analytics for Improvement and Learning, or the, most people know this as the SAIL Value Model. So before we start, I have a couple of poll questions that I just like to know our audience. The first one is basically\_

[Pause 2:24 to 2:32]

[Crosstalk 2:33 to 2:36]

Heidi: The poll question here is what best describes your role in the VA? And the options are research center staff, hospital staff, VACO and Program Office staff, oversight agency staff, or other. We’ll give everyone just a few more moments to respond before we close the poll and go through the results. And it looks like we’re slowing down here so, I’m going to close this out. What we’re seeing is 32% of the audience being research center staff, 40% saying hospital staff, 9% VACO and Program Office staff, 1% oversight agency staff, and 18% other. Thank you everyone.

Dr. Yu-Fang Li: Thank you. So second poll question is I’d like to know how often do you access the SAIL report? Daily or a few times a week, occasionally, never accessed, or never heard about it.

Heidi: And again, we’ll give everyone a few moments to respond to the poll before we close it out. It looks like we’re slowing down here, so I’m going to close this out. What we are seeing is 1% of the audience saying daily, 4% a few times a week, 57% occasionally, 28% never accessed, and 9% never heard about it. Thank you, everyone.

Dr. Yu-Fang Li: Okay, thank you. So it looks like we have mixed audience, so mixed familiarity with the SAIL report. So I will start with an outline of what we’re going to discuss about the SAIL today. I will provide a brief history of SAIL, including its domains, metrics, and scoring methodology. There are quite a few SAIL report features I will introduce to you today. VA’s progress to date as of 2018 quarter two release, the quarter three release is coming up pretty soon, so we don’t have anything to update on the quarter three release yet; the new development that’s going on right now; and then we’ll save some time at the end for question and answers.

So SAIL started about six years ago, and at the time it was, feel like it’s just a new project to work on. Over the six years period of time there were a lot of things have been through. We expanded the scope of the project, expanded our collaboration networks around the system, looking at the facility, putting all the effort together to help improve the care for our Veterans. It really feel like the SAIL project is leading us to the way to fulfill the VA’s mission; that is “To care for him who shall have borne the battle, for his widows, and his orphan.”

So what exactly is SAIL? SAIL is Strategic Analytics for Improvement and Learning. It’s a web report, accessible to all the VA employees. Provides pretty high-level of summary regarding how the quality, efficiency, productivity is performing at individual medical centers. But at the granular level, it provide resources for the field to be able to looking into their data in more detail so that they can identify those trends and opportunities. The report was deployed in the VA in July 2012, and internally at the VA it’s updated quarterly. A portion of the report is also published, the VA Quality of Care, that is an internal-facing website started in January 2015, and that report is also updated quarterly. In 2016, we started publishing the SAIL star rating and the size of the improvement for the individual medical centers at the same internal-facing website. But the star rating is only updated on an annual basis and this is the same internally and externally.

So why did VA deploy SAIL? This was a request from Secretary Shinseki’s office. At the time we received an email asking whether we are able to benchmark eight or nine metrics and that was just released by a reporting agency. And we look at that because it’s all inpatient focused and we do have a lot of inpatient metrics. So we say yes, we can do it. And then it expanded over the years to include a lot more than just inpatient metrics on the SAIL report. So goal initially is really for us to be able to benchmark with non-VA facilities. But also internally we’ll be able to benchmark across our VA Medical Centers.

SAIL, as its name said, is really for improvement. So everything that is contained in the SAIL, including its design, its tools, and so on, is really to promote high quality safety and value-based health care through a lot of different graphic presentation, tabular presentation, and so on. We also have model filter type of feature embedded on the SAIL report so that individual users will be able to use the tool to identify, for example, you have an area you like to improve upon, which of the medical centers are the high performers on that specific metrics that you can reach out to, to learn what they have found to stay at the high-performing status.

So what exactly does SAIL measure and how do we measure it? SAIL right now has 146 hospitals; 130 of those are acute inpatient medical/surgical type of medical facilities. The other 16 facilities are, they don’t have acute inpatient care; mostly it’s the outpatient type of settings. For each of the facilities, we have them benchmark available metrics. In general, it’s 25 quality measures covering nine domains such as mortality, complications, patient/employee satisfaction, some mental health, access to care, and so on. We also have two metrics looking at the efficiency at the medical facility and also physician productivity. The majority of metrics on SAIL already exist in the VA for years, prepared by program offices. We do have a few metrics that we create in-house, just to be able to monitoring the emerging trends at the healthcare delivery.

So what you are seeing on the screen are the domains and metrics that we have. Basically is organized into quality, has nine domains, and efficiency capacity has two metrics underneath that. Here, what we’re listing here, are the metrics and then the individual weights assigned to the metrics. The general rule for the SAIL domain and metric weight is we assign equal weight to domains, equal weight to the metric under the same domain. There a couple exceptions when we have a big concern. For example, that is a new metric that’s being introduced. For example, ORYX is relatively new compared to the other metrics. Employee satisfaction, best place to work, All Employee Survey, that is only updated annually, so once a facility get a score, it would take it another year for them to have updated information. This is going to change in the coming year given that we have quality survey that will be covering the best place to work. So this is going to change in the future.

And then we also have input from our partner program offices. They would also suggest on what type of weight, how the weight would be distributed across the metrics from their office.

So how do we turn the metric score into a domain score and overall score? In general, at the metric level, we convert individual metric into standardized score or z-score. And then we adjust for complexity grouping just to take into account some of more complex facility and less complex facility. Sometimes they are not comparable with regard to their resources, speciality type of care to provide to our Veterans. We convert the metric score to a z-score in a way that the higher value represents favorable performance. Then we take the metric Z-scores, aggregate them or sum them up to become the domain z-score. The domain score times the metric is not applicable to a facility, or they have missing values because they didn’t meet the rules for recording; for example, 30 or more for patient surveys, 20 or more and so on for mortality metric.

So when they are missing metrics, especially within the domain, we basically redistributed the weight proportionally to other metric in the same domain. Then we group the metric score into the domain score. Once we have the domain score we, again, using the same methodology, when there’s a domain is not applicable to a facility, for example, none of acute care hospitals, they don’t have inpatient metrics, then we redistribute the domain weight proportionally to other domains and then we use the weighted sum of the domain score to become the overall score.

Once we have the overall score, we basically create an initial quality star rating from one through five. The quality star rating is only covered in nine quality domain. Efficiency and productivity are not part of the star rating. The star rating is only done at quarter three of each fiscal year, so the distribution for a star rating is: one and five star accounted for 10% of facilities, two and four star accounted for 20%, and rate of 40% are designate three star. So that’s an initial star rating. And once we have that, we have promotion and demotion algorithm. Basically for five-star facilities, if they have high mortality, meaning their mortality at the highest 20% in the VA, we would demote them to four star. And then we promote equal number of facilities from four to five star where have no mortality issues. So it keep the five star always fixed proportion in the VA.

For one-star facilities, given that SAIL is an internal benchmarking tool, there’s really no external benchmark or external non-VA facility when we doing a comparison. So a few years ago, the national leadership council basically recommended that we create a promotion opportunity for one-star facilities, taking into account how they perform compared to available benchmark data for non-VA facilities. So we basically have the algorithm for those facilities who are performing, had the most number of metrics or highest proportion of metric that perform better than the bottom 20% of the U.S. hospitals we will promote those from one star to two star. And usually we promote each quarter about two to five facilities from one to two. There’s no demotion. There’s no two star being demoted to one star for any reasons. So the one star that was set to 10%, usually it’s less than 10% of facility that’s named as a one star.

And then, once we have all those, we generate the report. The report will show the metric domain, overall score in quintile. We seldom use the numeric ranking one to 130. We usually like to group the facility performance in quintiles, and then we use different tabular or graphic format to present the relative performance or absolute increment of the facilities. And we also embedded a lot of improvement tools and resources that is available for the field to use.

This is just a cheat sheet regarding the domains, the measures, and then where we link to. You will see a screenshot of the report we have hyperlinked to individual drill-down report that users can actually look into the detail of the metric data. And also here it’s showing you what’s the lowest level of detail available from the source report and how often the time slicer you can go into the resource report.

So SAIL is embedded with lots of features. Really it’s to help the facility to identify gaps, opportunities, and their strengths. Some of the people like graphic presentations, the others like tabular presentation, so we have mix of tools available on SAIL. The radar diagram, the benchmark table, those are internal benchmark compared to a five-star facility or the best 10% of individual metrics.

We have maps which show the geographic variations across the VA. Have the sorting tool to identify who are the high performers on individual metrics. We have a Deep Dive Insight Generator, which is a pyramid report that creates multiple templates to help the field to start analyzing their data in case they don’t already have the capability to create analytic report themselves. We have Why Not the Best VA to provide external benchmarking, primary using CMS hospital computer data. So we don’t just benchmark, internally we can know, so making sure that we don’t fall behind the U.S. in overall trending. And then we have trend charts for individual metrics. We have goal setting calculators that will help the field to predict where they are likely to sitting in six months and has additional feature to identify where their biggest opportunities are and let them set the goal, if they’re able to reach a goal within a six-month period, where they likely will be sitting. And then we have, using the statistical process control charts measure to create the trigger systems. And we have quite a few of FAQs that’s also available on the SAIL report.

So where do you find SAIL report? The easiest way is probably from the VSSC homepage, which is very easy: vssc.med.va.gov. And once you are on the homepage, what you do is go to the Facility Implement tool section at lower right, click on the Quality of Care. The other times VSSC has tapped in report that most often viewed the report over here. And SAIL usually make amount one of the top viewed reports, so you can also use this as shortcut to go to a SAIL report.

If you click on Quality of Care, you will see this page where we’ll be listing a series of outgoing report related to the implement tool for facilities. One of those, it’s the SAIL report. There are also additional reports on the same section. Those are kind of relevant to what SAIL report, and which hyperlink within SAIL to multiple of those report over here.

This is, once you go to SAIL report, this is what you see initially. What you have, the Radar Chart, this is kind of the second page already. It’s a metric radar chart. You start with your domain radar chart, and then the document map section has a set of metric reports that’s prepared at the facility level. Another set of report prepared at the VISN level, and then we have trend charts, improvement tools, trigger systems also available from the document map. And you can just click on the plus sign to just see what kind of tools or reports available under individual section.

Here are the additional sorting tools that I mentioned earlier. You’ll be able to find them over here. And then, Why Not the Best VA external benchmark report, we have at bottom over here.

And then they have the mission document, very comprehensive, currently probably about 80 pages or more. And then here is the sources for additional improvement tools or reports that the field may find helpful. The Listserv to sign up for receiving email about training announcement and release and so on related to SAIL. Here’s a help desk ticket or you can look at FAQs; that is also pretty long. We have received a lot of questions from the field, so we create a searchable [unintelligible 22:38] dynamic FAQ section. You may find it helpful for some of your questions.

So the diagram itself is, for individual metric available on SAIL, we tried to have it mapped onto a radar diagram. Each of the metrics you see have markers related to them. Those are basically the relative performance in quintiles, five equally divided groups. The blue usually, that’s the 20%, green the next 20%, and you don’t see red here because this is a pretty high-performing facility. The orange is at fourth quintile and then if facility has a red, they’ll be the bottom 20% with regard to the relative performance.

So here, just to show you how the graphic, the radar chart will look very differently. The radar chart is designed in a way that the higher performing metrics are closer to the center and the lower performing metrics are a little bit wider in the outer rings of the radar chart. So it may be a little bit easier for the user to quickly start where their biggest opportunities are. For example, this five-star facilities, there’s only three orange dot; there’s no red dot. So it’s very easy, they can see, well, those are the three metrics they probably have the most opportunity for improvement. In a lot of the metrics, they're very close to a center; they are really high performing. Compared to 1 one-star facility, you can see how widely the markers are spread across the range. And for this facility, it would be harder to identify where they should start with just because they have so many metric that’s rated at the lower 20% in the VA. The general rule is probably at the nine o’clock position. Any dots above the nine o’clock, those are probably where the largest, biggest opportunity for improvement are.

The radar chart is a visual view so user can quickly identify where the opportunities are, but it doesn’t really tell how big the differences are for your facility data versus how the VA distribution looks like. So this is what we call the scorecard where we are providing individual domains, metrics underneath the domain, all listed in a table format. And we also show the measurement unit, its observed to expected ratio, its infection per thousand device day, or the number of days or percentage, so on. We provide the preferred direction. Is the lowers better or is the higher value is the preferred? And then we show the facility value here. The benchmark is basically the best 10% of the VA distribution as you can see over here. For example, mortality, standardized mortality, lower is better, the preferred direction, so looking at the 10th percentile, the lower value will become the benchmark. Benchmark is not really target, it’s different from VA target. It’s just to show where the best 10% cutoff for the VA facility is for the value. So in case a facility like to pursue for excellence and they’re very close to that, that could be a goal for them. But other than that, they are also 50th percentile, 90th percentile, so facility can compare their value with the distribution and know exactly, approximately where they are sitting on the distribution.

The majority of metric on SAIL is actually pretty widely distributed across our facilities. For example, SMR is the only ratio after perspective ratio value of one, meaning the facility is performing as the model predicted. So the VA average about 0.8, so that’s about 15% lower than the model predicted. The best performing is 50% better than predicted. In the worst performing facility is at about 13-14% worse than predicted. So the only metric having a narrowing is the performance measure we’re not showing here, the HEDIS measure, which is a little bit narrow than the other metric, but with regard to the majority of metric, really we have quite a bit of variation across the facilities.

So what you’re seeing right now is what we call the scatter plot. It’s basically you take data from two time periods and show them on a graphic. So the y-axis is usually the past time and then the horizon, the x-axis is the current time or the recent time. So we divided the axis into five equally divided groups, assuming the quintile positions, and then we plot each of the domain. This gives us domain scatter plot. We plot the positions between the two periods for each of the domains on the graph. So how do we read that? The easiest way to read it is to draw horizontal line to y-axis so it will show the facility. This is overall quality dot. It’s at the third quintile in 2015 quarter four. It would draw a vertical line to the x-axis. You will see that the facility is currently sitting at the first quintile, the best 20% in 2018 quarter two. So this is facility actually had done a lot of improvement work to move the facility from nearly the lower 40% in the VA two and a half years ago to currently at about the best 10% in the VA.

SAIL doesn’t really show the ranking of the facilities. If you really are interested, you can mouse over any of the markers and it will show where the quintile position is and what is the numeric ranking for that specific metric you interested.

Also if you remember, we have a diagonal line on the graphic in the center. So usually how we’re showing is the dots above the diagonal line meaning they are declined in the relative performance compared to other facilities. If they are in the lower half of the graph usually means they have improved their relative position compared to other facilities in the VA.

SAIL really is trying to emphasize the improvement. So looking at the relative performance, which is pretty much the relative ranking of the facilities, some facility will always, we will always have facility ranked high and some facility will be ranking low, so people have criticized SAIL as a zero-sum [unintelligible 30:24] with regard to ranking. So we created a report that’s called the relative performance vs. absolute improvement chart. So on the x-axis is the relative performance using the most current performance data. And again, we divide the facility into five equally divided group or quintiles. On the y-axis is the effect size, basically is looking at how a facility compared to themselves from a past time. And then this is a quadrant. Using the effect size measure is how we can find whether or not a facility improved, from themselves, from a period of time before. And then we have two bars over there. The blue bar, or purple bar here, basically this is the small improvement, basically is saying the changes between two time is small. And then above the blue bar is the large improvement. Pink bar, meaning small decline, and then below the pink bar is large decline or large deterioration of the relative, of the absolute improvement.

And then we plot all the metrics on this chart. The upper right we have a little bit of labeling over here, meaning the facilities are performing at the better 50% in the VA and also they have made improvement on those metrics. So this is an area that we probably don’t have to worry about for the facility. This is the area facility performing at the lower 50% compared to other facilities, but they did make some improvement compared against themselves about one year ago. So this is somewhere the improvement work has effect. We probably don’t have to pay, worry too much for now as long as the facility continues to move in the right direction.

The lower left corner is the area where the facility would be worried, where, for example, patients survey not only in the lower 20% but also they have declined in their patient survey performance compared to one year ago against their own data. So this is the area it’s a red flag and facility probably want to pay attention, looking the cause and really focus on creating improvement strategies. The lower right corner is where it’s still relative high performing but has a little bit of decline in their performance compared against themselves. As long as this is not too far from where they were before, this is probably okay area just to also watch rest of the metric there for now.

And then is a visual we call the opportunity metrics. This is at the facility level where we list the metrics, the domains, and what the weight assigned to individual metrics. If we don’t see a value, meaning those are not assigned a weight to it. And then we have a time over here, so facility will be able to see how they are progressing based on the quintile position. So once you find the same color scheme that we use, how they have progressing over time with regard to their individual metric. Again, this is a relative performance thing.

And this is the VISN level opportunity metrics. What we do is we have metric again assigned a weight at domains. But then we list the individual metrics within the same VISN. So the facility can use this to know, well, I have opportunity, for example, ACSC hospitalizations. Within my VISN, I have a few high-performing facilities. I may be able to reach out to them to learn what kind of strategy they are using to keep them as a high performance facility. So this is more for networking purposes.

Another tool can serve the same purpose. This is one of the field tool that we have. Here what we’re listing is all the facilities. The user will start by selecting a metric. For example, again, we’re looking at ACSC hospitalizations. This table listed all the facilities currently perform at the best 20%. And then we show the relative yes or no, whether or not at this specific time they are the best 20% in the VA, and then we show the numeric ranking. So this is only place we actually show the numeric ranking of facilities.

So what we suggest the field to use is find a metric that you have opportunity you want to reach out to other facilities and look at the numeric ranking to pick the one that you want to reach out to. You probably do not want to reach out to a facility that’s always high performing because this is part of their culture, they may not really have a lesson learned to share. Instead, you want to find a facility where they seem to have some opportunities, ranking lower in the VA a few years ago and they were able to progressing over time. And those usually are facilities have something that's working and they have good lessons learned that can be shared with you.

This is just a line chart for individual metrics, again organized by the domain. Blue line usually on our record represent the facility line, the orange line is the VA line, and then we have the best 10% just in case a facility would like to become the best among the good facilities. And then we show a little bit of information regarding if the lower value is better or how are we aggregating, is it 12 months rolling or is it year to date or is it yearly data? So when we like facility to use this is to making sure your trending is at least following their trending. You are not going against it in the wrong direction for the VA trending. If we see that, then that probably is a red flag and we’re taking a look at what’s going on with the specific metrics.

This is goal setting calculator where, under the Tool section. This is where we create something very similar to a scorecard, in using predicting methodologies and looking at the trend that we have over time, and then we predict where the facility is likely to sit their relative performance in about six months' time. The goal is really to making sure the facility, their improvement work do not fall behind of VA overall improvement.

So this is what you’ll see when you go into a goal setting calculator. Initially it will give you what is your quintile position and the time. What’s your numeric ranking? And then if nothing has been changed, every facility going in the same direction, improved in the same pace they have right now, where the facility is going to sit in about six months of time. And then we have individual metrics under the domains. That’s a list very similar to a scorecard. And then we have where the predicted, in six months, where the distribution looks like for the VA, for individual metrics. The current period or the measure value and what we’re predicting in six months, where the facility’s value likely to be.

And then we highlighted any values in pink if they are at the risk of being in the lower 20% in the VA. If that is the case, the facility can actually set a goal for themselves. For example, they say I’m 29 right now and looks like I will be at risk. I’d like to set my goal to improve on ambulatory, ACSC hospitalizations within six-month period of time to get a value of 26. So if they entered that value, click on calculate it, the report is going to refresh, and they’ll know if you’re able to meet the goal you’re relative position likely to improve from 120 to 109 in about six months' time. So this is basically just a prediction. It’s not exact. But it’s helpful for facility at least having some kind of trend data behind the scene to know where they are heading. In case they have opportunity, they will be able to focus on improvement work on those areas.

The other tool that we have found helpful for the field is the Trigger Systems. Under Trigger System, when the user click on that, you will see the outcome and the G-chart. The outcome you usually section, hyperlink when you go there, you will see the monthly refreshed process control chart or the quarterly refreshed process control chart. You will go to a G-chart, your graphic chart. Those are really for the rare events. Usually the rate is low in the VA, and those charts are refreshed on a daily basis. So those are just some of the tools. SPC chart that we have built up for the SAIL project with different metrics. In general, we have a data point, the center line is the average over time and then we build a control limit around the data point that’s plotted on the chart.

So example here is an XMR chart where, again, blue line is the facility line and then the pink line is a composite peer group line. So if we ignore the pink line for now and just looking at the center line is over here, that’s facility value over time, the control limit is something to just, a boundary to say if you’re above those control limits, the facility value is very significant from where they were before. So if we only pay attention to a control limit in the blue line, the facility is probably in control. There is nothing changed over time, over the five years period. However, if we superimpose the pink line on that it becomes very obvious the facility has high mortality over time compared to their peer hospitals. So this would definitely show it’s a metric where they have an improvement opportunity to work on.

The other chart that we have, the EWMA chart, is exponentially weighted moving average. So again, those are just the chart. They’re using a little bit different methodology for building a control limit. Again, have the central line for facility and the control limit. So this facility again is showing mortality, and the line in continuing to decrease in below the lower control limit, suggesting the facility improved very significantly compared to where they were before.

And this is just, have the two chart put together. We usually like to see XMR chart and EWMA chart together because they really complement each other with EWMA more sensitive to small, persistent changes where may not be showing very obviously on the XMR chart.

The other chart addresses some of the [unintelligible 42:18] chart that is really built up on individual encounter level and usually require predictive value and observed value in order to model the differences between the observed and predicted. So I’ll not go into detail about that.

This is the G-chart, which is refreshed daily. Basically it's plotting the number of days between adverse events. For those charts, we basically build into additional features is user pulling down a marker. It will return the specific event that was happened with patient information and thedata mission discharge diagnosis code and so on, so that the field will be able to come to this chart every day, and they will be able to see whether or not there any new event that's occurring and they can start reviewing those charts and looking at opportunity for improvement.

Why Not the Best VA? It’s external benchmark report where we mostly using CMS data, but we also use additional national reporting agency data that’s available to us. Currently we have four domains, readmissions, complications, deaths; survey of patient experiences that focus on patient [unintelligible 43:37]. Finally, in effectiveness of care and HEDIS measures, this is the only available at the composite VA internally. There’s really no additional data for the HEDIS measures, Why Not the Best VA. And then we provide the benchmarking for the hospital average, the national average, hospital referral region average. Basically you can consider that as a city. And then we also show where the best at 20 and 25% in the U.S. national distribution looks like.

So this is screenshot of Why Not the Best VA showing a facility where the benchmark data, national average, median, and so on. The top 20%, top 25% are on the top, and then the individual community hospitals within the same hospital referral region, or the same city, are listed below so that the facility can use this to benchmark and nationally benchmark with local facility. And those are in case they need to refer the patient to a private sector for care, they have the option to look at how the quality looks like at those community hospitals.

The other thing I like to share with you is another, the same under the Why Not the Best VA is facility scorecard where we have additional metric that we collected with national benchmark data to it. It provides additional information, where the VA data is, basically a more simple view in one table. Domains and metric, what the VA value looks like, what is CMS referral region, [unintelligible 45:27] city, what’s the average over there? What’s the U.S. national average value? And we also adding a column, new column to it, showing where the lower 20% for the U.S. national average is. So it acts as our promotion upwards for one-star facilities. So that information is available on the scorecard [unintelligible 45:48] as well.

I’ll probably not go over the efficiency section. This is, efficiency and productivity aren’t something that we are now star rating at the SAIL report, but we do benchmark a facility on those metrics. Efficiency and productivity, definitely a very important section on the SAIL report, because that’s the ratio that’s supporting everything we do. And OPES, to their credit, create a lot of implement tools that use a really, probably you should take a look to identify where the gaps are with regarding to resources, staffing, and productivity.

So improvement is really, can be considered as a relative term, an absolute term. We definitely would like to see our numeric ranking improving, but also we like to see the actual metric value improve over time. So within SAIL, or I should say within the RAPID office, our parent office, SAIL is a reporting tool. Really the work, it happen in the field, so in order for us to better collaborate with the field to focus on improvement work, we kind of have a framework how we work using the SAIL as a report to identify where the facility have the most opportunities for improvement. And then we engage with the VISNs and the facilities through our, another sister office, Center for Improvement Coordination. They will reach out to a facility and then either conduct a virtual review, a site review, or have phone call discussing opportunity and so on, reviewing their data. When they are identified as a higher risk facilities, we sometimes will bring subject matter experts with us to the site visit so as an extended day with the facilities, review where their opportunities are, where the gaps are, and provide consultation and continuing to work with the facility on implement strategies.

And then we also continue to provide the training and information sharing. For example, if we’ve identified the promise practice that can help a specific facility with that specific opportunity, we share those resources to them or we’ll connect the facility with those facilities high performing on this specific area. And then this is circular process. We’re continuing review the relative performance and improvement on a quarterly basis.

So in 2018 quarter two, every quarter we basically compare how VA is doing, focusing on the improvement side to see how VA is improving over time. Usually we like to use a one-year period because that’s probably about the time we’re going to see significant difference across the facilities if really something is working. So 18 quarter two, we have 71% of VA facility actually improved in their overall quality, which is very impressive. And among those, seven facility had a small deterioration. There’s no facility actually that has a large deterioration compared to where they were one year ago. And you can see from this graphic, focusing on the diamond. The diamonds are the five-star facilities. The majority of those five stars continue to improving. They’re above the blue bar, meaning they are making large improvement or very small improvement. So they continue to set new bars for the VA. And then we also have five facilities that promoted from one to two star because they’re performing better than the private sector hospitals.

So what we have learned over the years, how the facility can high performing. Some of the characteristic that we’re seeing is they have engaged leadership, they have empowered staff to be able to do what they see is right to do. They will reach out early to program offices and they’re not afraid of asking questions. The high-performing facilities usually ask us to have a site visit so that they can get better. They have a true sense of urgency and the leadership will communicate those sense of urgency with their staff over and over and over again. And they also have very good knowledge and engaged leadership regarding the metric, the report, the tools, how they’re performing, and so on. And that is not limited to just the leadership, the executive leadership, but also to service chief and section chiefs.

So the current development for the SAIL is really we’re extending the SAIL model to not just about medical center. The CLC, SAIL looking at Community Living Center has been pushed out about two years and recently is also part of the public reporting. The public will be able to see how is VA CLC is doing. And just recently, past couple months, we are pushing out a SAIL administrative, or admin, SAIL report that is looking at the operation effectiveness at our medical facilities. So again, all three of them, medical centers, administrative, operation, community living center, those aren’t just modeled data. The tools identify the gaps and opportunities. And then through a program-wide initiative called STAT, that looking at the low performing facility, mobilize resources, subject matter expert, improvement expert to those facility to help them making improvement. And then we also have leadership engagement at the Central Office, knowing where those facilities are going and what kind of resources and support they will need to help them to improve their performance. So we have a few category regarding our watch list facility, high-risk facility, critical [unintelligible 52:26] VA receivership. So those are just some of the risk level that we have defined.

The last few slides, just want to show you are some of the implement tools in case you’re interested in the SAIL data. SAIL is really dynamic. When feasible, every quarter, we checked all the data back in time when available and refresh the SAIL report. So the quintile position can change; the relative numeric ranking can change. The only thing that doesn’t change is the star rating. So usually, when their researcher reach out to, what my suggestion is looking into a Deep Dive Insight Generator report, which is basically a pyramid report if you’re comfortable using that. It has eight of the nine quality domain metrics information, not all the metrics, but the majority of metrics when they are supported by pyramid. You will be able to find those data through this Deep Dive Insight Generator report. And you can click on individual domains listed on the first line and then the individual additional report under the domains you’ll be able to find at the second or third line sometimes.

So the report itself will provide you the relative performance and also like other [unintelligible 53:57] report has drilled down into a patient level data function if you have the access. So this is really developed not for researchers but for the users when they don’t have the capability of using pyramid to analyze their data. We create templates to slice and dice the metrics in different ways so that the facility can know when they have mortality is high which of the area is really contributing to a high mortality.

So training and resources. We have Listserv, so you’re interested you can sign up from the SAIL report. We just recently have the CIA Pulse website, have all our product listed. We also have announcement about both on the Pulse website. And then we have RAFT past trainings or our SAIL miniseries. Training slides are available from the RAFT website.

So this is what you’ll see from the RAFT website when you click on the link. Here is the anything about SAIL that we have provided training, admin SAIL, and the CLC SAILs, so it’s organized by different sections.

Just to want to recognize, acknowledge my great team that we work together from the Center for Innovation and Analytics, and also our partners. Really without them it’s probably not possible for us to be where we are today. So this is really a lot of team effort and also collaboration and ideas contributed from the field.

So I’ll probably stop here. I think we may have a few minutes for questions.

Moderator: All right, thank you Dr. Li. We do have a few questions in, so I’ll continue just down the list. This question I think came around slide 10 or so, so if you want to scroll back to that one. The question is why is wait time at 0% for access to care?

Dr. Yu-Fang Li: Great. A very good question. So wait time, if you remember that a few years ago one of the VA facility was, hit the news about access issues and the Congress was saying our executives are receiving bonus when the data was not right, the wait time issues. So at the time, Secretary Shinseki basically decided we will not provide bonus to the executives when there is a possibility for manipulation. And wait time is the one that, at the time, being excluded for monitoring. SAIL is, accounted for 25% of director's appraisal, end-of-year appraisal, so with that request from Secretary Shinseki, we really cannot provide weight for the wait time metrics because that would become part of their annual appraisal for bonus and other things. So it’s still an important metric, so we have to include it on SAIL but we assigned no weight to it.

Moderator: All right, thank you. This next question also refers to slide 10. Why is the star rating based on only one quarter of data in a year instead of an entire year’s performance?

Dr. Yu-Fang Li: The SAIL metrics is actually, most metrics are rolling 12 months, so cover 12 months of data or yearly data. In very rare event we have year-to-date data if they don’t have enough data to prepare rolling 12 months yet. So in a sense, it really is 12 months of performing. The star rating is, officially we can only update star rating on a yearly basis because it’s also linked to the director’s appraisal. We do have the relative performance and so on, the facility will be able to see, for example, from the scatter plot that we have, we do plot where the overall quality looks like every quarter, so they’ll be able to monitoring where their overall quality looks like. And they can convert their relative ranking to something similar to a star rating. But we don’t officially report star rating on a quarterly basis.

Moderator: Okay, our next question. This one refers to the scorecard slide. This person wrote, I noticed you give the range and the associated percentiles, but you don’t give the percentile associated with the facility’s actual score. Why not?

Dr. Yu-Fang Li: It’s a bit complex to do that because some, the majority of metrics is adjusted for the composite grouping. Just because the volume is small, sometimes small facility, their volume is much smaller than the larger facilities. So there were times they are at disadvantage compared to large facilities. So what we’re showing is just a national distribution. If we also show the composite level adjusted the distribution. Some of it made the table a bit too busy, as model version of different values on that, [unintelligible 59:38] just for the design purpose.

Moderator: All right. We still have a few more questions. We’re at the top of the hour. I understand some people might have to leave, but if you can stay, I’m going to try to get through these last few questions. Okay, the next one. You provide a variety of charts, graphs, and reports, some of which are consistent with best practices in terms of data visualization but some less so. How did you decide what types of reports to produce and what audience did you have in mind for what purpose?

Dr. Yu-Fang Li: The design is really trying to turn complex information into something that’s easy to understand. Even the Radar chart, for now, the majority of people would probably say it’s very easy to understand and quickly stop on where the opportunities are. But when we first introduced that, it actually require a little bit of education. But once people get it, they find very easy to know.

How we decide what kind of a graphic to present is we actually read a lot of public reporting agency report, looking at the work plan, example they're showing, and then if they are good ones that we think would be helpful for VA audience, we will adopt when feasible and create included SAIL report. Some of the table, so for example, if you remember the one that has, this one. This is actually a recommendation from VISN 21, if I remember correctly, suggest that to create a table like this so they can identify who are the high performing to reach out to them too. And then those hyperlink I did say, when you click on that you can actually go to that specific facility report. Those are all hyperlinked. So it really depends on what we have studied and found that helpful, easy to understand, and also have field input to us.

Moderator: All right, next question. Where can I find the external benchmarking against the private sector?

Dr. Yu-Fang Li: External benchmarking from the private sector will be Why Not the Best VA, so there are two places you can find Why Not the Best VA report. One is through this button on the top. The other one is you open the tool, there’s Why Not the Best VA over here. So those will be the two places you can go. Once you are at a Why Not the Best VA, you will be able to see, there’s a button there on the top. You’ll be able to see the scorecard and that is where you’ll be able to see, download a one table view of facilities they have benchmark with non-VA or U.S. national average or local city average.

Moderator: Okay, another question about where to find something. Where can I find the latest Radar diagrams of five-star to one-star facilities?

Dr. Yu-Fang Li: The star rating you, probably not easy to find because we only publish star rating once a year. So what I would recommend you to do is go to here, level scored by level quality. Basically we provide you the quintile position. We don’t show the star rating. So you can limit it to the first quintile, which would be the best 20%. And again, it will be designed in very similar way to this, that each facility, once you filter to only 20%, the best 20% of site, you will see the facility name underlined with hyperlink. Click on that, then you’ll be able go to those high-performing facilities. And the first thing you will see is their Radar chart.

Moderator: All right. Thank you, Dr. Li, just one last question for you before we wrap things up. This person wrote SAIL seems to be inpatient focused. Have there been discussions about integrating more outpatient measures and also including data on CBOCs?

Dr. Yu-Fang Li: It’s a very good question. So SAIL is actually not only inpatient focused. Right now it’s about 50/50 distribution. So 50% of metric is probably about inpatient, although I’m listing quite a bit metrics here. For example, HAI [phonetic 1:04:40] I listed individual ones. Those are all combined into one. Mortality, you'll probably, at the actual SAIL report, you’ll see additional disease specific. Those are not being scored. So for those being scored, it’s really about 50% of the metric is for inpatient. And then we have another 50% that’s basically covered for outpatient in system-wide report. For example, it's measure entire healthcare system. For outpatient metrics, for example, the HEDIS measures is really reported at the [unintelligible 1:05:22] parent level. So the CBOCs will be included in the metric that's reported on SAIL. The same with the patient survey. For example, primary care provider rating or speciality care provider rating, those are reported at [unintelligible 1:05:42] parent level. So the CBOCs, all the divisions related to that parent facility, are included in this score being reported. The details, if you were interested in looking at the division performance under that facility, my recommendation is you either go to the scorecard where we have a lot of hyperlinks that you can click on the link and go to a scores report, or go to the Deep Dive Insight Generator I show you earlier and you will be able to see the division level value if you’re interested in that level of granularity.

Moderator: Okay, Dr. Li, I thank you so much for taking the time to answer these questions and present today’s session. We were able to get through all of them. Thank you for staying over a few extra minutes. To the audience, if you have additional questions, you can contact the presenter directly. I believe her contact information is in the slide deck. You can join us for the next session in VIReC's Data and Information Systems in Partnered Research Cyberseminar series next week on Tuesday, September 25th, at 12 pm Eastern. Doctors Anju Sahay and Paul Heidenreich will be here to present VISN 21 Pharmacy Dashboard: Improving Medication Safety. We hope to see you there.

[ END OF AUDIO ]