

DENISE KENNEDY: Hello everyone, my name is Denise Kennedy. Your phone lines are muted so we will be taking questions through the chat feature. If you're experiencing any technical difficulty, please use the chat function that is available to you at the right of your screen, and we'll try to answer or problem solve any troubles you're having. To respect everyone's schedule, we'll keep this moving so the session ends on time.

Today we welcome Dr. Shaman Singh from the Office of Connected Care, who is a hospitalist at the Washington DC VA Medical Center, and a clinical advocate for the Patient Viewer App, and many other VA mobile provider program apps. As I mentioned before, if you have any questions for Dr. Singh, please use the chat feature, and we'll get to them at the end of the presentation. If we don't get to your question, we'll send out an email following this webinar with any relevant answers.

With that I'm going to turn it over to you, Dr. Singh.

SHAMAN SINGH: Perfect, thanks, good afternoon everyone. I know I am standing between folks on the east coast and perhaps happy hour so I will try to keep this concise and answer as many questions as we possibly can in the next 45 to 60 minutes.

Today we're going to talk about one of the flagship mobile applications that the Office of Connected Care has developed, the Patient Viewer App. At a high level, this is the mobile application that we developed to allow health care team members to have mobile access to a patient's record.

We wanted to be able to give you all of the read only information that you would typically get through CPRS in the palm of your hand, whether that's on a government furnished iPhone or an iPad. And like I mentioned, the Patient Viewer App is primarily read only, so you'll be able to see consults, medications and problem lists. You'll also be able to look at vital signs, lab results and graph them as well.

The app has limited write-back capabilities, and that's primarily for entering free text notes. We were able to develop the application so that it looks at your VistA instance and pulls together all the note titles that you normally would see in CPRS and provides them to you in the app. The app doesn't go that extra step further in terms of dynamically recreating templates that you've associated with those note titles and is just free text.

Because you are on a mobile device, the app renders itself well to entering those quick two, three, four sentence paragraph notes, but not really one where you're templating, like an admissions history.

With the Patient Viewer App, you also have the capability to view orders. There are two other bits of functionality that I really enjoy. One is a staff menu component which takes you out of the patient's chart and gives you a view of your activities, so you can view your task list for notes that you have yet to sign and save back to VistA. The other is the app gives you a facility-

wide view of consults going on in your facility. We'll get into that in a little bit, but at a high level, the app allows you to look at cardiology for instance as a consult domain. It'll pull up all of the cardiology consults over the timeframe that you requested and show you which ones are overdue, which ones have been completed and which ones have been scheduled. So it's really helpful if you are managing a service that responds to consults, or even if you're a primary care physician and you want to look at consults that you've placed so you can keep track of your patient census. It gives you that quick view that before you'd have to find somebody that would be able to run a script on the backend, scrape through the data and provide you that information that way.

So where are we with the Patient Viewer App? We just completed what we call a field test. Over the last several years, the Office of Connected Care has been delivering iPads out into the field, primarily into the hands of our clinical end users. We reached out to a lot of our early adopters around February/March, to let them know that there was a version of the Patient Viewer App out that we really wanted to get their feedback and opinions on. And we've had a couple hundred people participate in using the app in their daily clinical workflows and give us feedback. We're in the process of correcting some of the bugs that we've found, and we're looking forward to doing a national release later this summer.

Going into the fall, we'll have some quick follow up releases that will give even more functionality to the application. One of them is in an area called custom data view. What custom data view allows you to do is actually view patient-generated data. What is patient-generated data? Well this is data that patients are going to be generating using our mobile apps that patients can download to their phones. One of them is the My VA Health App, which is a journaling app for patients to be able to keep track of any new allergies, keep journal entries, log their blood pressures, blood sugars, weight, how they're feeling and keep track of pain scores. All that information will be sent from their device to VA, and it's stored in our patient generated database. But our health care team members need a way to view that data. So with custom data views, we're going to be able to look at data coming from these apps.

Information will also be able to be pulled from a couple other apps, like one that Dr. Brooks Robey created called the Mobile Kidney App for our chronic communities, so that we can track how our CKD patients are doing. Also, Dr. Alexis Beatty has created a cardiac rehabilitation app that also will be released later this summer, and as you can imagine, that has to do with keeping track of data points for our patients undergoing cardiac rehab who have recently had a cardiac event. This app could probably be tweaked and tailored to our congestive heart failure population as well.

Another application that our sister office is doing in telehealth is called VA Video Connect, which will connect the health care teams to Veterans using mobile devices, so basically peer to peer video communications. It's like FaceTime between providers and patients to allow them to have that virtual telehealth experience. VA Video Connect is going to be part of the Patient Viewer App so that our providers will actually be able to launch that virtual telehealth session with patients directly from the Patient Viewer App.

One new nursing-focused bit of functionality that Dr. Michelle Lucatorto has been helping us develop is our Nurse To Do App. It allows nurses to create a task list for the patients that they're caring for, whether they're in a clinic or in the wards, and they'll be able to generate a set of tasks for a particular patient that can then be completed. You can log any details or notes related to that task and have those tasks auto populate notes so that at your end of the shift you're not constantly having to go back and remember what you were doing – it will already be automatically generated for you.

There is also the Patient Education App for nurses which will allow them to provide patient education bedside or in the clinic and actually capture what it is, what resources you were using with the patient, what you were discussing, and have that auto populate into a note as well.

Moving on, we're just going to do a quick walkthrough the PowerPoint deck. We'll show some high level screenshots of the functionality that I briefly mentioned earlier.

When you first log in you see the provider login page. You're going to use your access that you typically use to login to CPRS. Once you're logged in, you pick from the same dropdown list that you use to navigate CPRS; it has the exact same kind of flow here in the mobile application.

When you log in to the app, you're going to want to go into the last chart that you were viewing. Especially on the inpatient side, you'll be rounding and want to look at a patient's chart outside their bedroom. You'll go and talk to the patient and then you'll come back to the application. But you don't want to have to keep logging in and searching for that patient. It'd be great if the last patient you were looking at was right there and that's the way we designed the app.

When you first log into the Patient Viewer App, I'll give you a walkthrough of what the first splash screen looks like. We're going to start in the top left where you'll see four lines. That stands for the menu icon and is also referred to as the hamburger icon. If you use Amazon, if you use Facebook, if you have an Android device, you're quite familiar with this icon, and it basically stands for menu. It gives us this drop-down of all the different parts of the app, that we're going to go to in order, to navigate the patient's records like their cover sheet, vitals, medications, documents, consults, labs and radiology.

Off to the right you'll see Orders, which we'll talk to a little bit later. That gives you a view of the orders for that patient. Right now, we've limited it to the domains of medications, laboratory and radiology. We're looking forward to expanding that further to take in generic text notes, nutrition, nursing orders and additional order types.

To the right, as I referenced earlier, is our note writer. That's the ability to do those free text notes that use the VistA titles that are affiliated with your facility. We already mentioned the menu. Down a little bit further, these are the parts of the menu that have to do with the application, and it'll take you to the About section. The Launchpad, which is external to the Patient Viewer App, is basically a landing page that has all of the mobile applications that

providers can use. From there you'll be able to go to things like the Image Viewing Solution App for PACS radiology imaging, the Patient Viewer App and several of our other provider-facing mobile applications. And then, of course, you have the ability to log off.

One thing that we didn't have on the previous slide, just for the purposes of patient privacy, we removed a top bar that had some patient identifying information. Up here you'll have a magnifying glass that allows you to do a patient search. It'll have the patient's name, and then it will have whether or not they're in a hospital and if they were admitted. That's the only part missing there. When you want to do a patient search, you'll get a search pop-up which allows you to search for patients using their first and last names, their Social, or their last name and first initial. You can also do it by clinic and you can do it by ward. It'll also save the last 20 patients for whom you used the Patient Viewer App. One of the future functionalities we're looking forward to is to actually replicate all of those personal lists and provider-based lists that we're used to seeing in CPRS to help navigate patient's charts even more easily.

Going back to the app itself, the cover sheet is similar to what you see in CPRS, you'll start off with contact information and get all the patient's contact information. You'll have your problem lists, allergies, inpatient medications, outpatient medications and surgeries. For future appointments and hospitalizations, that data is coming from the corporate data warehouse so you'll get all the appointments for that Veteran across any VA site or facility. I practice medicine and am a hospitalist in the Washington DC area, so we often have patients coming down from Baltimore, up from Richmond or over from West Virginia. It's handy for us, when we're doing our discharge planning at the patient's bedside and going over their discharge instructions, to have access to the information of where they're going to be following up with their actual parent facility or if they're following up with specialists. And with hospitalizations, it's always handy to know when somebody was hospitalized.

Going down the menu, the next part of the Patient Viewer App is Vital Signs. That's presented to you in tabular form. You can filter by date range, and you also have the ability to graph vital signs if you would like. If you tap on a particular data point you'll also find out the information for that particular data point, it will tell you the value and the date when it was registered or entered into the system.

Under Medications, you're allowed to filter by active or inactive medications, whether it's outpatient or inpatient, whether it's VA or non-VA. You can also filter it over a date range. When you tap on a specific medication, on the right-hand side it'll bring up the ordered detail dialog so you can find out even more information about the particular medication being ordered.

Documents is just like the notes tab in CPRS. Again, you can filter it by date and you have the ability to view by type. In the Consults view you're able to look at all the consults for that particular patient. You're able to filter by date range and then status type as well. Another interesting feature about this view of consults that you don't get in CPRS is that it will tell you how many days overdue that particular consult is, and exactly where it is in terms of its status.

The triangle that you see to the right-hand side, or the left-hand side, has a number inside of it which tells you how many days overdue that particular consult is. So it's a quick way for you to identify for your patient if they're actually overdue for some sort of care element in their treatment plan.

In Labs, you're able to look at labs through the lab orders. If you click on a lab order, it'll show you the result, and not only does it show you the result for the one that you tapped on but it also will show you the prior five sets of results. So it's handy if you wanted to review a CHEM-7, as it'll show you that CHEM-7 as well as the previous CHEM-7s for that patient. If you click on the orders dropdown, it'll allow you to go to your chemistry and hematology lab results for the purposes of graphing just like we did with the vital signs.

Last, you have Radiology. Again you're able to filter by date. You have the ability to group the radiology results alphabetically, by type or you can see them in reverse chronological order. If you tap on the radiology study on the left, it'll show you the radiology results on the right-hand side.

If you tap on Orders, which I was referring to earlier, you'll see the medication, laboratory and radiology order results. And if you tap on a particular order, it will pop-up an order dialog and show you those order details, just like you would see in CPRS.

And then last are the Progress Notes, like I was referring to earlier. It's just free text notes, but it does maintain those note titles that you have in your VistA. You'll be able to link it to a particular encounter and enter in that encounter information. You'll be able to enter in any procedures associated with that encounter then sign it and save the note back to VistA.

The one caveat here is when you are writing your note, if you want to see an unsigned note, it's saved in our mobile application environment. It does not save the note in an unsigned state back to VistA. If you start a note in the Patient Viewer App but you didn't sign it, and would like to sign it, you will have to come back to the Patient Viewer App. You will not see draft unsigned notes in CPRS. That's a distinction you have to be aware of when you're using the application.

At the beginning of the walkthrough, I talked about how we were missing the banner at the top of the page due to patient privacy. We didn't want to include the patient's identifiers. You'll see on the top right-hand side there's an icon with a folder with two circles that are rotating around, kind of symbolizing the ability to flip. That will take you to Staff View, which I alluded to earlier. It takes you out of the Patient View, and puts it into a view of the user. You can see the task list and Staff View consults that I briefly mentioned at the start.

The Task List is where you would go to see all of those notes that you started but did not sign and therefore want to save back into VistA. This is also a staff view of consults that allows you to look across your VistA enterprise for all of the consults based upon a particular consult type or all the consults that you yourself have placed. This is a view of the Task List. We blocked out the patient names there. And then you're also told exactly how many notes you have to sign.

Good visualization there for the number that you have pending. And then in Staff View Consults, you can select again by service, specialty or the consults that you yourself have placed.

That was all I had for the Patient Viewer App walkthrough. I'm going to walk through some of the questions that I see here in the chat.

DENISE KENNEDY: I think there's a question here: Can you use this app on personal devices or only on government issued devices?

SHAMAN SINGH: It's only on government issued devices. On all of our provider facing mobile applications, in order to access patient data, you have to be within the VA firewall. There's two ways you can be behind the VA firewall. You can be on a mobile device on the VA network or you can be on your home network but you're using something called Cisco AnyConnect. Any Connect allows you to use a virtual private network with a VPN tunnel back into the VA to put your device behind the firewall and then get access to our mobile apps and patient data. So it has to be a government furnished device.

DENISE KENNEDY: Excellent. And there's a question here: If you have an unsigned note in CPRS, can you bring it up in the Patient Viewer App and sign the note?

SHAMAN SINGH: Nope, that is definitely something that is in our backlog of things to do. As a hospitalist, I often have to cosign my medical student and resident notes, and it would be phenomenal if we could get this into the app. But it is a requirement and something in our backlog to develop further. We've spent the greater part of the last year and a half just working through issues. You can imagine when you're trying to develop new technology based on leveraging 25 or 30 year old technology, there's going to be a lot of hiccups along the way. We finally have the Patient Viewer App in this form right now and this version is ready to go out and provide some meaningful use to our health care team members. We're looking to continue to iterate based upon everyone's feedback, we'll prioritize based on what the desires are in our clinical user community of high value functions and we'll start to address those as we can.

DENISE KENNEDY: Excellent. And there's a note here: Will this app communicate with vendor software as well?

SHAMAN SINGH: I'm not sure what that is referring to in terms of vendors. But if a vendor stores data back into VistA, you will be able to see that information if it's already available in CPRS as well.

DENISE KENNEDY: Excellent.

SHAMAN SINGH: If you're in the ICU and your ICU package stores vital sign data back to VistA such that you're able to use CPRS to read the vital signs and you're not using an external vital signs package, you will also be able to see those in the Patient Viewer App.

DENISE KENNEDY: Thanks Dr. Singh, just a follow-up note from your vendor question was, "Our department inserts data from vendor sites into CPRS notes."

SHAMAN SINGH: Yep, so if that's the case, if you're working with cardiac implanted devices, if the patient has been interrogated and that information's sent back to you and you're taking that interrogated data and storing it into a known CPRS, that'll be available in the Documents section of the app.

DENISE KENNEDY: There's a question here: I'm sorry if I missed it, but do the notes entered into the app get uploaded to CPRS?

SHAMAN SINGH: Yes, once you save your free text progress note, after you sign it and you put in your e-signature code, it gets saved directly to your VistA, and anybody can see it in CPRS or the Patient Viewer App.

DENISE KENNEDY: Excellent. And there's a question: Where in the development might JLV be acceptable?

SHAMAN SINGH: That's going to be interesting because the conversation of where you take it next when you're trying to deal with DoD or external data, that conversation then gets into what's the utility of JLV in the context of the work being done in eHMP? And the first question to ask is, "When is JLV deprecated for eHMP in a manner for getting access to external information?" And then you say, "Now when do you consolidate what you're trying to accomplish in your mobile application with eHMP as well?" So it's a much more difficult conversation to have on this call because the parties in charge of all those different areas have not come up with a roadmap that shows where all of these different solutions need to intersect. There's an understanding that they do have to intersect, but at what point given funding constraints, given the uncertainty with the direction that we're headed in for EHR modernization? It's still uncertain exactly when that's going to happen.

DENISE KENNEDY: Excellent, thank you. I don't see any questions right now. Dr. Singh, I don't know if you have any parting words for us here. And once again I just really want to thank you for the presentation. I see there are a few people typing, do you have anything to say while we wait for comments?

SHAMAN SINGH: Let's see. You do not see notes that were started in CPRS. The Patient Viewer App will show you your unsigned notes that were started in the Patient Viewer App. Conversely, as I mentioned before, CPRS will show you your unsigned notes in CPRS, and CPRS will not show you your unsigned notes from the Patient Viewer App.

Someone asked about templates. The Patient Viewer App, the way it was designed, it's technically a web application. It also works on desktops. When you're at your desktop, if there's a pre-populated CPRS template that you already like you can copy that from a CPRS note and save that into a Patient Viewer note from your desktop so that while you're walking around

using the Patient Viewer App you'll then be able to use that basic structure from that template. But if you're talking about templates that originate from a template dialog, you'll need to click through and fill that out before you actually get taken to your note. You don't have the ability to do that.

DENISE KENNEDY: Excellent, thank you, I don't see any other questions popping up. So I think, if that's okay with you Dr. Singh, we can call it a day. On the screen is a link to a feedback form to let us know how we're doing. Dr. Singh, any parting words before we let everybody get back to their Friday?

SHAMAN SINGH: Nope, just that the Patient Viewer App is available on your desktop or mobile device, so you can use that right now. If you have any issues and you have a mobile device, you have two ways to get back in touch with us. You can flip your device over and on the sticker on the back you have the information to contact our Help Desk to log a ticket or even call them. But then also on your device as well, there's a Help Desk icon or application that you can then go to and log a ticket as well. So if you have any problems with the application, or even if you have a feature that you want added to the application for us to be aware of, you can submit that automatically through that help desk application that's on all our iPad devices.

DENISE KENNEDY: Excellent. Thank you, thank you so much, and thanks everyone for your participation today. We'll get those slides out to you as soon as possible. And with that we'll call it a wrap and we will thank everyone. And please contact us directly if you have any questions. Thanks so much everyone and have a good day.