Telemedicine Integration Primer

How to design, develop, and deliver a scalable EHR integration strategy with Redox.
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Introduction

Telemedicine, or Telehealth, categorizes a wide swath of digital health—everything from a video call with a provider to a smart device tracking your gait. The healthcare market is bursting with solutions that attempt to explore the full potential of telemedicine to augment and extend traditional care. We are firm believers that Telemedicine solutions will revolutionize how care is delivered, but to realize these benefits, we must first integrate this new technology with legacy electronic health record systems.

Over the years, we’ve been fortunate enough to work with some of the pioneers in this space. We’ve been part of bringing to market innovative telemedicine solutions augmenting patient care, revolutionizing access, and streamlining the provider experience. What we’ve learned from our experiences is that it’s important to plan your integration around specific parameters to ensure your projects don’t get stranded in the depths of IT purgatory.

We wrote this primer to help you navigate your integration process and avoid red flags that can earn you a quick trip to analysis paralysis with IT. After reading you will not only know how to design an integration strategy that is executable across healthcare organizations, but you will understand how to leverage the Redox Platform for your unique needs.

Start with “why”

First, you should define what your goals are when it comes to sending and receiving integrated data. There are three primary reasons why telemedicine companies need integrated data.

1. Acquire data
   To provide care, you need to acquire or gather information. The two most common forms of this workflow are patient acquisition—such as an order to enroll a patient in telehealth services—or receiving some sort of care summary from the health system before any care is provided in their product.
2. **Deliver care**
   You need to document the delivery of care and provide actionable insights to other caregivers outside of your product.

3. **Initiate work**
   You need to initiate follow up activities or tasks to close the care loop, such as placing diagnostic orders or dropping charges.

To help clarify “why” you need to exchange data try adding data exchange trigger events to your workflow documentation. Include what action is taken to initiate data exchange (e.g. a patient schedule a video visit which then triggers a query of that patient’s current medical record) and where that data is expected to be displayed (within your software for the attending remote provider to reference).

## Understand “what”

Next, get granular about what specific data you need. It isn’t sufficient to say that you want “patient demographics”. A health system will want to know **exactly** what demographics you need. Do you just need name, sex, DOB, and MRN? Or do you also need phone numbers and addresses (physical and electronic)? What about race and ethnicity? You need to have a discrete understanding of the data elements your product needs before attempting an integration.

You also don’t want to assume that everyone understands what you mean when you say that you need patient demographics. In the world of healthcare data exchange, that strictly means demographic items. To many others, they may also mean that they need patient emergency contacts and insurance information. The difference lies in how data in EHRs is usually mapped and made available. It’s important to be specific so that everyone understands the full scope of the project. To help you prepare, ask yourself these three questions and make sure you have well documented answers.
What data do you need to acquire from the EHR for your product to function?

At a minimum, most telemedicine products will need some type of patient demographics to be able to confirm the patient identity. If you will be sending data back into the EHR, you will need this information to be able to match the patient’s record in the EHR. Many products will also want to collect general or specific information about a patient’s medical history. Make sure you know exactly what you need so can ensure its availability.

What care is delivered in your product and what do other providers need to know about what was done?

It’s well documented that many EHR end users are struggling with usability issues, alert fatigue, and an overwhelming amount of data. Before you decide that you need to push data from your product into the EHR, you should stop and think about what the action is that you expect an end user to take based on the data and when they should be looking at this information. Having those workflow moments defined will be helpful for champions and IT teams to better visualize what’s needed and to figure out how to incorporate the data into existing workflows.

One example from the remote patient monitoring world is a product that collects glucose readings. One initial thought might be that you should push every reading into the EHR in real-time with the expectation that the clinician will see it and act on it. This results in a large data dump of information that you’re expecting the clinician to sort out. A smarter way to do this would be to send a subset of recent readings when the patient is going in for their normal check-ups. This provides relevant data to the clinician at the point in the workflow when they need it. As an addition, maybe you also look at sending critical results or concerning patterns as a preventative measure. In both of these cases, the focus is on getting the data to the clinician at the point that they need to take action.

Understanding what information is absolutely necessary to keeping the patient record comprehensive and empowering caregiver is critical. Don’t fall into the trap of pitching, “all of the interesting things”. Focus on what is necessary and provides actionable value.
What activities or tasks do you expect patients or end users to do with information from your product?

Some telemedicine products need to communicate additional care needs to patients (e.g. diagnostic test), share new information with other providers (e.g. a new diagnosis), or provide documentation for reimbursement (e.g. notes or charges).

To ensure your product will have the data it needs in order for end users to enjoy full functionality we suggest putting together a discrete list. Document all of the fields in your application that you expect to be populated from the EHR or that contain data that you expect to send back. This information will be critical when working with health system IT teams and the more comprehensive your documentation, the more likely your integration will be successful.

Determine “how”

If your primary goal is to get your product live as quickly as possible, it is important to understand the different tiers of integration. In our experience, there are three common ways telemedicine product achieve their integration needs. Our advice is to understand these options so that you can develop an integration strategy with prescriptive options to fast-track your project approval, and provide phased implementation and pricing. Planning a phased or menu-based approach to your integration will give your health system partners the chance to select which one is easiest for them.

Avoid asking for too much at the beginning. If you do, your project may never move to implementation because you’ll need to wait for resources to become available and be assigned to your project.

Tier One: Summary Exchange—Non-Structured

If you’re integrating your product for the first time, this is a great starting point. Almost every EHR and healthcare organization will have a way to receive a PDF.
If you provide telemedicine visits, this is usually some type of summary of care that is sent after a visit or other services are completed. The goal is to provide others with an overview of what was examined, reviewed, and discussed during the care event.

If you provide mobile health or remote patient monitoring services, this is usually a collation of the data that you received based on either data from a specific time frame, graphs or charts of the data collected, or pertinent data.

Send and receive PDFs (and other media) using Redox’s Media data model.

**Tier Two: Summary Exchange—Structured CCD**

The Continuity of Care Document (CCD) uses the industry accepted C-CDA structure, which provides a more discrete way to exchange a standard set of data. This style of data exchange is common among affiliates and is usually well understood by health system IT teams.

**Patient-Level CCD**
Contains an overview of the patient’s medical health and is typically requested by telemedicine vendors prior to starting a visit.

Depending on the EHRs capability, you can get Patient-Level CCD information using our ClinicalSummary-PatientQuery or ClinicalSummary–PatientPush data model and event combinations.

**Visit-Level CCD**
Provides detailed information about a specific visit or care event. When available, this is most commonly used by telemedicine vendors to send information about the visit performed back to the EHR.

Depending on the EHRs capability, you can send this visit-level CCD information using our ClinicalSummary–VisitPush data model.
In the event that your product needs to know about a specific visit or care event at a healthcare organization, such as a recent emergency department visit or inpatient admission, this style of exchange can also be used.

Depending on the EHRs capability, you can send this visit-level CCD information using ClinicalSummary–VisitQuery (which may require a specific encounter number) or ClinicalSummary–VisitPush.

**Tier Three: Structured Exchange**

Structured exchange integrations are generally the most unique to the specific telemedicine solution in question. Due to this, they generally require the most collaboration with health system IT teams and are therefore categorized as a “tier three” or the most complex style we commonly see used to achieve integration needs. There are a few general buckets this information falls under:

1. **Documentation**
   While providing care, clinicians will document their review of the patient as well as their assessment and plan. Specific types of information, such as vitals or pain assessments, is commonly documented in a more structured flowsheet format to allow for trending. This is a common form for patient-collected data.

   Patient reviews and assessments can be sent and received using our Notes data model. Structured flowsheets can be sent and received using our Flowsheets data model.

2. **Orders**
   As a part of providing care, providers often order diagnostic testing—such as lab and radiology—and write prescriptions. This information may be placed in a telemedicine platform or EHR using specific orders.

   Redox can send and receive diagnostics and other requests using our Order data model. Medication orders are transmitted using our Medications data model.
Check out our Medication Data Exchange page for more details.

3. Results
Most common in share-and-forward telemedicine, having results available in the same platform being used by the patient and all providers involved in their care is an efficient way to make sure everyone stays on the same page.

Results can be sent and received using our Results data model.

4. Charges
For digital health vendors that are providing services to a healthcare organization, integrated charging makes it easier to provide a patient-friendly consolidated bill. This also helps reduce the overhead of manual reconciliation between visit documentation and charges.

Send and receive financial data using our Financial data model.

Not quite sure what tier makes sense for your product? Our Solutions Team would be happy to discuss your product’s data requirements and help you narrow in on the right solution for you. Contact us to learn more!

Conclusion

We hope this primer helped you understand the critical questions you need to ask prior to introducing an integration proposal for your telemedicine solution to a health system. We hope our concept of “integration tiers” helps you present options to health system IT teams that help you navigate roadblocks and ensure your integration is successful. If you would like to learn more about how Redox helps our partners integrate with any EHR using a single connection to the Redox Platform, contact us today. Our Solutions Team would love to learn more about your organization and help you understand how a partnership with Redox can help accelerate your integration goals!
About Redox

Redox accelerates the development and distribution of healthcare software solutions with a full-service integration platform to securely and efficiently exchange data. Healthcare organizations and technology vendors connect once and authorize the data they send and receive across the most extensive interoperable network in healthcare. Redox exists to make healthcare data useful and every patient experience a little bit better.

Learn how you can leverage the Redox Platform at redoxengine.com.


Join 2,000+ fellow healthcare innovators in our public Slack Community: community.redoxengine.com.