

# COVID19 Teleconsultation Track: Pandemic and Beyond

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## Track Name

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COVID19 Teleconsultation Track: Pandemic and Beyond

## Objective

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1. To further FHIR standards among the programmer community, whether they are in healthcare or not.
2. To test out our concept and demonstrate a standards based Telemedicine Exchange Platform
3. Purpose & Takeaways for the Participants attending the NCII Track:
  - a. **What's the purpose of hosting this connectathon track?**  
To further FHIR standards among the programmer community, by identifying India Specific Scenario of health interoperability and enable the ecosystem to adopt standards that lead to successful and meaningful implementations.
  - b. **What do you hope to achieve?**  
To demonstrate power of innovative collaboration that is the core of NCII and begin the transformation starting with a Telemedicine Exchange Platform

**This track will use R4 version of FHIR(Participants from the FHIR Starter Track can come to COVID19 Teleconsultation Track after completing 4 FHIR Starter Sessions)**

4. Review the COVID19 Teleconsultation Track Details here:



NCII Track Info fo...dia Confluence.pdf

## Intended Audience

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1. Telemedicine Platform Companies, Hospitals, Clinics
2. Developers / Architects
3. Product manager
4. Test engineer/Manager
5. Students/learner (Health Informatics)
6. Hospitals

## Audience Feedback

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Please make use of this form to share your feedback about the track: <https://forms.gle/zLoFj6sVZUxoAhqA8>

## Related Tracks

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1. [FHIR Starter Track](#)
2. [FHIR India Profiling Track](#)

## Track Orientation & Schedules

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Date	Activity	Remarks
30th May, 2020	Track Kick-off	<a href="#">Slides Here</a>
15th June, 2020	Track Standup W1 - Day 1	<a href="#">W1-Day 1 - Teleconsultation Track - HL7 India Connectathon.pdf</a>
16th June, 2020	Track Standup W1 - Day 2	<a href="#">W1-Day 2 - Teleconsultation Track - HL7 India Connectathon.pdf</a>
17th June, 2020	Track Standup W1 - Day 3	<a href="#">W1-Day 3 - Teleconsultation Track - HL7 India Connectathon.pdf</a>
18th June, 2020	Track Standup W1 - Day 4	Activities being updated by Participants
19th June, 2020	Track Standup W1 - Day 5	Weekend Update and Next Steps
20th June, 2020	Track Standup W1 - Day 6	
21st June, 2020	SUNDAY OFF	No Meeting
22nd June, 2020	Track Standup W2 - Day 7	

23rd June, 2020	Track Standup W2 - Day 8	<p>Invitation to connect &amp; discuss Hans on V2-FHIR mappings, project and track. This an opportunity to interact &amp; learn from a Industry &amp; HL7 veteran and #influencer .</p> <p><b>About Buitendijk Hans</b>  Hans is currently Co-Chair - Orders &amp; Observations work group at HL7. He also leads the V2-to-FHIR project efforts among several other initiative.  Hans is a HL7 Veteran with over 26 years of association with HL7 in several key roles.  He works at Cerner Corporation as Director, Interoperability Strategy.</p>
24th June, 2020	Track Standup W2 - Day 9	<p><b>Scenario 1:</b></p> <ol style="list-style-type: none"> <li>1. TSO will raise the ticket to the Teleconsultation Server</li> <li>2. Resources included in the Resource Bundle <ol style="list-style-type: none"> <li>a. Task</li> <li>b. Patient</li> <li>c. Observation</li> <li>d. Condition</li> </ol> </li> <li>3. On submission Task Status will be set as "Requested"</li> <li>4. TPO will request for open tasks <ol style="list-style-type: none"> <li>a. Each TPO can request for only one task for each request (use query count = 1)</li> <li>b. If active task available, TPO updates the task reference number status = "In-Progress"</li> <li>c. TPO will query the associated patient information from the server, once the task has been locked (marked "In-Progress")</li> </ol> </li> </ol>
25th June, 2020	Track Standup W2 - Day 10	
26th June, 2020	Track Standup W2 - Day 11	
27th June, 2020	Track Standup W2 - Day 12	
28th June, 2020	Track Standup W2 - Day 13 - SUNDAY	The Scenario 1 & Resource Identified
29th June, 2020	Track Standup W3 - Day 14	The Scenario 1 Presented - TSO & TPO Actors Identified
30th June, 2020	Track Standup W3 - Day 15	resource bundle shared, that will be used for the Connectathon
1st July, 2020	Track Standup W3 - Day 16	resource bundle shared (XML & JSON), that will be used for the Connectathon
2nd July, 2020	Track Standup W3 - Day 17	

## Infrastructure

1. [HAPI FHIR Server \(R4\)](#) - Link
2. **COVID19** Teleconsultation Track Artefacts - [Google Drive Link](#) | [COVID19 Teleconsultation Track - Github](#)
  - a. Track Task List
  - b. Resource Data
  - c. Sample Resources for the Track
  - d. Scenario 1 Resource Mapping
  - e. Scenario 1 Workflow Diagram
  - f. Scenario 1 Solution Overview
  - g. Scenario 1 Flow Sequence

## Participants Tools

1. Connection details to the HAPI FHIR Server
2. FHIR Clients, Company based Open Source Applications
3. Postman Client: Please download the POSTMAN Client on your respective systems: <https://www.postman.com/>

4. Fred: <http://docs.smarthealthit.org/fred/>
5. clinFHIR Patient Viewer: <http://clinfhir.com/patientViewer.html>
6. LHC FHIR Tools <https://lhcfirms.nlm.nih.gov/>
7. LHC Form Builder Tool: <https://lhcfmbuilder.nlm.nih.gov/>
8. FHIR Client: [https://github.com/fhir-crucible/fhir\\_client](https://github.com/fhir-crucible/fhir_client)
9. INTEROpen, NHS: <https://nhsconnect.github.io/CareConnectAPI/index.html>

## Track Leads

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[Manick Rajendran](#)

[Aniruddha Nene](#)

[Kumar Satyam](#)

[Manish Sharma](#)

[Divyaratna Chiniwal](#)

[Ritika Jain](#)

## Track PoC Build Team

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Names
<a href="#">Divyaratna Chiniwal</a>
<a href="#">Ritika Jain</a>
Aparna Bhumkar
<a href="#">Raksha R</a>
Bhaskar Krishnamurthy
Anurag Aggarwal
<a href="#">Raunaq Pradhan</a>
Siriram Kailasam
Santosh Jami
<a href="#">Raja Sekhar Kommu</a>
Satya Itharaj

## Track Participants

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Names
<a href="#">Divyaratna Chiniwal</a>
<a href="#">Ritika Jain</a>
Aparna Bhumkar
<a href="#">Raksha R</a>
<a href="#">Aditi Verma</a>
Raj Kumar
<a href="#">Chinmay Athaley</a>
Bhaskar Krishnamurthy

Jayakanth Kesan
Praveen Shivaprasad
Anurag Aggarwal
Raunaq Pradhan
Sriram Kailasam
Gokul Raj R
Harilal
Astha Rai
Shilpa A
Suyash Choudhary
Mohammad Ali
Srinivasa Rao P
Santosh Jami
Shilpa Kumar
Debabrata Parida
Aditya Kumar Singh
Raja Sekhar Kommu
Satya Itharaj

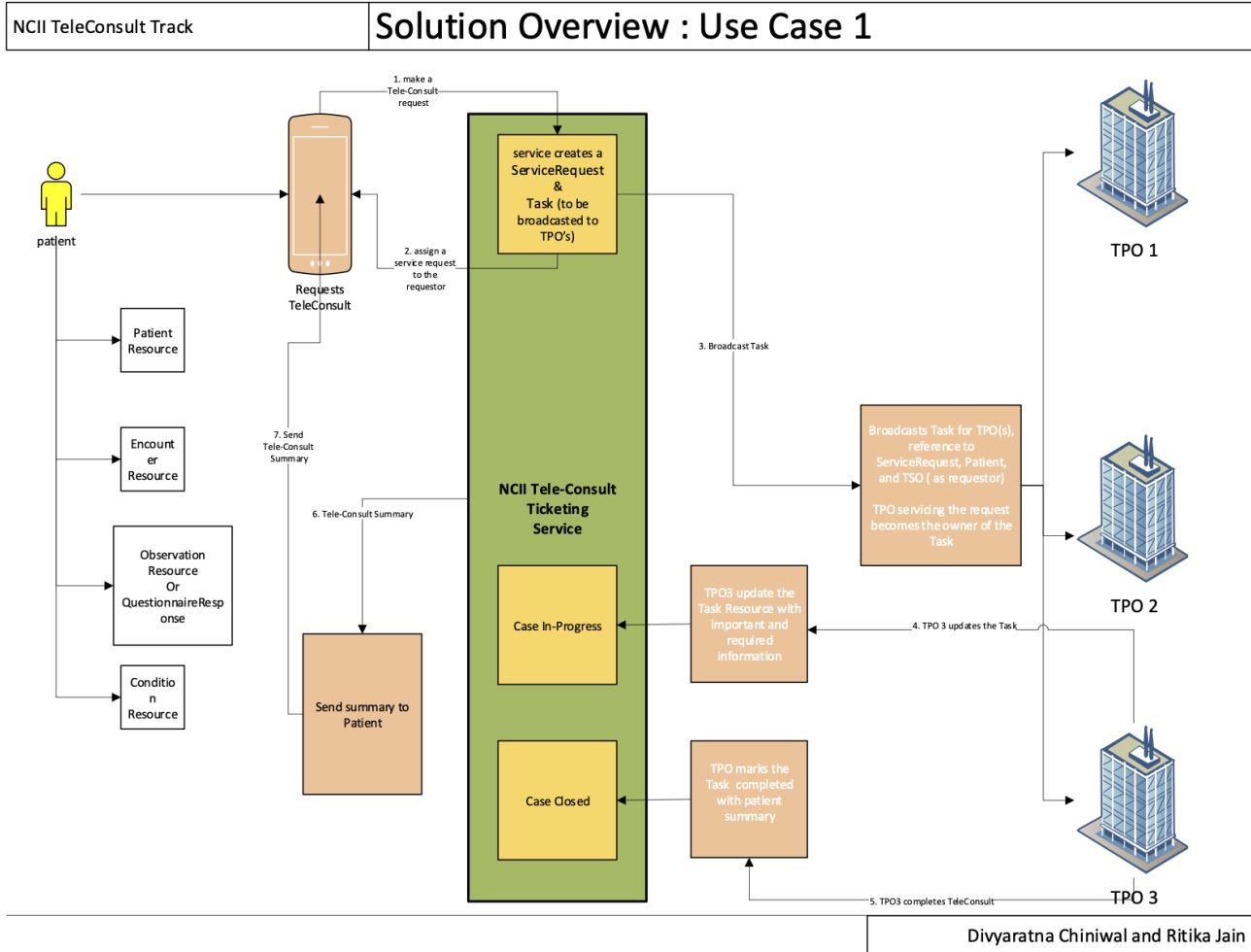
## Final Track Schedule

Date - Time	Activity	Duration   Location	Comments
Friday 03rd Jul, 2020 3.00PM to 4.20PM	Attend the Connectathon Opening Ceremony and meetings	3 hours    <b>Keynote Track</b>	<b>The Keynote</b>
Friday 03rd Jul, 2020 4.30PM to 6.00PM	Teleconsultation Track PoC Setup with the Participants	1.30 hours   Teleconsultation Track	We will identify the participants who will be playing the role of a TSO or a TPO  Identify if the participants will be creating a PoC application for the connectathon, or will be using one of the identified tools  The Team will enable the Participants setup for the PoC Demonstration
04th Jul, 2020 09.00 AM to 10.00AM	Common Session	1 hour    <b>Keynote Track</b>	<b>The Keynote</b>
04th Jul, 2020 10.15AM to 05.00PM	Teleconsultation Track Participants Attend the FHIR Starter Track Sessions	6.45 hours   FHIR Starter Track	
04th Jul, 2020 05.00PM to 07.00PM	Teleconsultation Track PoC Setup with the Participants	2 hours   Teleconsultation Track	
05th Jul, 2020 08.00AM to 10.45AM	Teleconsultation Track PoC Showcase with the Participants	2.45 hours   Teleconsultation Track	

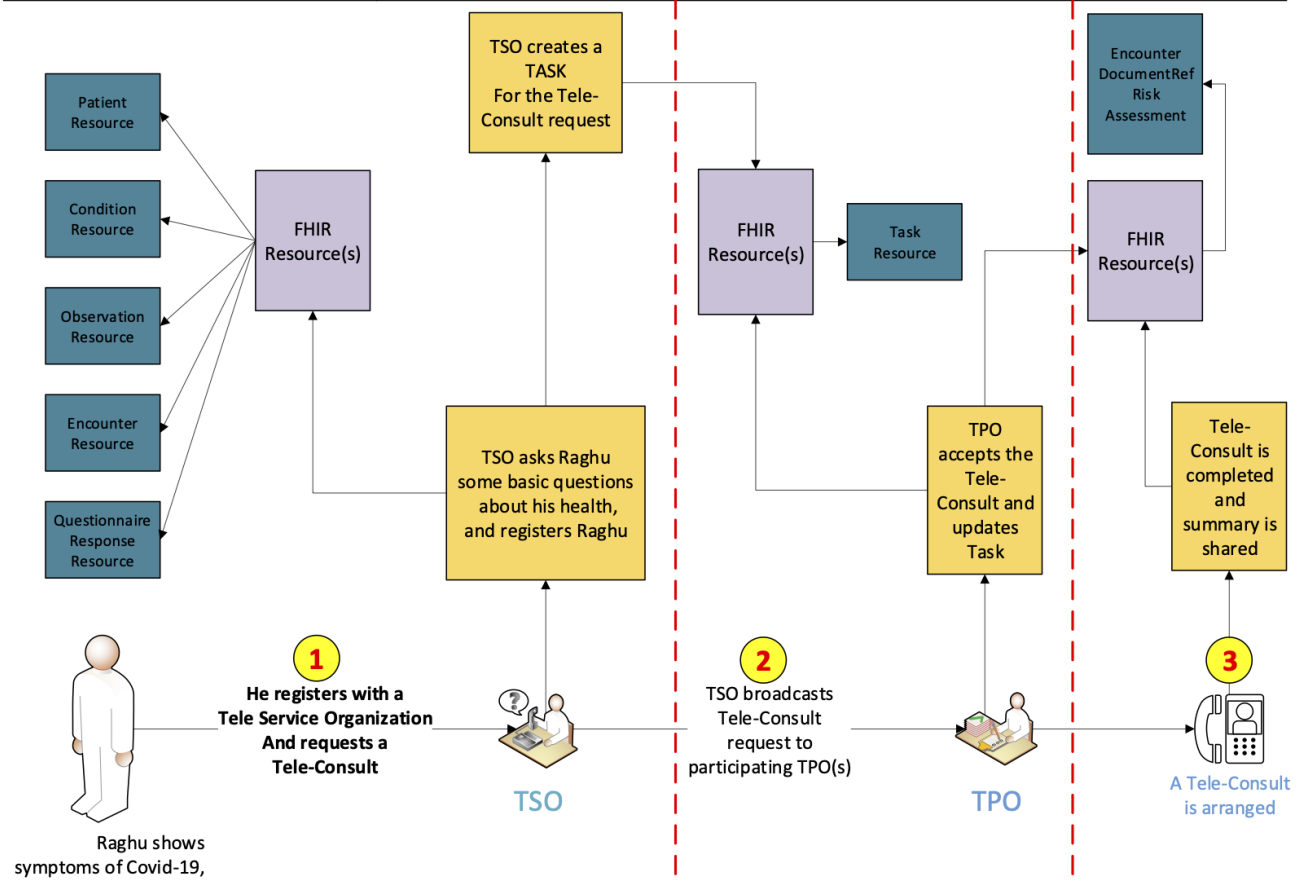
05th Jul, 2020 11.00AM to 12.00PM	Common Session	1 Hour   Keynote Track	The Keynote
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## Scenario 1: Patient Request for Teleconsultation

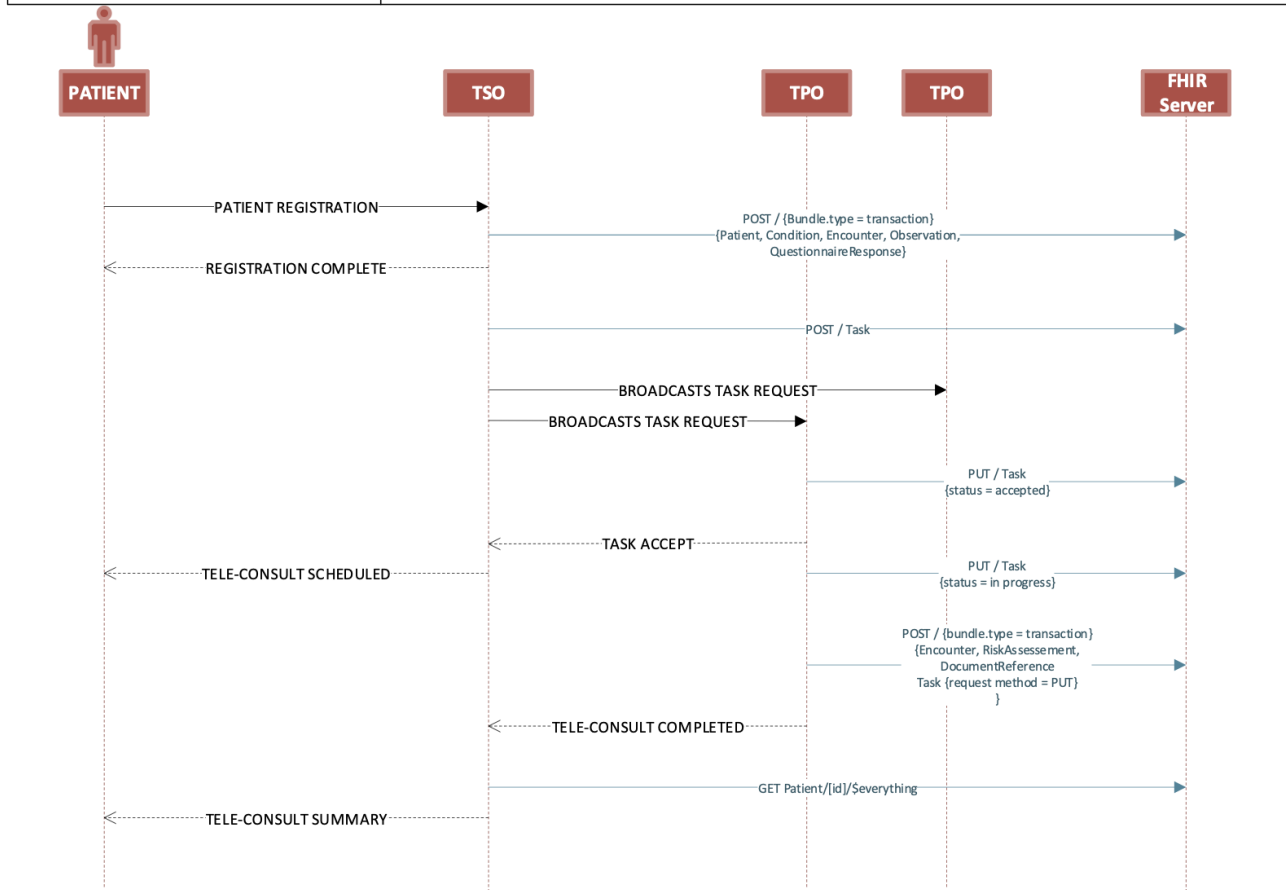
The concept talks about the *ability of a patient to request for a teleconsultation by herself or by a telemedicine service organization TSO* on her behalf, and the *NCII Aggregator Service* enables the patient to be connected with the *first available doctor with a Telemedicine Platform Organisation in a single click*, even if the TSO and TPO are two different entities



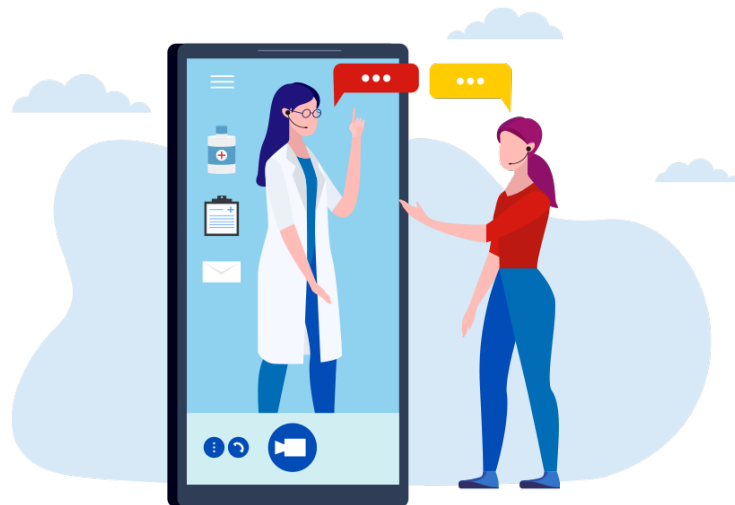
# Workflow : Use Case 1



# Flow Sequence : Use Case 1



Divyaratna Chiniwal and Ritika Jain



User Story - Feature - Create Service Ticket	Resource
Raghu shows symptoms of COVID19. He has had no history travel in the past 14 days. Radhu places a call to the nearby primary health center, since the lock down is in effect.	



<p>The Physician/ ASHA (TSO) worker performs a check on her app and finds Raghu in the need of a Teleconsultation Visit with a doctor. She raises the request on her system to book a teleconsultation visit for Raghu.</p> <p>Refer the Slide Deck at the top of this page to get the list of fields that will be applicable for the Patient Resource or review our data sheet <a href="#">here</a></p>	<p>Patient Related FHIR Resources Created, relevant to the TSO usecase and app capabilities</p> <p><a href="#">Patient (M) 1..1</a></p> <p><a href="#">Encounter (M) 1..1</a></p> <p><a href="#">Observation(O) 0..*</a></p> <p><a href="#">Condition (O) 0..*</a></p> <p><a href="#">QuestionnaireResponse (O) 0..*</a></p>
<p>Upon registration, the TSO app connects with the NCII Server and registers Service Ticket with the NCII Server</p>	<p>Task Resource Bundle Created with the reference to Patient Raghu</p>

User Story - Feature - Poll for Open Service Ticket	Resource
<p>NCII Server now has open Service Tickets for various Patients</p>	<p><a href="#">Task Resource</a></p>
<p>TPO - Telemedicine Provider Organisations connected with the NCII Server now request for open dynamic visits. TPOs will send a request to find Service Tickets that have been successfully "Accepted" by the NCII Server</p>	
<p>Once a TPO finds one Accepted (Open) Ticket, the TPO will mark the status of that one service ticket as "In-Progress"</p>	<p>Task Resource. Status = In-Progress &amp;  Task.id  Task.identifier  Task.intent  Task.priority  Task.focus  Task.for  Task.executionPeriod  Task.authoredOn  Task.lastModified  Task.requester  Task.owner  Task.reasonCode  Task.note  Task.restriction.period  Task.restriction.recipient</p> <p>Task Reviewer and other relevant fields will be updated by the TPO Organisation that is accepting the task</p>
<p>Once the Task has been assigned, the NCII Server will ensure that the task is completed within an hour of allocation</p>	<p>Task.lastModified</p>

User Story - Feature - TPO Response to Service Ticket	Resource
<p>Once the TPO has accepted a Service Ticket, the Service Ticket will be displayed as a Dynamic and Urgent List on the TPO App for the COVID19 Assigned Doctors Team. When the patient Raghu is displayed on the Doctors "Dynamic Patients" list, the Doctor will click on that Service Ticket that has been pulled by the TPO into their App</p>	<p>Task Resource</p> <p>Patient Resource with Patient Resource bundle displayed to the doctor with the information captured by the TPO</p> <p>or eServiceTicket Task Bundle</p>
<p>The Doctor will now initiate a teleconsultation visit with the patient. Once the doctor clicks on the Consult Now with patient button on their app, a unique URL will be generated and sent to the Patient Raghu on his mobile number provided.</p>	<p>Service Task Response</p>
<p>Raghu will click on the URL that has been sent by the TPO to him, and he gets connected with the TPO assigned Doctor instantly</p>	

After consulting the Patient, the TPO Doctor will record the Risk Assessment and provide a Document Reference to now mark the closure of the Service Ticket that had been created for Raghu

Patient, Risk Assessment, Document Reference, Observation

Task.Status - Completed

or eTeleconsultation Visit Bundle

**BONUS:**

[Medication](#) Prescription (Rx)

Map the relevant resources here:

Laboratory Service

Radiology Exam

Followup Appointment

[Claims](#)

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