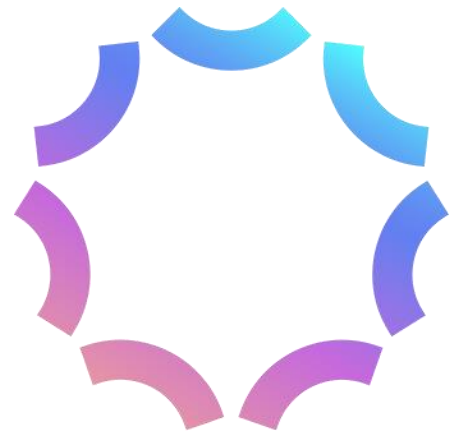


nphies



Reference Implementation Guide

Financial Services

Version 1.7.1



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ABBREVIATIONS

Abbreviations	Description
HCP	Healthcare Provider
HIC	Health Insurance Company
HL7	Health Level – 7
FHIR	Fast Healthcare Interoperability Resources
Nphies	National Platform for Health Information Exchange Services
CCHI	Council of Cooperative Health Insurance



INTRODUCTION

The reference implementation guide provides a testing environment where both HCP's and HIC's can test the reference implementation transactions and compare them with the transactions generated by their system based on the different use cases and message exchanges built in the nphies profiles.

The objective of the reference implementation guide is to provide guidance for the HCP's and HIC's on the different use cases and messaging exchange details of FHIR standards for the eClaims (eligibility, prior authorization, claim submission, payment...) as part of the financial services program of the Saudi National Platform for Health Information Exchange Services (nphies). The guide aims to illustrate the information exchange flow between different healthcare stakeholders utilizing nphies in Saudi Arabia and provide sample messages and staged responses to enable the users in simulating a complete cycle for each testing scenario.

The reference implementation will enable three modes of interaction:

1. The communication of an HCP with a Pseudo HIC

This mode of interaction will provide standard predefined message samples for the different use cases.

Note: This mode can be utilized through the provider portal or through direct integration.

2. The communication of an HCP with a real HIC

This mode of interaction will allow both the HIC and HCP to communicate with each other using nphies standard messages for the different use cases.

Note: The HIC would be integrating using their own system and the HCP would be able to directly integrate or utilize the provider portal.

3. The interaction between test provider and the Pseudo-payer using Postman application

This mode of communication consists of a tool for generating requests and responses that providers and payers can use to create their messages or transactions

The utilization of the data provided below will yield successfully executed results, however, the user can also choose to test certain transactions in different scenarios with varying test data as per the needed context.



DEPLOYED SYSTEM MODULES

Provider Portal: The provider portal is an application which allows HCP's to generate and exchange nphies messages with HICs using the eClaims messages which are composed of nphies profiles based on the HL7 FHIR R4 standard. The portal is equipped with a JSON viewer to allow the user to view the contents of the request and response messages.

National Platform for Health Information Exchange Services (NPHIES): The NPHIES facilitates the transmission of the messages between HCPs and HICs. It plays a role in authenticating the user access, validating the message structures as well as ensuring that the utilized codes are based on the adopted Saudi terminology.

Pseudo Payer: The Pseudo Payer facilitates the automated pre-defined responses to a pre-defined set of request sample messages in order to enable the user to complete a full messaging cycle based on eClaims messages.

1. System Roles

Role	System\s	Description
Requesting & Receiving Eligibility	<ul style="list-style-type: none">Provider PortalIntegrated HCP	Enable the creation and submission of the Eligibility request resource and the receiving or obtaining of an Eligibility response.
Eligibility Validator	<ul style="list-style-type: none">TMB	Validates the eligibility message structure and terminology during transit to the HIC system.
Eligibility Processor	<ul style="list-style-type: none">Pseudo PayerPayer PortalIntegrated HIC	Support the receiving and processing of the Eligibility resource and creation of the EligibilityResponse resource.
Requesting & Receiving Claims	<ul style="list-style-type: none">Provider PortalIntegrated HCP	Enable the creation and submission of the Claim resource and the receiving or obtaining of a ClaimResponse. This may be as a Preauthorization, or a completed Claim for actual adjudication.
Claim validator	<ul style="list-style-type: none">TMB	Validates the claim message structure and terminology during transit to the HIC system.
Claims Processor	<ul style="list-style-type: none">Pseudo PayerPayer PortalIntegrated HIC	Support the receiving and processing of the Claim resource as a: Preauthorization; or, actual Claim; and creation of the ClaimResponse resource.
Claims Attachment Submitter	<ul style="list-style-type: none">Provider PortalIntegrated HCP	Enable the creation and submission of a Task containing a reference to the Communication resource and the receiving of a Task with the response. This may be as supporting information for a Preauthorization, or a completed Claim for actual adjudication.
Claims Attachment Processor	<ul style="list-style-type: none">Pseudo PayerIntegrated HIC	Support the receiving and processing of a Task referencing a Communication resource as supporting information for a Preauthorization or actual Claim; and creation of the Task resource containing the response.
Claims Attachment Requestor	<ul style="list-style-type: none">Pseudo PayerPayer PortalIntegrated HIC	Support the receiving and processing of the Task resource and return a Task referencing a CommunicationRequest resource for a previously received and pending Preauthorization or actual Claim.
Task: Polling, Status Check Submitter	<ul style="list-style-type: none">Provider PortalIntegrated HCP	Enable the creation and submission of the Task resource and the receiving or obtaining of a response



		Task or the requested resource. This may be to: request a Claim Reversal, request a deferred response, or a PaymentReconciliation or to obtain the processing status.
Task: Polling, Status Check Processor	<ul style="list-style-type: none">• TMB	Support the receiving and processing of the Task resource and creation of the Task response resource or provision of the requested resource.
Payment Reconciliation Processor	<ul style="list-style-type: none">• Pseudo Payer• Integrated HIC	Support the receiving and processing of the Task (Poll) resource and creation of the PaymentReconciliation resource.
Payment notice submitter	<ul style="list-style-type: none">• Provider Portal	Supports sending a payment notice to update the nphies FS of the completion of a given payment
Explanation of Benefit Processor	<ul style="list-style-type: none">• Payer Portal	Support the receiving and processing of the Task (Poll) resource and creation of the ExplanationOfBenefit resource.



SUPPORTING REFERENCES

1.1 Supporting documentation

No	Reference	Source
1.	Nphies Implementation guide	Community Portal -> HD -> Technical Standards
2.	Nphies Specifications	
3.	Provider Portal User Manuals	Community Portal -> HD -> User Guides & Manuals
4.	FHIR Version	FHIR R4 - http://hl7.org/fhir

1.2 Solution access

No.	Reference	Source
1.	NPHIES integration	https://sgw.obb.nphies.sa/tmb/\$process-message

Credentials to access the solutions will be provided to the SPOC of every HIC and HCP by the corresponding account manager.



SCENARIO DETAILS

The reference implementation guide is equipped with a predefined set of use cases and scenarios to enable the testing of message exchanges with different variations of requests and responses.

The following scenarios may be implemented via FHIR messaging. The JSON messaging format will be used for executing the below transactions.

1.1 Use Cases

The set of use cases covered within this reference implementation include:

Name	Response
Coverage Eligibility Request	Coverage Eligibility Response
Preauthorization	Preauthorization Response
Claim	Claim Response
Payment Notice	Payment
Communication Request	Communication
Cancel request	Cancel response
Poll request	Poll response
Check status request	Status response

Note: For the current usage and purpose, we have provided samples for eligibility, preauthorization and claim transactions. Samples for the remaining transactions will be shared in later version of this document.

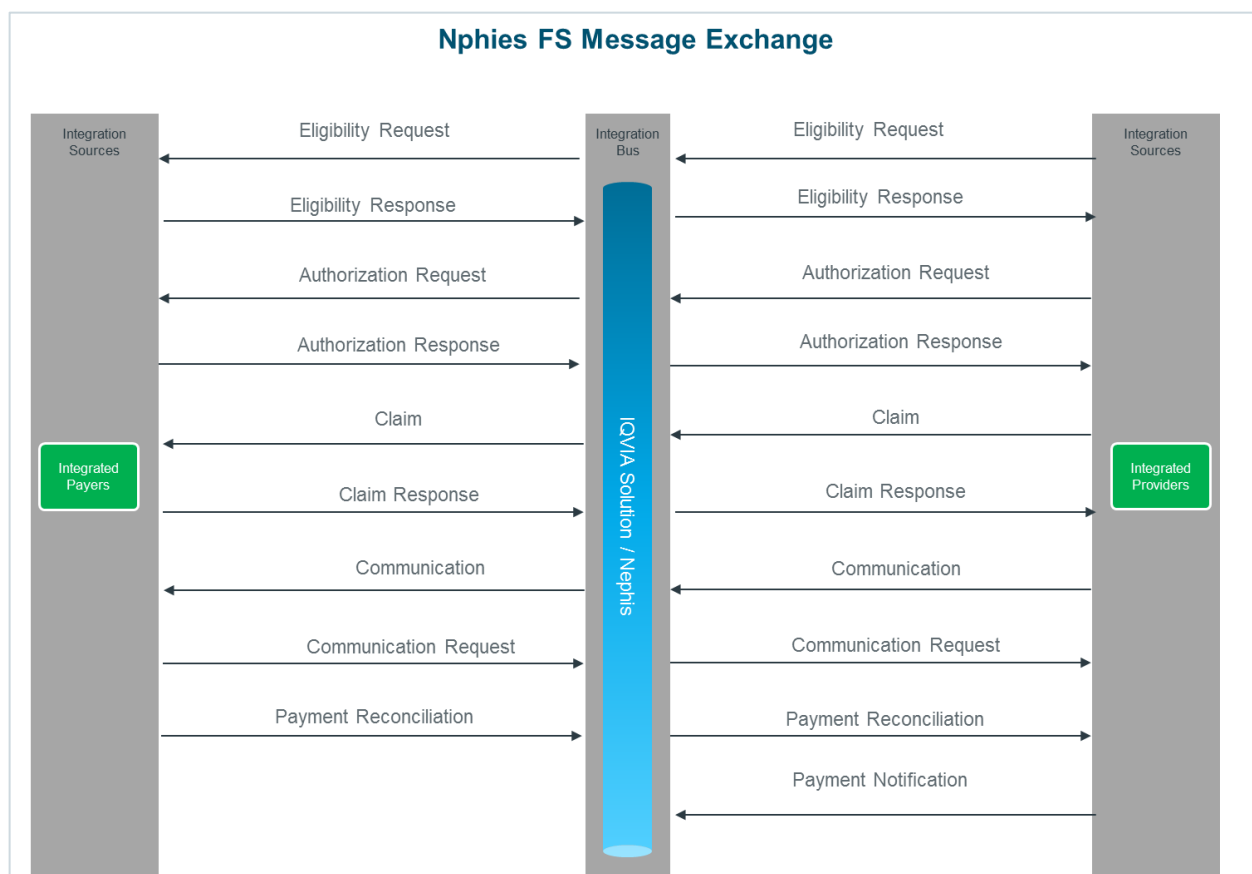


Figure 1 - nphies message exchange

1.2 Actors

A set of predefined actors has been prepared and configured on a payer simulator that will help respond back to provider messages sent using the IQVIA provider portal, or any directly integrated provider system.

These actors are aligned with the scenario samples included in Appendix I

1.2.1 Patients

These patients are predefined in the provider portal and pseudo payer systems to provide the needed responses. Utilizing different patients is allowed, but will result in rejection responses from the payer side.

Name	DOB	Payer	Iqama / Others
Ahmad Khaled Abbas	1984-12-25	Saudi National Insurance	0000000001
Muhammad Ali Abbas	2010-08-21	Saudi National Insurance	0000000002
Sara Khan	1974-03-13	Saudi National Insurance	0000000003
Zahi Fathi abdullah Tareeq	1988-10-13	Saudi National Insurance	Visa (5555346)



Zahir Ahmed Abbas	1953-05-05	Saudi Insurance Organization	National ID(1234567)
Mark Lavoine	2018-01-26	National Insurance Organization	Border Number(46666 66777)

1.2.2 Practitioners

Below is a list of the practitioners that will be utilized in the predefined demo scenarios.

Name	Role	Facility	License
Dr. Ameera Hassan	General Practitioner	Saudi General Hospital	N-P-00001
Dr. Yasser Mahfooz	Dentist	Saudi Dentist Clinic	N-P-00002
Dr. Amar Moustafa	Orthopedist	Saudi General Hospital	N-P-00003
Dr. Ashraf Naeem	Optometrist	Saudi Optical Center	N-P-00004
Dr. Ahmad Rabah	Pharmacist	Saudi Central Pharmacy	N-P-00005

1.2.3 Organizations

Below is the list of the HICs and HCPs utilized in the sample scenario scripts.

Name	Type	Speciality	License	BaseURL
Saudi General Hospital	HCP	General Practitioner	N-F-00001	http://sgh.com.sa
Saudi Central Pharmacy	HCP	Pharmacy	N-F-00002	
Saudi Dentist Clinic	HCP	Dental	N-F-00003	
Saudi Physio Center	HCP	Physiotherapy Center	N-F-00004	
Saudi Optical Clinic	HCP	Optometrist	N-F-00005	
Saudi National Insurance	HIC	Insurance Company	N-I-00001	http://sni.com.sa/fhir

*Details of the different actors are provided in the **Scenario Resource Breakdown** section below.*

1.3 Services

Below is a list of the different products and services types covered by nphies.

Type	Code
Transportation Srca	This code set includes Ambulance and transportation services (SRCA)
Imaging	This code set includes Imaging Procedures
Laboratory	This code set includes Laboratory tests, observations and Blood Bank products
Medical Devices	This code set includes Medical devices
Oral Health Ip	This code set includes Oral Health - In-patient



Oral Health Op	This code set includes Oral Health - Out-patient
MedicationCodes	This code set This value set includes all drug or medicament substance codes and all pharmaceutical products
Procedures	This code set includes Procedures / Health interventions (in-patient)/ Out-patient Procedures Includes: Ophthalmology, Rehabilitation and allied health services
services	This code set includes Room and Board, In-patient Rounding, Consultations, Services

1.4 Sample Product/Service Codes

Below is a list of the product/service codes for reference – some of these have been used in the scenario samples

Type	Code	Description	Total Cost
Ambulatory / Out-patient procedures	83620-00-10	Physiotherapy session	106 SAR
KSA service codes	83600-00-00	General Practitioner Consultation	100 SAR
KSA service codes	96092-00-10	Fitting of spectacles	800 SAR
MedicationCodes	06285096001627	RELENZA 5MG POWDER FOR INHALATION	60 SAR
Oral Health Op	434	Apical seal – per canal	1320 SAR
Oral Health Op	014	Consultation	150 SAR
Procedures	95358-00	Orthoptic optical intervention, prescription, glasses	500 SAR

1.5 Sample Diagnosis Codes

Code	Description
R07.1	Chest pain on breathing
K01.1	Impacted teeth
S62.12	Fracture of triquetral bone of wrist
H52.1	Myopia
K02.5	Caries with pulp exposure
Z01.0	Examination of eyes and vision

1.5.1 Insurance Policies

1) Coverage for Ahmad Abbas

Coverage	Details
Type	EHCPOL
Network	Golden C
Class	CB135
Name	Insurance Group A
Subscriber	Ahmad Khaled Abbas– member id 0000000001



Dependent(s)	Ahmad Khaled Abbas– member id 0000000001 (self)
Payor	Saudi National Insurance

2) Coverage for Muhammad Abbas

Coverage	Details
Type	EHCPOL
Network	Golden C
Class	CB135
Name	Insurance Group A
Subscriber	Ahmad Khaled Abbas– member id 0000000001
Dependent(s)	Muhammad Ali Abbas– member id 0000000002 (child)
Payor	Saudi National Insurance

3) Coverage for Sara Khan

Coverage	Details
Type	EHCPOL
Network	Golden C
Group	CB135
Name	Insurance Group A
Subscriber	Ahmad Khaled Abbas– member id 0000000001
Dependent(s)	Sara Khan– member id 0000000003 (spouse)
Payor	Saudi National Insurance
Policy Number	ABC123

4) Coverage for Zahi Fathi

Coverage	Details
Type	EHCPOL
Network	7
Group	ABC1234
Group Name	Elal Constructions
Subscriber	Zahi Fathi abdullah Tareeq
Dependent(s)	Zahi Fathi abdullah Tareeq – member id 10100000 (self)
Payor	National Insurance Organization



SCENARIOS

A set of predefined scenarios that mimic real world healthcare financial message exchanges between the different healthcare providers and insurance companies.

For users utilizing direct integration with the IQVIA server, you have access to the sample JSON provided in this document as attachment.

For users utilizing the IQVIA Provider Portal interface, you may refer to the testing script values presented under the scenario section, along with the user manual to complete the testing cycles.

Users are free to update and use any other combinations of test values to explore the different system behavior and responses.

1.1 Scenario 1 – Institution Visit

Ahmad Khaled Abbas takes child **Muhammad Ali Abbas** to **Dr. Ameera Hassan** at **Saudi General Hospital** for chest congestion. **Dr. Ameera Hassan** writes a prescription for an anti-viral.

1.1.1 Exchanged messages

No.	Use case	Sample file
1.	Eligibility Request (Discovery)	Eligibility Request - SC1
2.	Eligibility Response	Eligibility Response - SC1
3.	Preauthorization Request	Preauth Inst Request - SC1
4.	Claim Request	Claim Inst Request - SC1

1.1.2 SC1 - Eligibility Request

Actor	Details
Patient	Muhammad Ali Abbas
Organization	Saudi General Hospital
Insurance	Saudi National Insurance

1.1.3 SC1 - Preauthorization Request

Actor	Details
Patient	Muhammad Ali Abbas
Organization	Saudi General Hospital
Insurer	Saudi National Insurance
Provider	Saudi General Hospital
Practitioner	Dr. Ameera Hassan
Practitioner Role	Doctor
Diagnosis	R07.1 - Chest pain on breathing
Service	83600-00-00 - General Practitioner Consultation – 100 SAR



1.1.4 SC1 - Claim Request

Actor	Details
Patient	Muhammad Ali Abbas
Organization	Saudi General Hospital
Insurer	Saudi National Insurance
Practitioner	Dr. Ameera Hassan
Practitioner Role	Doctor
Diagnosis	R07.1 -Chest pain on breathing
Service	83600-00-00 - General Practitioner Consultation – 100 SAR

1.1.5 SC1 - Payment Notice

Actor	Details
Organization	Saudi General Hospital
Insurer	Saudi National Insurance

1.2 Scenario 2 – Subsidiary Pharmacy Claim

Zahi Fathi Abdullah Tareeq takes the prescription for the anti-viral to **Saudi Central Pharmacy** and gets it filled

1.2.1 Exchanged Messages

No.	Use case	Sample file
1.	Preauthorization Request	Preauth Pharmacy Req - SC2
2.	Claim Request (pharmacy)	Claim Pharmacy Req - SC2

1.2.2 SC2 - Preauthorization Request

Actor	Details
Patient	Zahi Fathi Abdullah Tareeq
Provider	Saudi Central Pharmacy
Insurer	Saudi National Insurance
Practitioner	Dr. Ameera Hassan
Diagnosis	R07.1 - Chest pain on breathing
Service	06285096001627- Anti-viral for chest congestion – Total Value: 60SAR

1.2.3 SC2 - Claim Request

Actor	Details
Patient	Zahi Fathi Abdullah Tareeq



Claim Type	Pharmacy
Organization	Saudi Central Pharmacy
Insurer	Saudi National Insurance
Practitioner	Dr. Ameera Hassan
Diagnosis	R07.1 - Chest pain on breathing
Service	06285096001627- Anti-viral for chest congestion – Total Value: 60SAR

1.2.4 SC2 - Payment Notice

Actor	Details
Provider	Saudi Central Pharmacy
Insurer	Saudi National Insurance

1.3 Scenario 3 – Professional Claim

Ahmad Khaled Abbas makes a bi-weekly visit to **Dr. Amar Moustafa** at the **Saudi Physio Center** in **Saudi General Hospital** for a series of treatments and exercises for the re-habilitation of a broken wrist

1.3.1 Exchanged messages

No.	Use case	Sample file
1.	Eligibility Request	Eligibility Request - SC3
2.	Preauthorization request	Preauth Professional Req - SC3
3.	Claim	Claim Professional Req - SC3

1.3.2 SC3 - Eligibility Request

Actor	Details
Patient	Ahmad Khaled Abbas
Organization	Saudi General Hospital
Insurer	Saudi National Insurance

1.3.3 SC3 - Preauthorization Request

Actor	Details
Patient	Ahmad Khaled Abbas
Insurer	Saudi National Insurance
Practitioner	Dr. Amar Moustafa
Practitioner Role	Physio
Diagnosis	S62.10 - Fracture of triquetral bone of wrist
Service	83620-00-10 - Physiotherapy session – Total: 106 SAR



1.3.4 SC3 - Claim Request

Actor	Details
Patient	Ahmad Khaled Abbas
Claim Type	Professional
Organization	Saudi General Hospital
Insurer	Saudi National Insurance
Practitioner	Dr. Amar Moustafa
Practitioner Role	Physio
Diagnosis	S62.10 - Fracture of triquetral bone of wrist
Service	83620-00-10 - Physiotherapy session – Total: 106SAR

1.4 Scenario 4 – Dental Claim

Sara Khan visits Dr. Yasser Mahfooz to have a root canal performed, where Dr. Yasser checks for the insurers authorization on the services before performing the root canal.

1.4.1 Exchanged messages

No.	Use case	Sample file
1.	Preauthorization Request	Preauth Dental Req - SC4
2.	Preauthorization Response	Preauth Dental Resp - SC4
3.	Claim Request	Claim Dental Req - SC4
4.	Claim Response	Claim Dental Resp - SC4

1.4.2 SC4 - Preauthorization Request

Actor	Details
Patient	Sara Khan
Insurer	Saudi National Insurance
Practitioner	Dr. Yasser Mahfooz
Practitioner Role	Dentist
Diagnosis	K01.1 - Impacted teeth
Service	434 - Apical seal – per canal – Total:1300SAR
Provider Organization	Saudi Dentist Clinic

1.4.3 SC4 - Claim Request

Actor	Details
Patient	Sara Khan
Claim Type	Oral



Organization	Saudi General Hospital
Insurer	Saudi National Insurance
Practitioner	Dr. Yasser Mahfooz
Practitioner Role	dentist
Diagnosis	K01.1 - Impacted teeth
Service	434 - Apical seal – per canal – Total:1320SAR

1.5 Scenario 5 – Vision Claim

Sara Khan goes to **Saudi Optical Clinic** to purchase glasses from a vision prescription written by **Dr. Ashraf Naeem**

1.5.1 Exchanged messages

No.	Use case	Sample file
1.	Preauthorization Request for ophthalmologist's consultation	Preauth Vision Req - SC5
2.	Claim for ophthalmologist's consultation	Claim Vision Req - SC5
3.	Preauthorization Request with a vision prescription for spectacles	Preauth Vision Req_VP- SC5
4.	Claim with a vision prescription for spectacles	Claim Vision Req_VP - SC5

1.5.2 SC5 - Preauthorization Request

Actor	Details
Patient	Sara Khan
Claim Type	Vision
Insurer	Saudi National Insurance
Practitioner	Dr. Ashraf Naeem
Practitioner Role	Doctor
Diagnosis	Z01.0 – Examination of eyes and vision
Service	42503-00-02 – Optjthalmological Examination – Bilateral – 400 SAR + tax
Diagnosis	Z01.0 – Examination of eyes and vision
Service	96092-00-10 – Fitting of spectacles– 800SAR + tax
Organization	Saudi Optical Clinic

1.5.3 SC5 - Claim Request

Patient	Sara Khan
Claim Type	Vision



Organization	Saudi General Hospital
Insurer	Saudi National Insurance
Practitioner	Dr. Ashraf Naeem
Practitioner Role	Doctor
Diagnosis	Z01.0 – Examination of eyes and vision
Service	96092-00-10 – Fitting of spectacles– 800SAR



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