

# QR Codes to Share HL7 FHIR Patient Summaries:

How It Works and Case Studies

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**@ HL7 Booth 12517**

Thursday 11:00am, March 12, 2026

# HL7<sup>®</sup>

International

 SMART<sup>®</sup> Health Link



 WA health summary



# Agenda

- A Brief Introduction to:
  - The International Patient Summary (IPS)
  - SMART Health Links (SHL)
- How do QR Codes/SHL work?
  - Why bother with a QR code standard?
  - Are they secure?
- Case Studies for SHL + IPS
- A Look Forward

# A BRIEF INTRODUCTION TO THE IPS

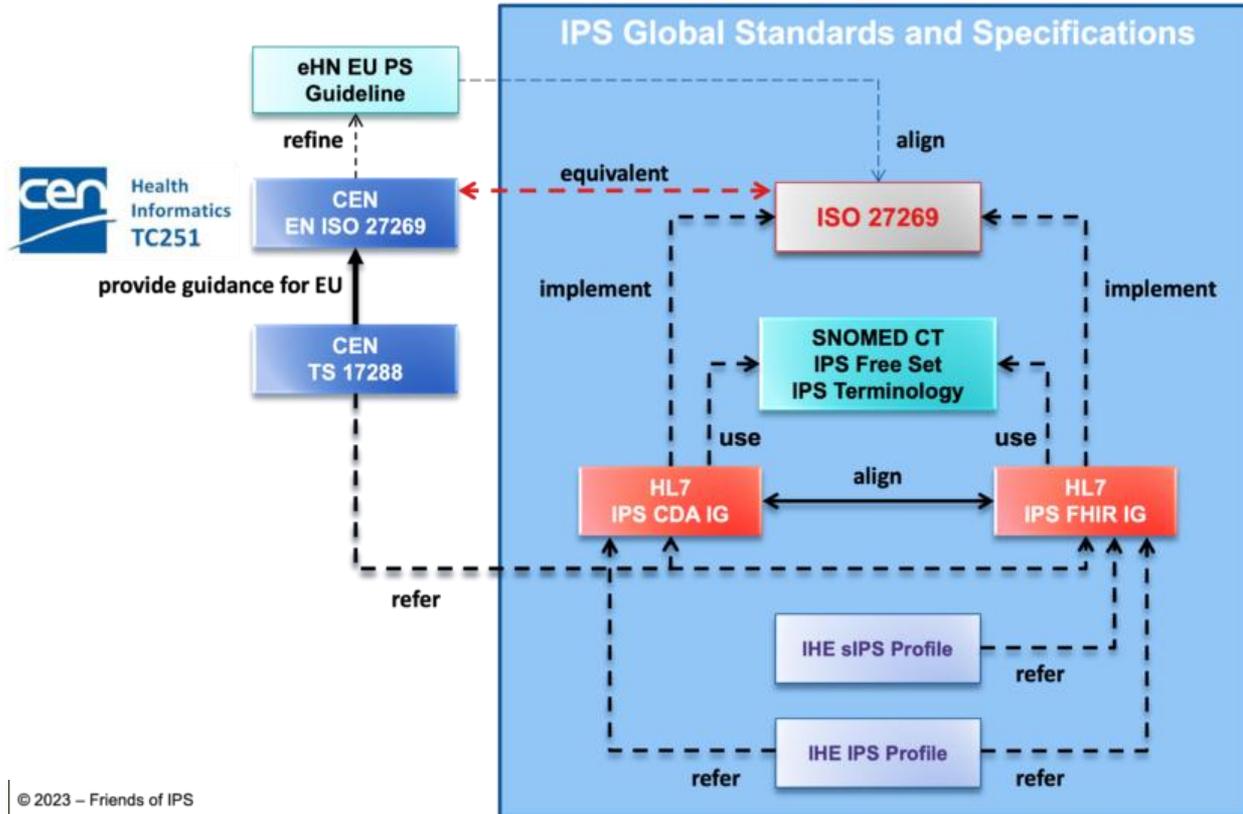
# What is the IPS?

- A standardized set of basic clinical data
- Includes most important health and care related facts
- A summarized version of a patient's clinical data provides health professionals the essential information needed for care



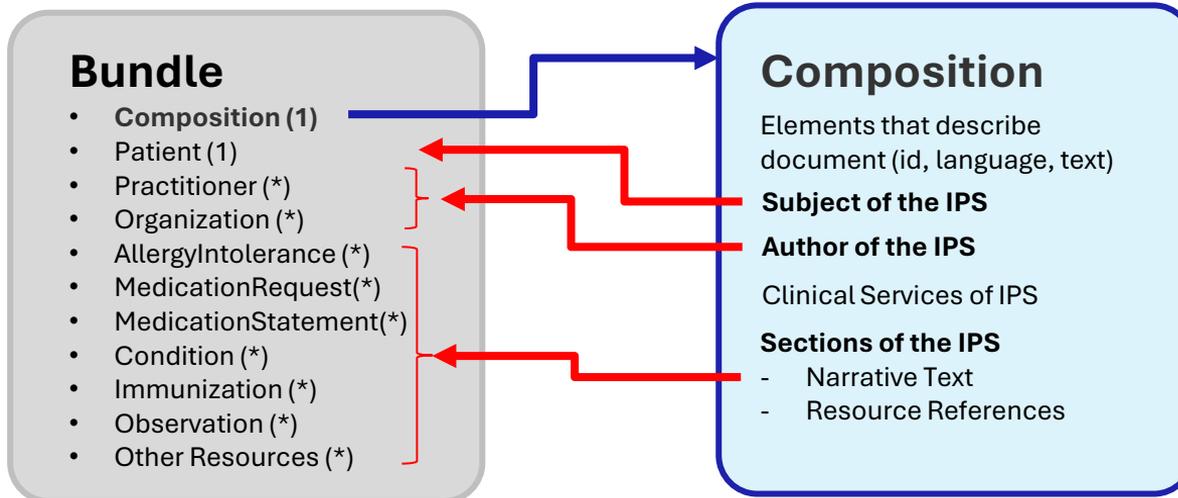
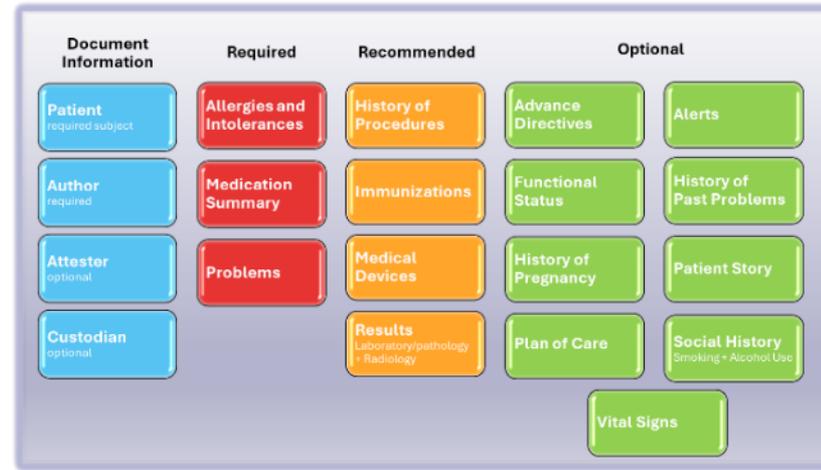
**The International Patient Summary is a minimal and non-exhaustive set of basic clinical data of a patient, specialty-agnostic, condition-independent, but readily usable by all clinicians for the unscheduled (cross-border) patient care.**

# Cross-SDO Collaboration



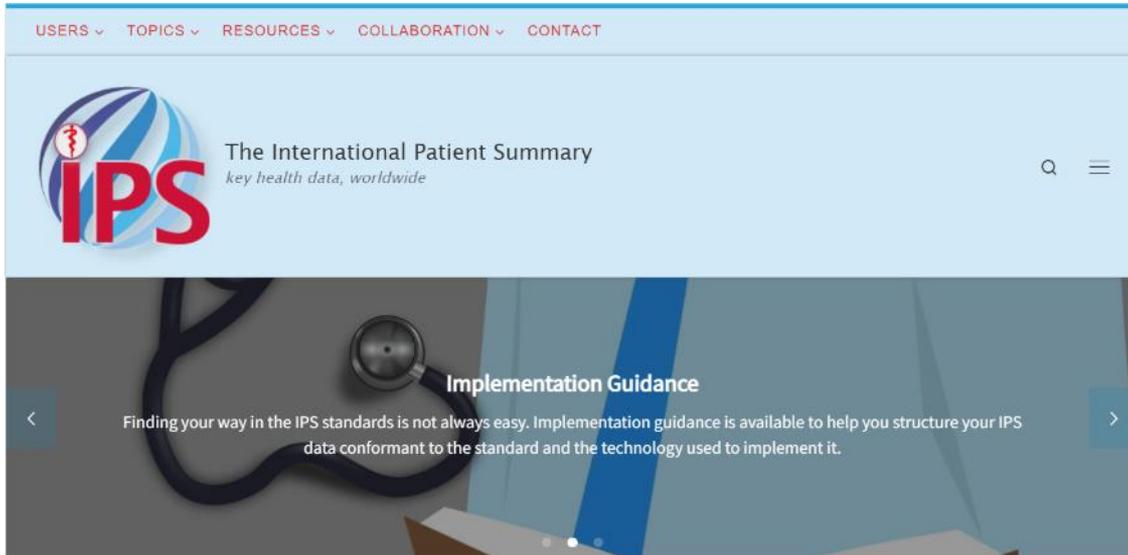
# IPS as FHIR Document

- The IPS is a Bundle which uses the Composition resource to organize the patient's summary. It's both machine readable and human render-able



# Want a Broader Introduction?

<https://international-patient-summary.net/>

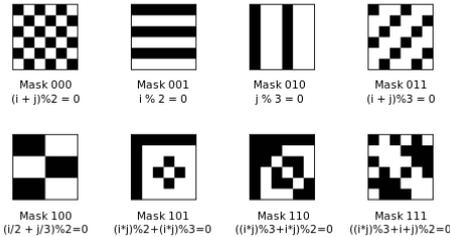


# A BRIEF INTRODUCTION TO SMART HEALTH LINKS

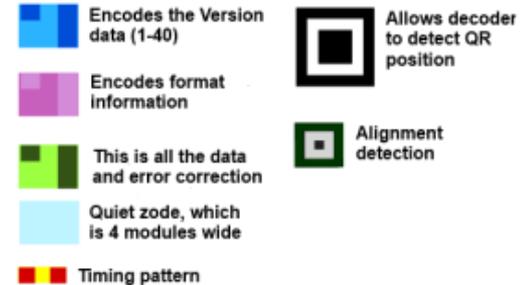
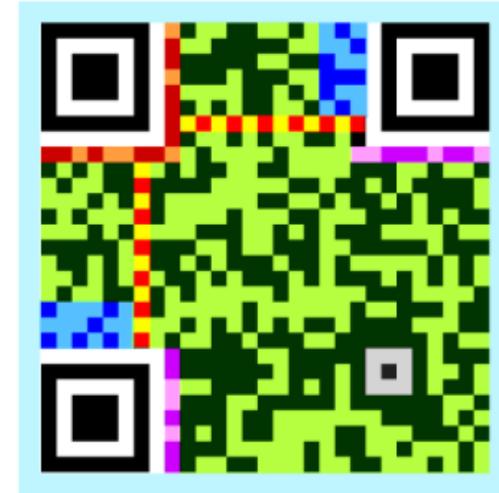
# QR Codes

- Designed by Toyota in 1994 to get more than 20 alphanumeric in barcode and more angles
- $(X \text{ bits across} - 17) / 4 = \text{version 3 QR code on right}$ 
  - Versions 1-8 common, SMART Health Cards often use v22
- Format information sets how masked to avoid undesirable patterns (e.g. excess whitespace)

X=29



- QR codes have built-in error correction (Reed-Solomon Code implementation)



# History of SMART Health Cards



- After the COVID vaccines were released, some places used QR codes to communicate vaccine status
- Several US states and several other nations (Canada, Japan, Australia)
- These QR codes embedded FHIR data inside the image using SMART Health Cards

# Why SMART Health Links?

## SMART Health Cards

- Embeds data in the QR Code
- Require specialized apps
- New QR Code when new data



## Limited By

- Only 2-3kb of possible data
- Not easy for clinicians and consumer to use outside planned scenarios
- No way to be dynamic and stay up-to-date

# SMART CARDS & HEALTH LINKS (2025)

<https://hl7.org/fhir/uv/smart-health-cards-and-links/>

**HL7** International **SMART**

**SMART Health Cards and Links IG**  
1.0.0 - STU 1

HL7 FHIR

Home SMART Health Cards SMART Health Links FHIR Artifacts Change Log

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This page is part of the SMART Health Cards and Links FHIR IG (v1.0.0: STU1) based on FHIR (HL7® FHIR® Standard) R4. This is the current published version. For a full list of available versions, see the [Directory of published versions](#).

## 1 Home Page

|   |                   |   |
|---|-------------------|---|
| Official URL: <a href="http://hl7.org/fhir/uv/smart-health-cards-and-links/ImplementationGuide/hl7.fhir.uv.smart-health-cards-and-links">http://hl7.org/fhir/uv/smart-health-cards-and-links/ImplementationGuide/hl7.fhir.uv.smart-health-cards-and-links</a> | Version: 1.0.0    |   |
| IG Standards status: <a href="#">Trial-use</a>  | Maturity Level: 4 | Computable Name: SMARTHealthCardsandLinks |

### 1.1 Overview

Paper medical records—such as vaccination histories and insurance cards—are easily lost or damaged, are difficult to authenticate, and are often not on-hand when they're needed.

SMART Health Cards and Links are FHIR-based standards that address these challenges, enabling individuals to receive their health information and share it with others in a tamper-proof and verifiable digital form. The standards can also be used to share information that doesn't need to be verified by the receiver. They provide a digital version of an individual's clinical information that can be kept at the ready and easily shared with others when the need arises—using a QR code, mobile app or web browser.

Together SMART Health Cards and Links provide options that support multiple goals—from keeping a small amount of verifiable medical information close by to authorizing a trusted party to access their entire medical record. They empower individuals with secure, equitable, and privacy-preserving access to their clinical information.

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- [Global Profiles](#)
- [IP Statements](#)

# SMART Health Links

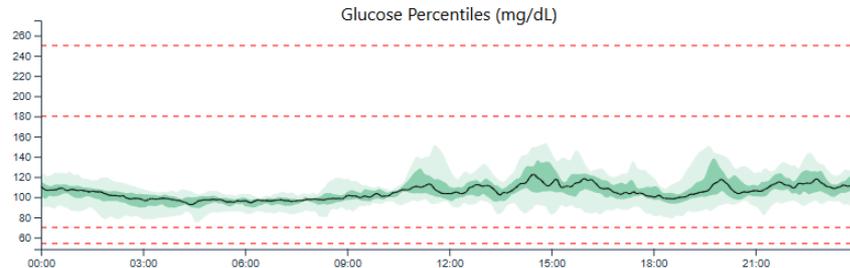
- The QR Code is a link with a key, **not actual data**
- Create a QR Code that can be used in two ways:
  1. Any internet-connected device (phone, laptop, tablet) can view a web view of the data
  2. FHIR-ready applications can access data directly
- The data live encrypted on a cloud server but the decryption key is only on the device
- The links use robust security methods:  
(256-bits entropy + optional passcode + expiration)

# Example SMART Health Link



- Any data possible but FHIR data is the primary goal
- The view of the data can be whatever you like!

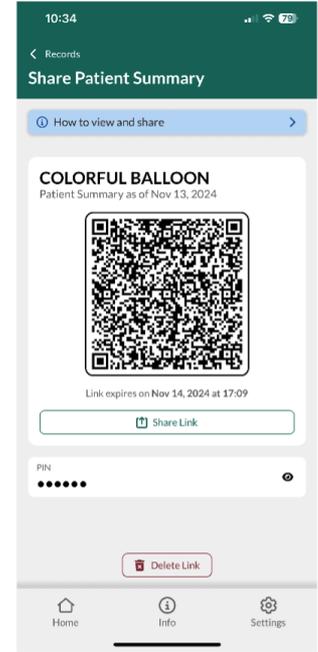
Glucose Profile from  through



Credit to Josh Mandel: [https://www.linkedin.com/posts/josh-mandel\\_healthcare-diabetes-data-activity-7191481553288417281-9B\\_i/](https://www.linkedin.com/posts/josh-mandel_healthcare-diabetes-data-activity-7191481553288417281-9B_i/)

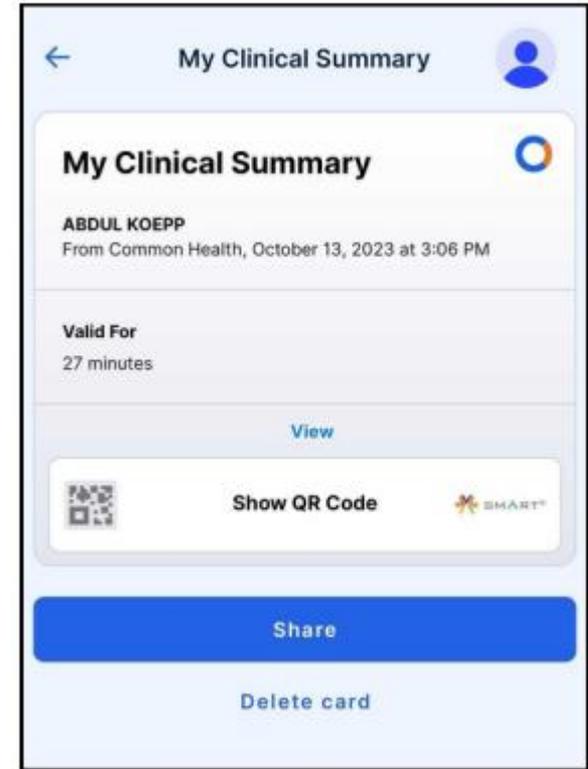
# CASE STUDIES

# Canada New Brunswick



Source: [https://myhealth.gnb.ca/s/article/000001022?language=en\\_US](https://myhealth.gnb.ca/s/article/000001022?language=en_US)

# CommonHealth



Source: <https://www.thecommonsproject.org/newsroom/introducing-patient-summaries>

# Washington State Health Summary

SMART® Health Link



WA health summary

<https://myhealthsummary.demo.cirg.uw.edu/ips#shlink:/eyJ1cmwiOiJodHRwczovL3NobC1zZXJ2ZXIubXloZWZsdGhzdW1tYXJ5LmRlbW8uY21yZy51dy5lZHUvYXBpL3NobC9sZDdrc3NTN24yOU5qVHVZYXE1WkJGcnNLY3NMeE1RNGxsM21PbHJTSVNVIIiwiZXhwIjoxOTI2MTA5NDI5LjI1MSwiZmxhZyI6Ii1AiLCJrZXkiOiJjSHhvQjgyWmxDUDByejNLZnF5TS12bWVGemI1VXhkQXJ1eDAyUTNue1ZFIj0>

**Orange** = Viewing web-link of summary    **Blue** = base64 of JSON payload

```
{  
  "url": "https://shl-server.myhealthsummary.demo.cirg.uw.edu/  
    api/shl/ld7kssS7n29NjTuYaq5ZBFrsKcsLxMQ41l3mO1rSISU",  
  "exp": 1926109429.251,  
  "flag": "P",  
  "key": "cHxoB82ZlCP0rz3KfqyM-vmeFzb5UxdArux02Q3TzVE"  
}
```

# A LOOK FORWARD

# To “Kill the Clipboard”



## Overview

Medicare App Library

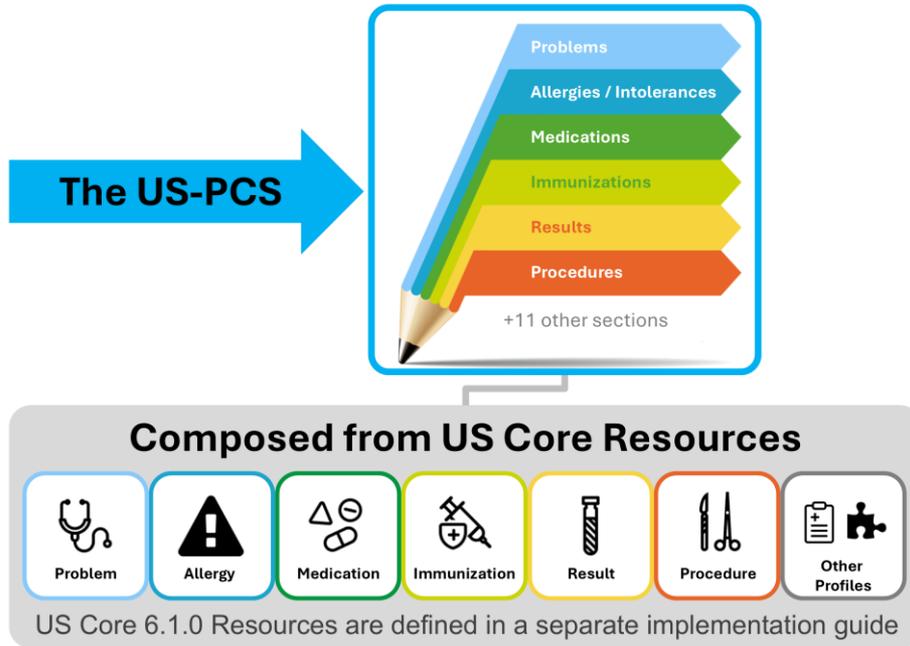
Early Adopters and All Pledges

## Patient Facing Apps — Kill the Clipboard

**COMPANY PLEDGE:** We pledge to empower patients to retrieve their health records from CMS Aligned Networks or personal health record apps and share them with providers via QR codes or Smart Health Cards/Links using FHIR bundles. When possible, we will return visit records to patients in the same format. We commit to seamless, secure data exchange — eliminating the need for patients to repeatedly recall and write out their medical history. We are committed to “kill the clipboard,” one encounter at a time.

Source: <https://www.cms.gov/health-tech-ecosystem/early-adopters/kill-the-clipboard>

# US Patient Care Summary (US-PCS)



Planned for  
May 2026  
Ballot

# How to Get Involved?

- Come to an HL7 (or IHE) Connectathons!
- Attend the weekly IPS Project Calls
- Join us on chat.fhir.org
- Attend a working group meeting
- Comment on the specifications

<https://build.fhir.org/ig/HL7/fhir-ips/en/>

<https://build.fhir.org/ig/HL7/us-fhir-ps/en/>

<https://build.fhir.org/ig/HL7/smart-health-cards-and-links/>

# Thank You

- Any Questions?
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