

Sparked



Sparked Clinical Design Group

Tuesday 19 March Workshop

Online



Acknowledgement of Country

We acknowledge the Traditional Custodians of the land
on which we all gather today.

We pay our respect to elders past, present, and emerging and
extend our respect to all Aboriginal and/or Torres Strait
Islander people, acknowledging the First Peoples as the first
scientists, educators and healers.

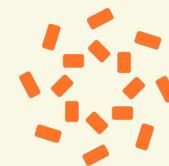


Agenda

Item	Item	Time	Lead/facilitator
1	Welcome	5 mins	Kate Ebrill
2	Recap of eRequesting workshop Introduction to Australian eRequesting Data for Interoperability (AUeReqDI) AUeReqDI Scope	30 min	Kate Ebrill
3	Dive into the clinical model - Current pregnancy status - Estimated date of delivery - Last menstrual period - Menstruation summary - Medical device summary	50 mins	Heather Leslie
4	AUCDI R1 draft update	2 min	Kylynn Loi
5	Wrap up and close	3 min	Kate Ebrill

Sparked Team

FHIR@csiro.au



Kate Ebrill –
Sparked Lead



Michael Hosking –
Sparked Deputy
Lead



Kylynn Loi –
Clinical Design
Lead



Dr Heather Leslie
– Lead Clinical
Data Modeller



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Rixon – FHIR
Technical Lead



Steph Ong –
Infrastructure
Lead



Dusica Bojicic -
FHIR IG Author



Brett Esler –
FHIR Expert



Olivia Carter–
Engagement
Analyst



Matt Cordell –
Clinical
Terminology
Specialist



Michael Osborne
– FHIR
Terminologist



Heath Frankel –
FHIR Expert



Nisha
Subramanian –
Business Analyst



Chris Kellalea-
Maynard -
Snr Business
Analyst



Michael Wilson –
FHIR Solution
Architect



Ilya Beda –
FHIR Expert



Madison Black
– Engagement



Bernadette
Cranston –
Program Director



Sparked CDG team



Kate Ebrill –
Sparked Lead



Michael Hosking –
Sparked Deputy
Lead



Kylynn Loi –
Clinical Design
Lead



Dr Heather Leslie
– Lead Clinical
Data Modeller



Matt Cordell –
Clinical
Terminology
Specialist



Michael Osborne
– FHIR
Terminologist



Sparked CDG Clinical Co-Leads

To remind us and keep us focused & on track based on scope



Chris Moy



Harry Iles-Mann



Charlotte Hespe



Andrew Hugman



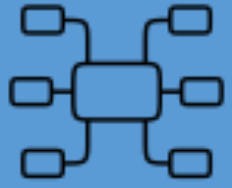
Chaturica Athukorala



What is AU eReq IG and Australian eRequesting Data for Interoperability (AUeReqDI)?

CDG is here

AU
eReq
DI



Specifies “*WHAT*” clinical information (and corresponding data elements and terms) should be included for data entry, data use and sharing information supporting eRequesting

TDG is here

AU
eReq
IG



Specifies “*HOW*” the core set of data (above) and information should be structured, accessed and shared between systems for the eRequesting use case



AUeRequestDI

Role of AU eRequest DI

A consistent and standardised set of structured data to be captured, used and shared for eRequesting

Informs the design of the eRequest FHIR Implementation Guide

Data:

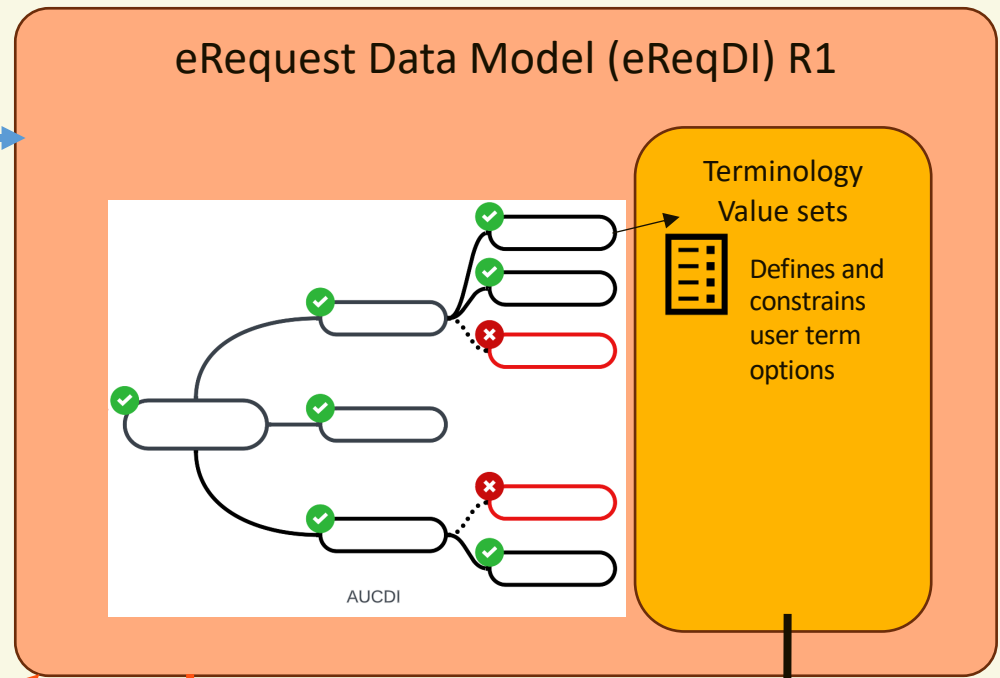
- To solve the above use case priorities for R1, what data is critical as a foundation to build on?

Informing the eReq data model



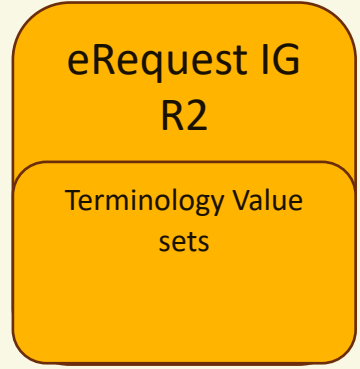
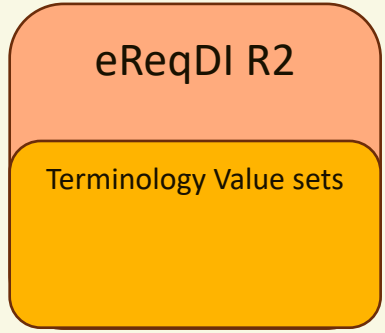
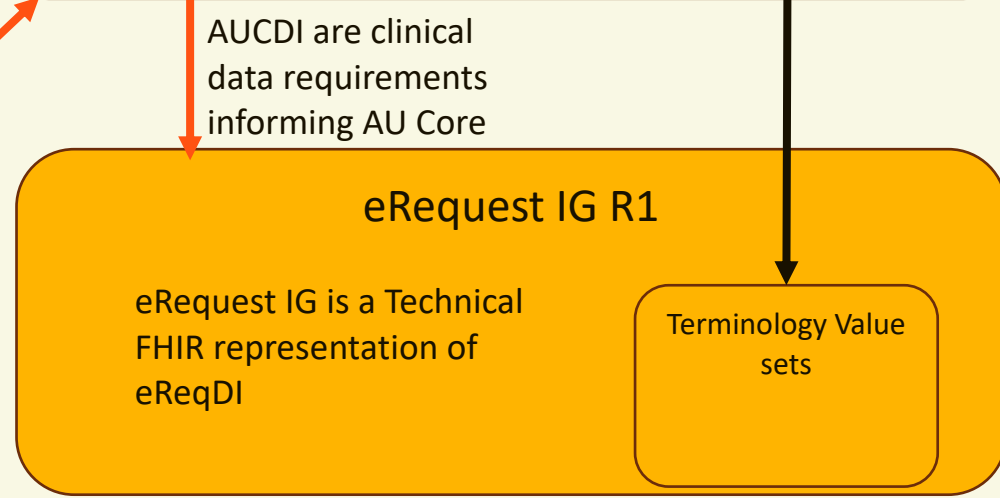
- FHIR Service Request
- International consumer Summary (IPS)
- openEHR Archetypes (International)
- US Core Data for Interoperability (USCDI)
- CSIRO Primary Care Data Quality Foundations (PCDQF) (AU)
- Professional Record Standards Body Standards (PRSB - UK)
- AIHW Minimum Data Sets
- The pan-Canadian Health Data Content Framework
- Services Australia – Service Request
- Medicare Benefits Scheme
- Clinical workflow and data requirements Reporting requirements

A range of local and international sources informs the content and structure of information models in eReqDI



Clinical Decision Support (CDS) & AI Data Reuse
Enhanced Reporting capabilities
...

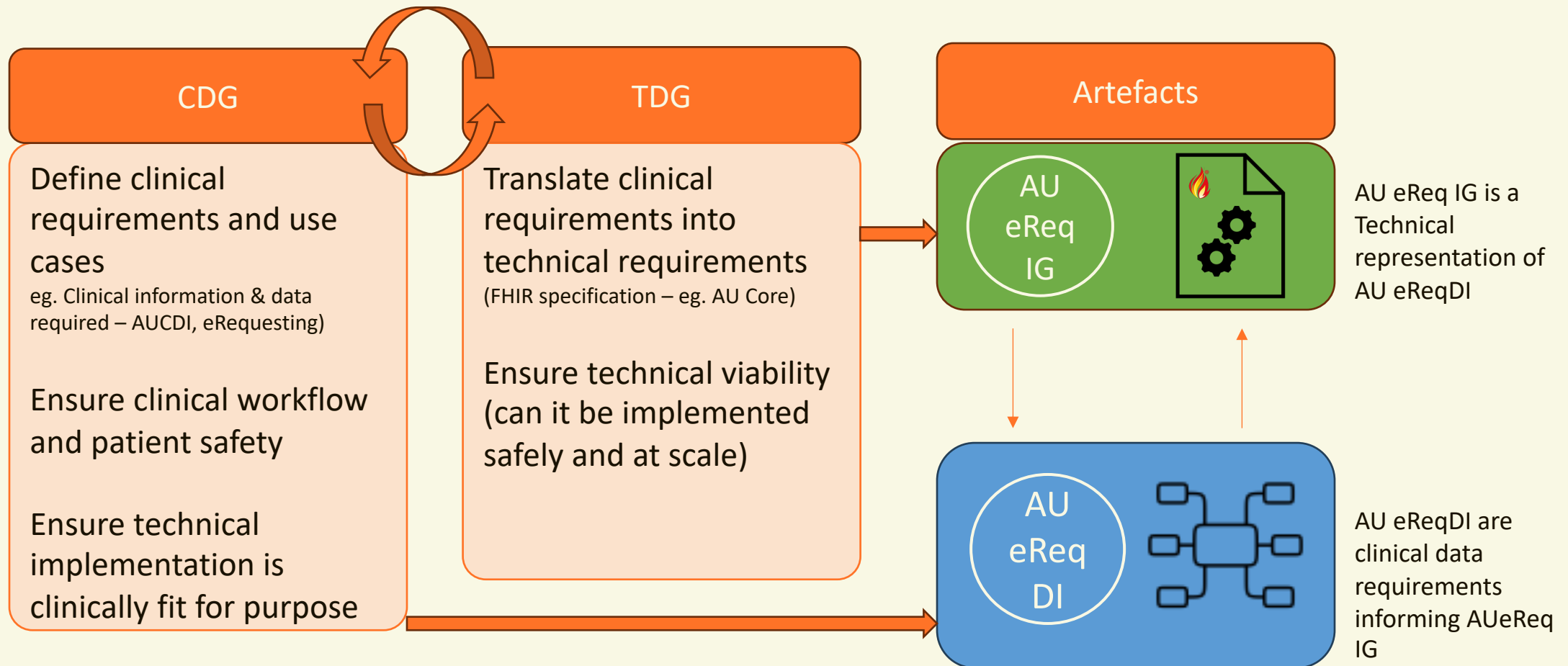
informs





High-level process and feedback loop

- CDG (or delegate) clarifies clinical requirements/scenarios
- TDG provides technical advice





Sparked: Australian eRequesting Data for Interoperability (AUeReqDI)

Support current workflows

Start small and grow iteratively

- First priorities are imaging examinations and laboratory/pathology tests
- No simple “undo” – impact of change can be high
- Data elements can be added to over time
 - Work through backlog
 - Add more use cases
 - More functionality available

Stick with our design principles

Leverage and align with AUCDI

- Identify core data elements that should go into future releases of AUCDI

Leverage and align with work locally and internationally were possible

- Where we differ, need to understand the impact





Core Draft Principles of Data Set Design

- 1 Reduce duplication - Single entry, single development (multiple use and reuse)
- 2 Supports person-centred care - driven by a clinical quality and safety use case
- 3 No data for data's sake
- 4 Driven by primary clinical data use not secondary data use needs
- 5 Supports best practice care, clinical guidelines and clinician workflow
- 6 Systems can support now or with minimal effort, supporting a strategic roadmap with an agile iterative process
- 7 Alignment with national health data standards and initiatives
- 8 Alignment with international standards and initiatives
- 9 Involve and consider all healthcare domains and care modalities



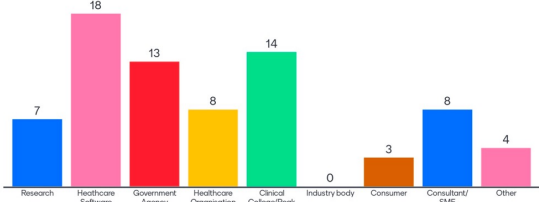
Additional Principles of AU eReqDI design

- Supports current workflows for laboratory/pathology test and imaging examination requests
- eRequesting DI will focus on the clinical aspects
 - Responsibility of the technical items will fall to the TDG/AU eRequesting FHIR IG with CDG support. This includes
 - Administrative
 - Billing
 - Technical data items
 - Security
 - Privacy/Consent
 - Non-clinical context e.g. provenance information
 - MBS workflow items - Self determined (SD), Rule 3 exemptions
 - Other out of scope areas include
 - User interface/form implementation requirements eg. MBS mandated requirements, such as patient advisory statements, privacy notes, etc.

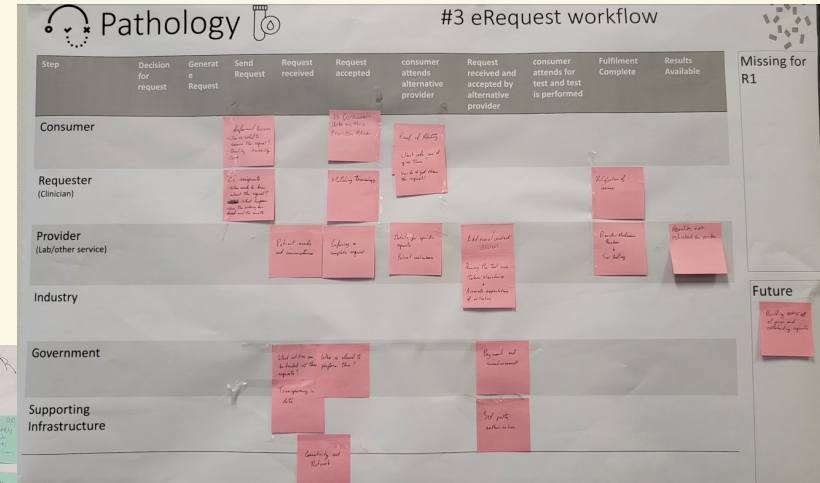
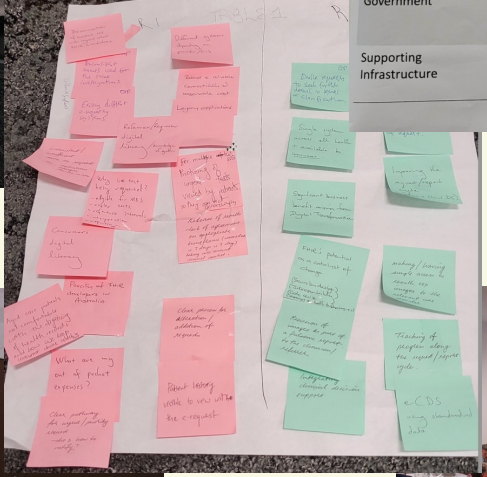
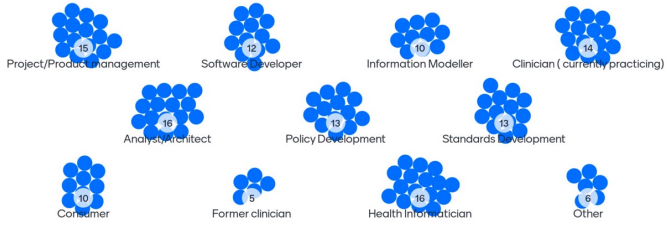


First eReq workshop held in Melbourne

What kind of organisation are you from?



What is your role/background



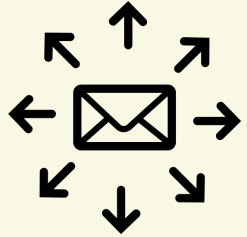


Objectives of first workshop

- Understand what has been achieved in the last 6 months
- Understand the challenges/pain points as well as opportunities and benefits for eRequesting
- Identify priority use cases and scope- what's going to make a “MLM”- Minimum Loveable Model?
- Identify the key data model requirements & priorities for eRequesting R1
- Identify backlog use cases and data model requirements to ensure a consistent reusable approach



Proposed foundational workflows



1. Request generated, and **Consumer chooses** a suitable provider



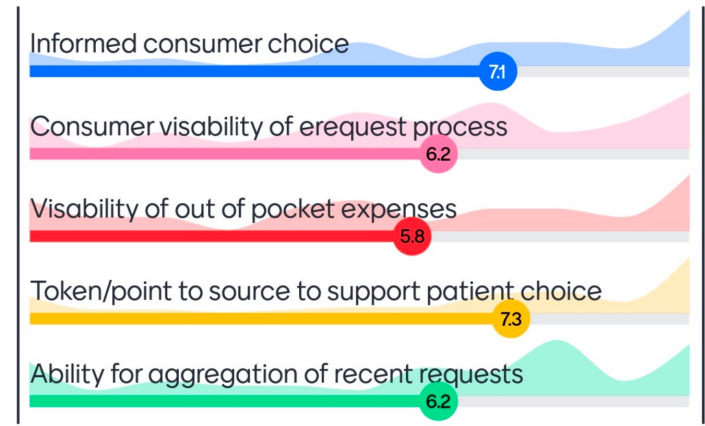
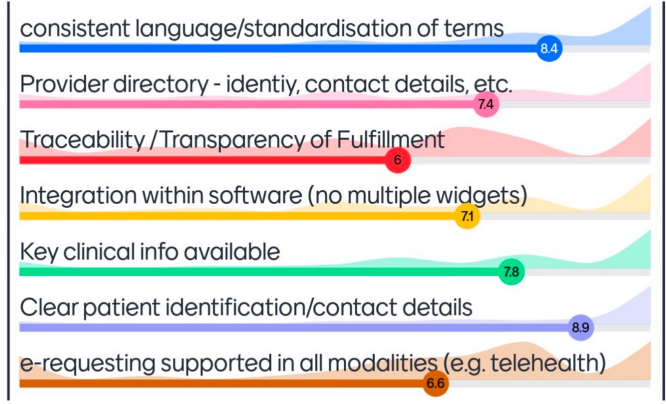
2. Healthcare provider discusses and **agrees with Consumer the recommended provider** with a Request Generated to that provider with the consumer following the recommendation



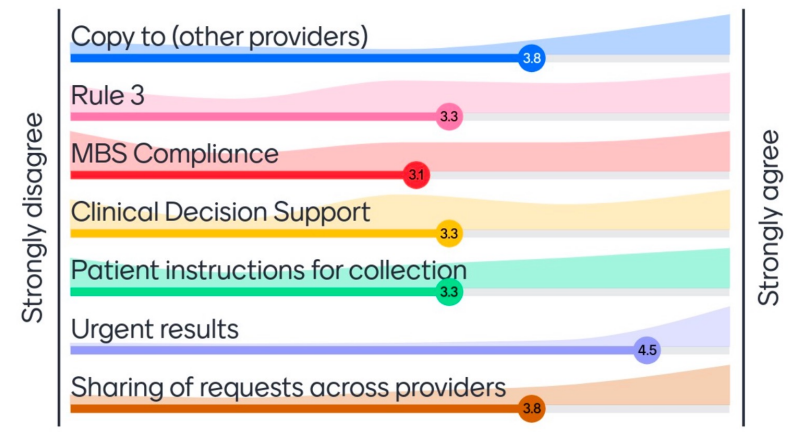
3. Healthcare Provider discusses and **agrees with Consumer** a recommended provider, request generated and later the **consumer chooses an alternative to the recommended provider**

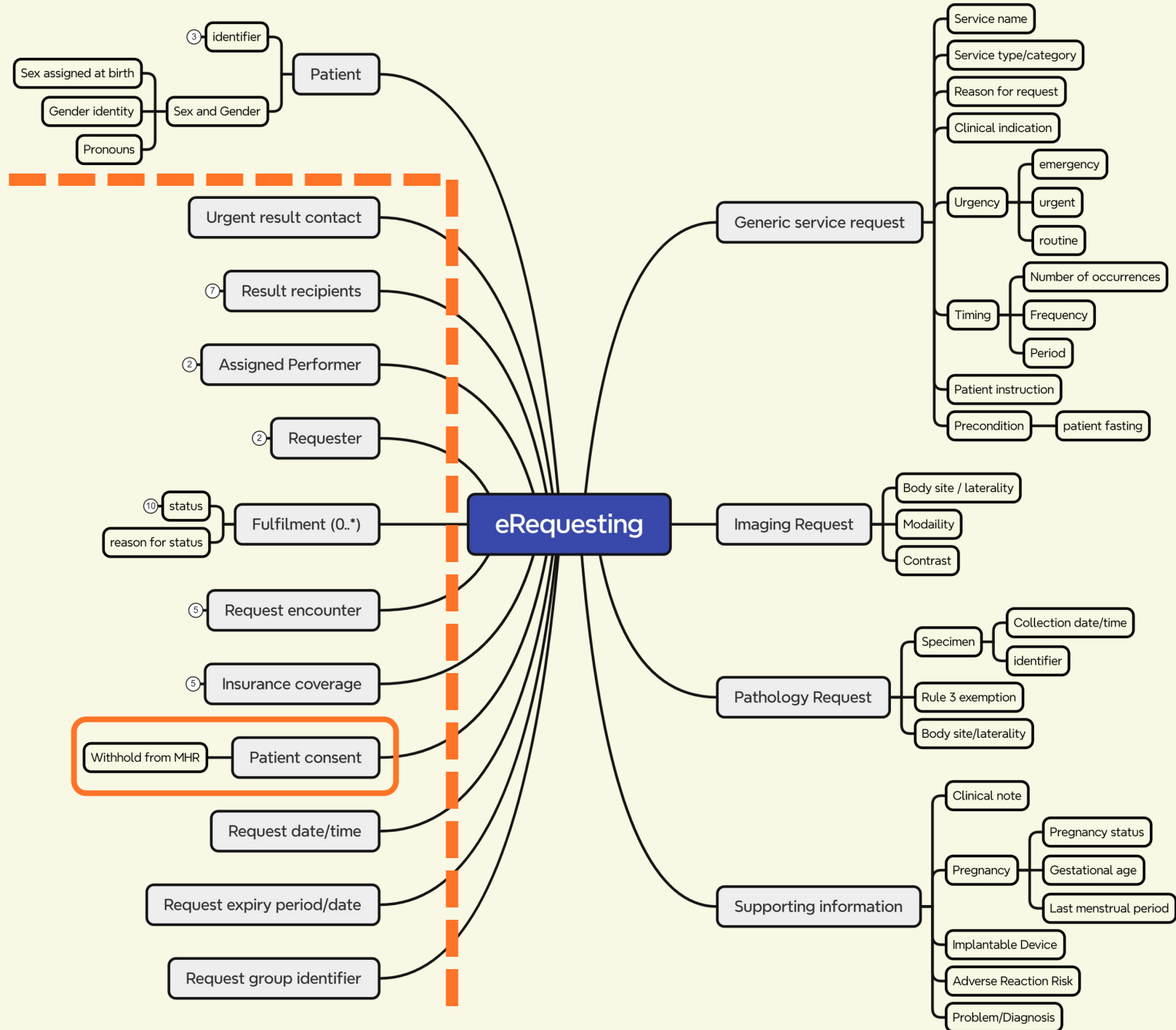
Priorities R1

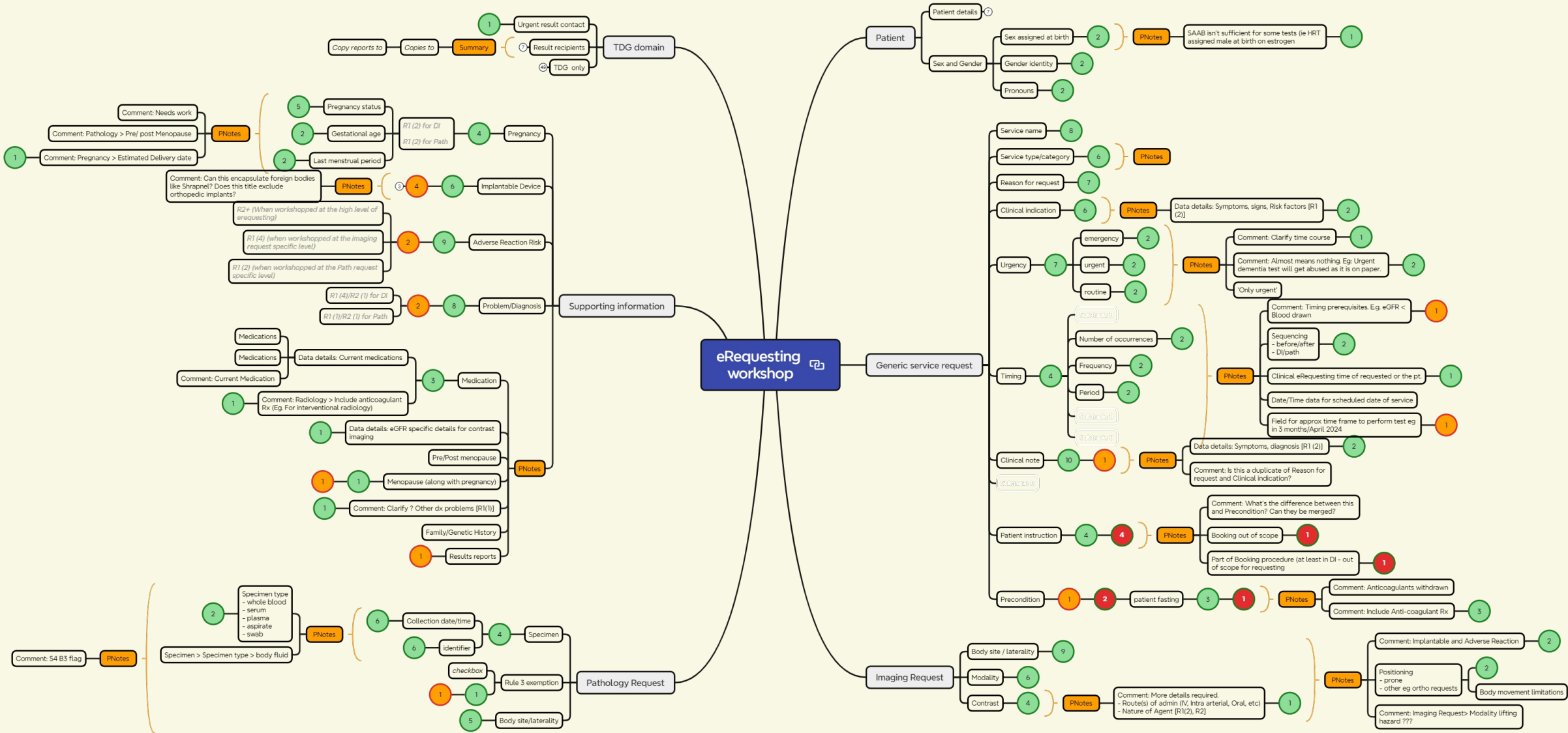
Priorities R1



Priorities R1







Current request forms

qml pathology | RCPA | NATA | Pathology Request Form

PATIENT LAST NAME, GIVEN NAMES, SEX, DATE OF BIRTH, FILE NO., PATIENT ADDRESS, POSTCODE, TEL (HOME & MOBILE), TEL (BUS)

TESTS REQUESTED

SULLIVAN NICOLAIDES PATHOLOGY

Dr M Harrison, Dr N Maguire, Dr K Theuricht, Dr H Woodroffe, Dr J Ruzan, Dr A So, Dr C Roper, Dr C Wallace, Dr S Taylor, Dr D Cornish, Dr J Kieran, Dr S McGowan, Dr T Wang, Dr Fencovich, Dr J Mitchell, Dr D Langguth, Dr K Lamson

Medicare number F Overseas Affairs

Pathology Queensland | Queen Government

HOSPITAL, GENDER, UR PREFIX, UR NO, DATE OF, PATIENT SURNAME, PATIENT FIRM, PATIENT ADDRESS, CONTACT NO

Patient status at the time of the service or when specimen collected (please tick)

Private patient in a private hospital or approved day hospital facility
 Private patient in a recognised hospital
 Public patient in a recognised hospital
 Outpatient at a recognised hospital
 Bulk Bill Rural & Remote COAG

MEDICARE NUMBER, HEALTH FUND NAME, EXP, VETERANS AFFAIRS, IRN

MEDICARE ASSIGNMENT FORM (Section 20A of the Health Insurance Act 1973)

PRACTITIONERS USE ONLY (Reason patient cannot sign)

Signature, Date Collected

COLLECTION CODE, CONTAINERS COI, Path QLD Collect Inpatient, EDTA, LHPE, Path Qld Collect Outpatient, SST, EDTA BE, Ward Collect, RST, BL Cultu, Self Collect Assist, CITRATE, ABG, Others, PEI, OTHER, Patient Fasting, REC'D TIME, INITIALS

PRIVACY NOTE: The information provided by proper authorisation of government health...

Australian Clinicallabs | GENERAL PATHOLOGY REQUEST FORM | MEDICARE CARD NUMBER & IRN | ACC STAMP

General Enquiries 1300 453 688 | Doctor Enquiries 1300 134 111

TITLE, PATIENT LAST NAME, GIVEN NAME (INCLUDING MIDDLE INITIAL), SEX, DATE OF BIRTH, YOUR REFERENCE, PATIENT ADDRESS, POSTCODE, MOBILE PH, ALT PH

TESTS REQUESTED

CLINICAL NOTES

RULE 3 EXEMPTION, SELF DETERMINED, REPEAT FORMS

PERSON COLLECTING SPECIMENS TO COMPLETE

URGENT, PHONE, FAX, BY TIME, PRIVATE, SCHEDULE FEE, BULK BILL, VET AFFAIRS NO.

SIGNED, FULL NAME, DATE, TIME, DOCTOR'S SIGNATURE AND REQUEST DATE

COPY REPORTS TO: HOSPITAL/WARD

FOR HOSPITAL PATIENTS: Patient status at the time of the service or when the specimen was collected

1. Private patient in a private hospital or approved day hospital facility
 2. Private patient in a recognised hospital
 3. A public patient in a recognised hospital
 4. Outpatient of a recognised hospital

MEDICARE ASSIGNMENT (Section 20A of the Health Insurance Act 1973)

PENSIOMERICK HOLDER - PATIENT'S SIGNATURE AND DATE

Table: GEL, EDTA, FLOX, SOD, CIT, ER, HEP, PLAN, MBU, CYTO, JHR, PCR, CHEN, MICRO, CYTO, LBC, HST, FEDES, SPT, FUNG, CSF, URINE, SLEES, DONORS, TWE, CRIS

RCPA | NATA

Australian Clinicallabs | YOUR PATHOLOGY REQUEST | PATIENT COPY | MEDICARE CARD NUMBER

General Enquiries 1300 453 688 | Doctor Enquiries 1300 134 111

TITLE, PATIENT LAST NAME, GIVEN NAME (INCLUDING MIDDLE INITIAL), SEX, DATE OF BIRTH, YOUR REFERENCE, PATIENT ADDRESS, POSTCODE, MOBILE PH, ALT PH

TESTS REQUESTED

REQUESTING DOCTOR (PROVIDER NUMBER, SURNAME & INITIALS, ADDRESS)

SAVE | CLEAR FORM

IMPORTANT NOTE: Your doctor has recommended that you use Australian Clinical Labs...

PRIVACY NOTE: The information provided will be used to assess any Medicare benefit payable for the services rendered and to facilitate the proper administration of Government health programs...

I-MED Radiology Network | Patient | Imaging Request

Scan the QR code

CitiScan Radiology

Dr Antonio Pais, Dr Chris Yu, Dr Hans Van Der Wal, Dr Alison Butt

Patient Name, Contact Details, Date of Birth, Medicare No

Radiology Referral | Excellence in Diagnostics

Examination Re: Shoulder Ultrasound

Shoulder Specific Clinical Indications: Please tick if applicable

Shoulder Ultrasound: Evaluation of injury to tendon, muscle or muscle/tendon junction; Rotator cuff tear; Biceps subacromial; Capsulitis and bursitis

Knee Ultrasound: Abnormality of tendons or bursae; Meniscal cyst, popliteal fossa cyst, mass; Nerve entrapment or tumour; Injury of collateral ligaments

MRI - GP Referred: Patients 16 years and older; Additional codes available for <16 yrs

MRI Head: Unexplained seizures; Chronic headache with suspected intracranial pathology

MRI Knee - Under 50 yrs: Acute meniscal tear; Acute anterior cruciate ligament tear

MRI Cervical Spine: Trauma; Radiculopathy

Trans thoracic Echocardiogram (TTE): GP and Specialist Referred; Initial study for investigation (once per 2 years); Serial study for investigation (isolated pericardial effusion or pericarditis; or Baseline study and has commenced medication for non-cardiac purposes with cardiotoxic side effects)

Additional Imaging (MMS-6 GP only): Serial study for known valvular dysfunction

Appointments: 1300 MY SCAN, 1300 697 226, scradiology.com.au

Referred By, Contact Details, Provider Number, Signature, Date, Copy to

Urgent, Allergies, Ph, Signature, Date

MIT initials: Patient identification verified, Correct side & site verified, Procedure & consent verified

Please Consider The Environment CHOOSE TO GO FILLLESS

All images are digitally stored for future online access or printing if required.

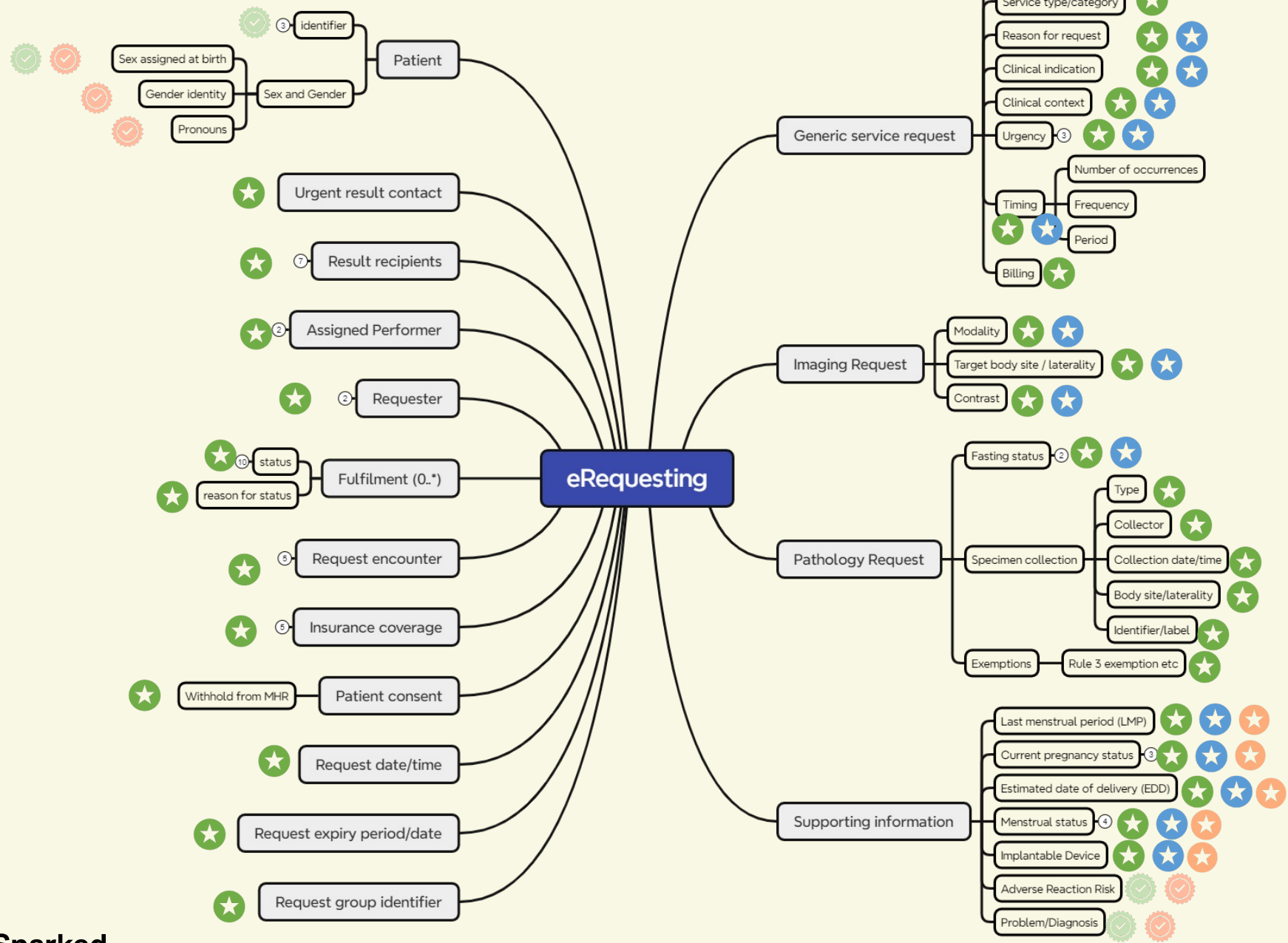
HDAA



Pathology Queensland

V131018PU

Your doctor has recommended that you are free to choose your own path doctor has specified a particular path Medicare rebate will only be payable service. You should discuss this with



- AUCDI R1
- AU Core
- Potential eReq DI R1
- Potential eReq IG
- Potential AUCDI R2

AUeReqDI R1 proposed scope

Builds upon AUcDI and AU Core – (Patient, Problem/diagnosis (condition), etc.)

Proposed AUeReqDI scope

Service request (generic)

- Service name
- Clinical indication/Reason for Request
- Clinical context
- Urgency
- Timing

Service request (Laboratory/ Pathology)

- Test name ("Service name")
- Clinical indication/Reason for Request
- Clinical context
- Urgency
- Timing
- Fasting status

Service request (Imaging examination)

- Examination name ("Service name")
- Clinical indication/Reason for Request
- Clinical context
- Urgency
- Timing
- Target body site/laterality
- Modality

Current pregnancy status

Estimated Date of Delivery

Last menstrual period

Menstruation summary

Medical device summary*

You are here

Proposed IG scope

Service request (generic)

- Requester order identifier
- Billing
- Requester
- Receiver order identifier
- Receiver
- Distribution list

Service request (Laboratory/ Pathology)

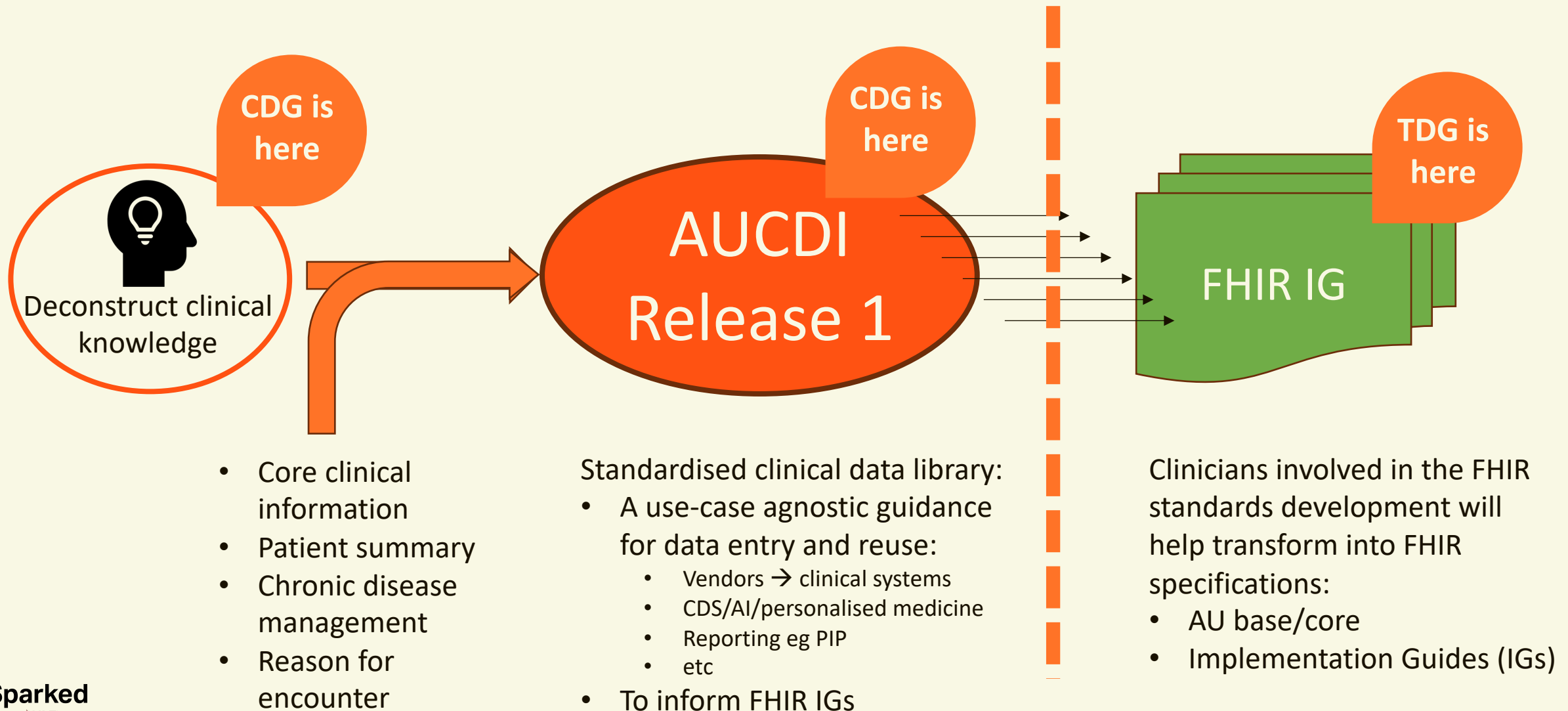
- Requester order identifier
- Billing
- Requester
- Receiver order identifier
- Receiver
- Distribution list
- Specimen collection
 - Collector
 - Collection date/time
 - Identifier/label
 - Body site/laterality
- Self determination
- Rule 3 exemption
- S4B(3) exemption
- Result recipient
- Urgent result contact

Service request (Imaging examination)

- Requester order identifier
- Billing
- Requester
- Receiver order identifier
- Receiver
- Distribution list
- Result recipient
- Urgent result contact

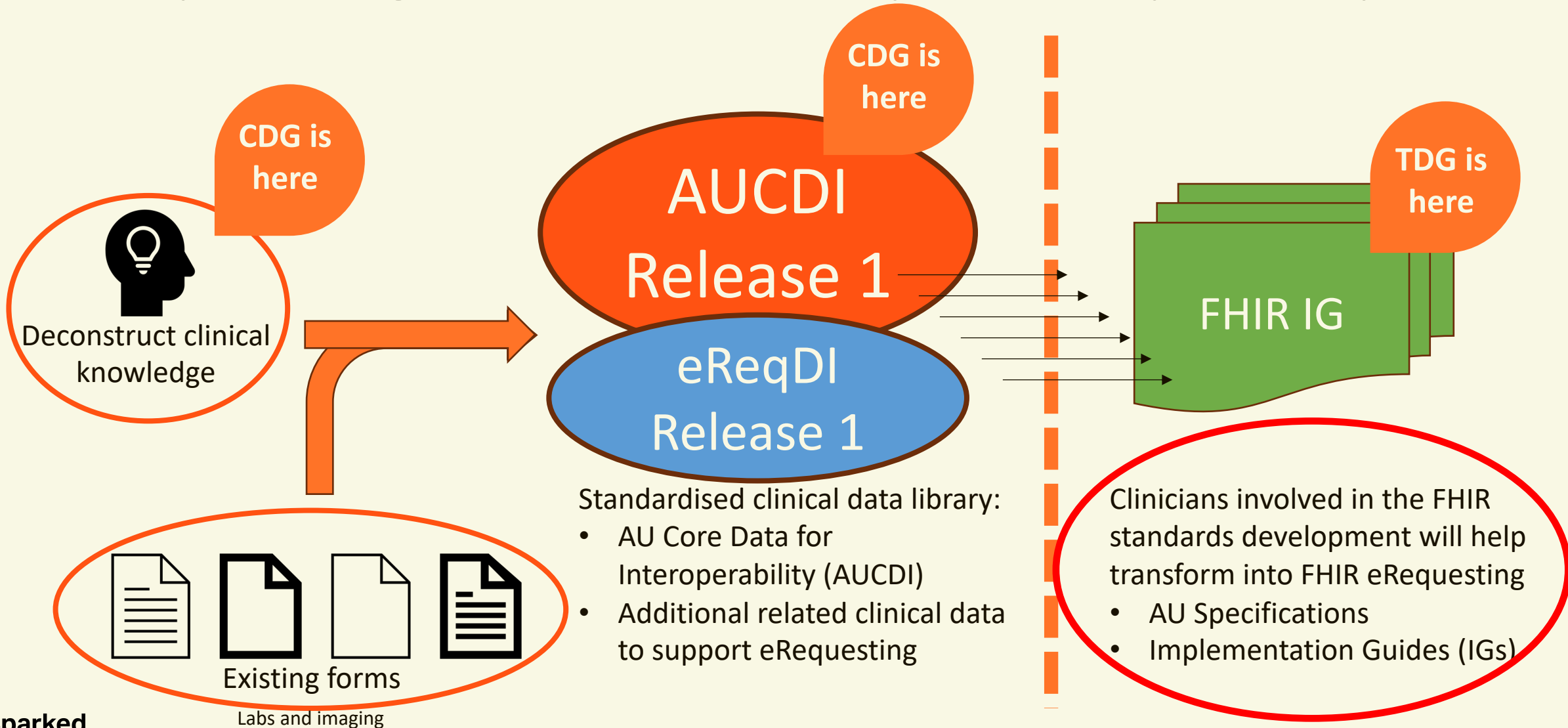
TDG is here

CDG task → AU Core Data for Interoperability



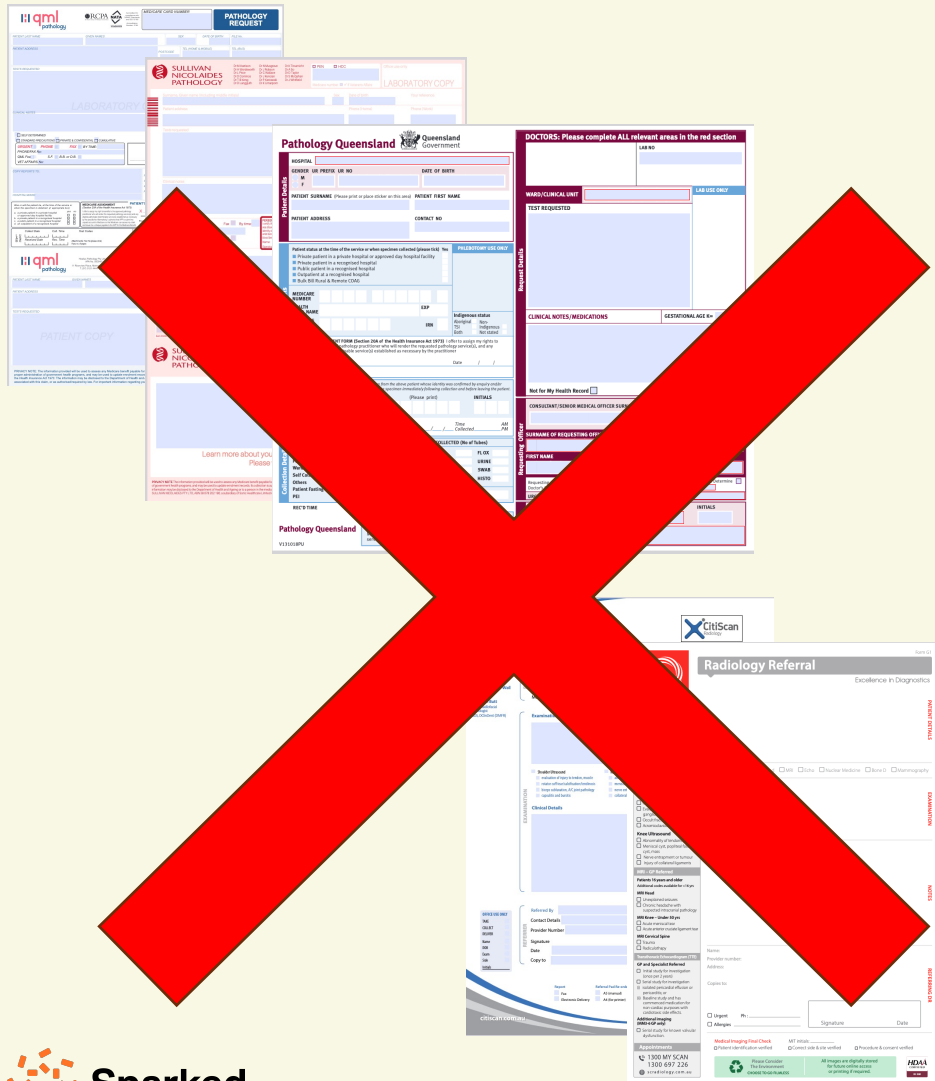


eRequesting Data for Interoperability (eReqDI)





Our task



1. Make recommendations on what clinical data could/should underpin eRequesting

in a way that

2. Extends/enhances the AUCDI approach - high-quality data standardisation to support broad reuse

Tensions

- What is currently achievable vs aiming for 'best practice'
- What is comfortable & familiar vs what could be improved
- Don't be limited by replicating current paper forms.



Opportunity to reimagine the data

<input type="checkbox"/> Fasting
<input type="checkbox"/> Non Fasting
<input checked="" type="checkbox"/> Pregnant
<input type="checkbox"/> Horm Therapy
<input checked="" type="checkbox"/> LNMP
<input checked="" type="checkbox"/> EDC
<input type="checkbox"/> Cervical Cytology
<input type="checkbox"/> Site Cervix
<input type="checkbox"/> Vaginal Vault
<input type="checkbox"/> Endometrium
<input type="checkbox"/> Other
<input checked="" type="checkbox"/> Post Natal
<input type="checkbox"/> Post Menopausal
<input type="checkbox"/> Radio Therapy
<input type="checkbox"/> IUCD
<input type="checkbox"/> Abnormal Bleeding
<input type="checkbox"/> Appearance Benign of Cervix
<input type="checkbox"/> Suspicious

	Lab1	Lab2	Lab3	Lab4	Lab5	Lab6	Imaging1	Imaging 2
Pregnant	[X]			[X]	[X]	[X]	[Yes/No]	
LMP/LNMP	LMP			LNMP	LNMP	LMP		LMP
EDC	EDC			EDC		EDC		
Gestational age		Pregnant ___ weeks	Gestational Age		Gestational age (weeks)			
Hormone therapy	[X]			[X]	[X]	[X]		
Postnatal/ postpartum	[X]			[X]		[X]		
Post menopause				[X]				

Tickbox, 'X', Yes/No, True/False?

- Assumes binary/black and white answers
- What about the clinical shades of grey?
 - Pre-conception;
 - Certainty of pregnancy – possibly/likely/unlikely/no clue;
 - Yes/No/Unsure;
 - (Present/Absent/Indeterminate)
- Transitions of data in a 'smart system'
 - Continuum of 'pregnant' to 'postpartum'



Opportunity to reimagine the data...

- Fasting
- Non Fasting
- Pregnant
- Horm Therapy
- LNMP
- EDC
- Cervical Cytology
- Site Cervix
- Vaginal Vault
- Endometrium
- Other
- Post Natal
- Post Menopausal
- Radio Therapy
- IUCD
- Abnormal Bleeding
- Appearance Benign of Cervix
- Suspicious

	Lab1	Lab2	Lab3	Lab4	Lab5	Lab6	Imaging1	Imaging 2
Pregnant	[X]			[X]	[X]	[X]	[Yes/No]	
LMP/LNMP	LMP			LNMP	LNMP	LMP		LMP
EDC	EDC			EDC		EDC		
Gestational age		Pregnant ___ weeks	Gestational Age		Gestational age (weeks)			
Hormone therapy	[X]			[X]	[X]	[X]		
Postnatal/ postpartum	[X]			[X]		[X]		
Post menopause				[X]				

Think about how/when to optimise the data
... now? → future?

- Use:
 - Screening questionnaires (messy/snapshot) vs Persistence (EHR) vs Exchange
- Purpose:
 - to drive Smart user interfaces; CDS/AI; Reporting
- 'Absolute' vs 'Relative' data
 - EDD/EDC ('fixed') vs Gestation age (day of authoring)



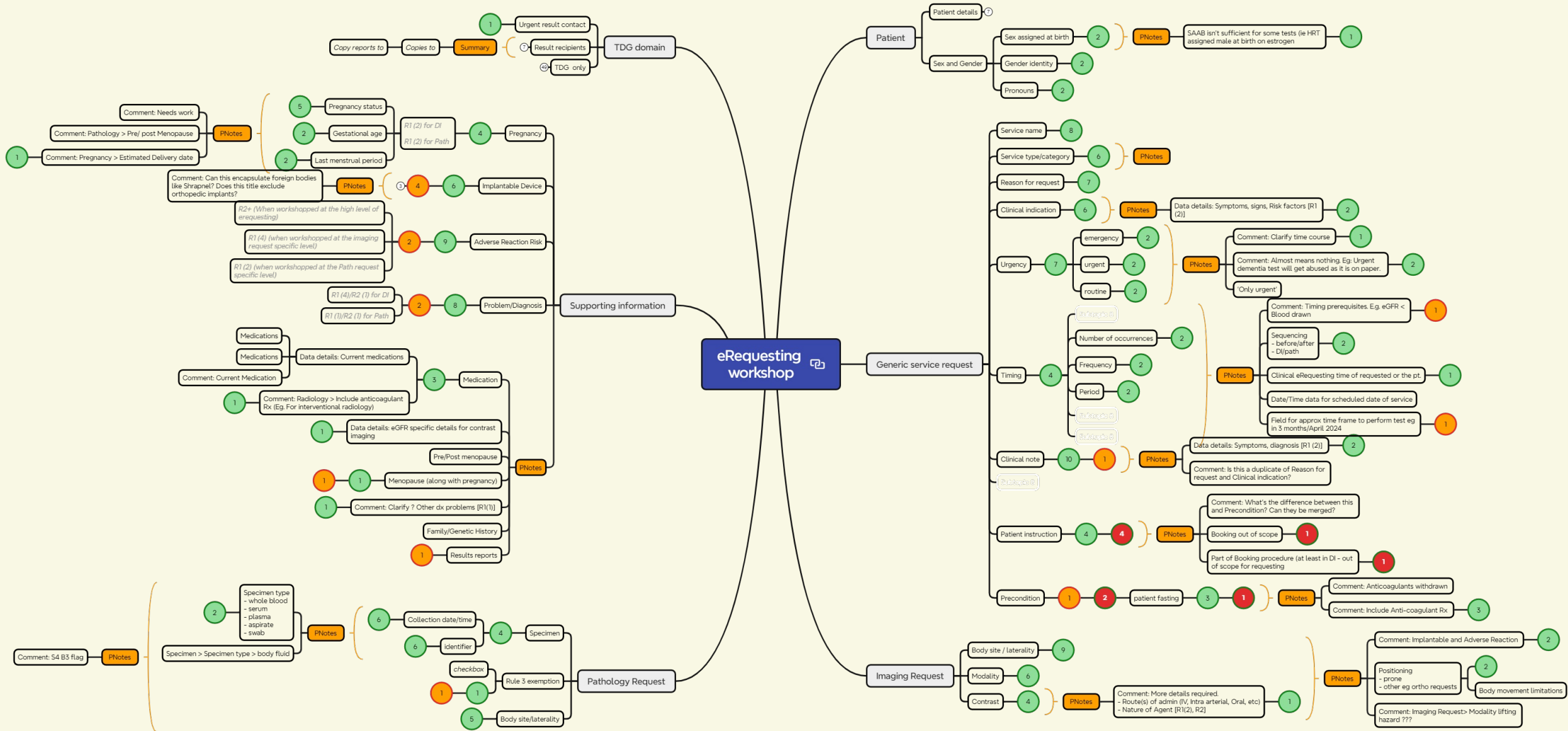
Choices

- Scope – what content is in or out
 - Remember – tight timelines
 - What gives most 'bang for buck' now that is safe/'future proof'
 - Knowing it can be enhanced and expanded in future releases
- Identifying each clinical concept
 - Not necessarily 1:1 relationship with the current **paper** forms
 - Best name/definition
 - How should it be structured?
 - Data type – boolean 😞 vs value set 😎
 - Mandatory/optional

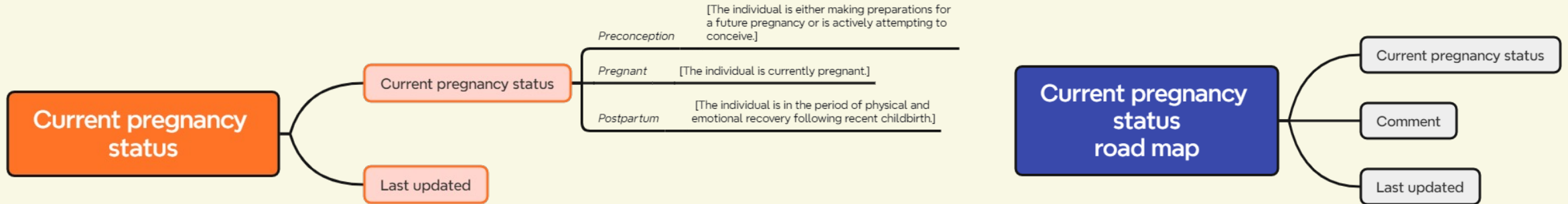


Concept naming

- "Diagnostic reporting"- FHIR umbrella term
- Labs
 - "Laboratory test request" OR
 - "Pathology test request"
- Imaging
 - "Imaging examination request"
 - "Imaging request"
 - "Radiology request"



Current pregnancy status



1. AUCDI R2+ - recorded once in an EHR; updated over time; person-centric; reflects a continuum of stages of pregnancy

2. Screening questionnaire
eRequesting dataset

1. Combo data element

- Current Pregnancy status – Pregnant/postpartum

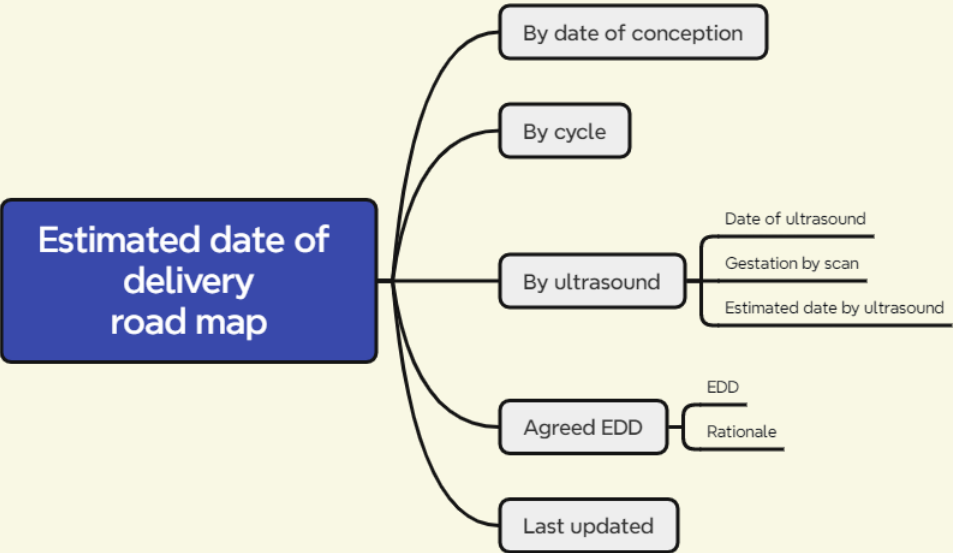
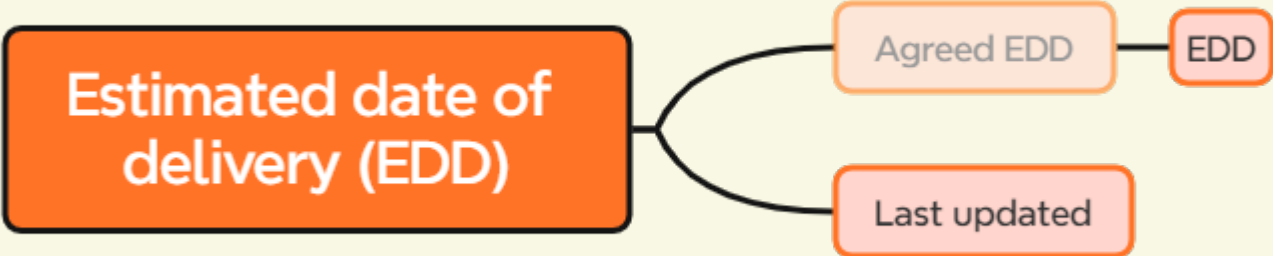
1. Separate data elements

- Pregnant – [X] or Yes/No

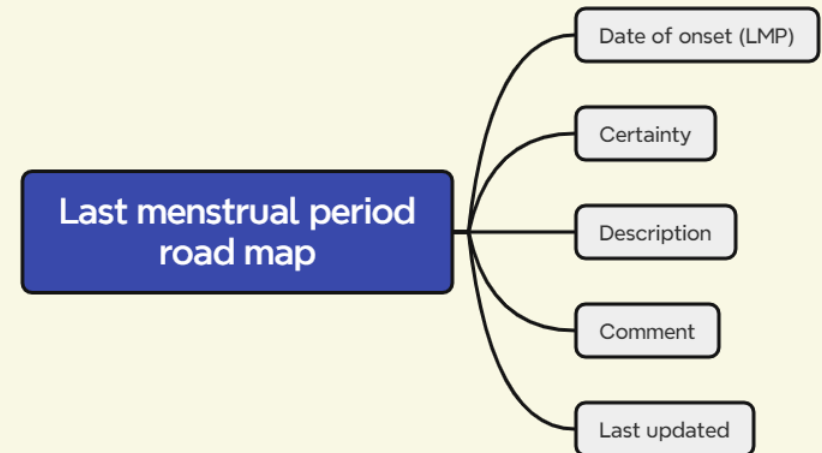
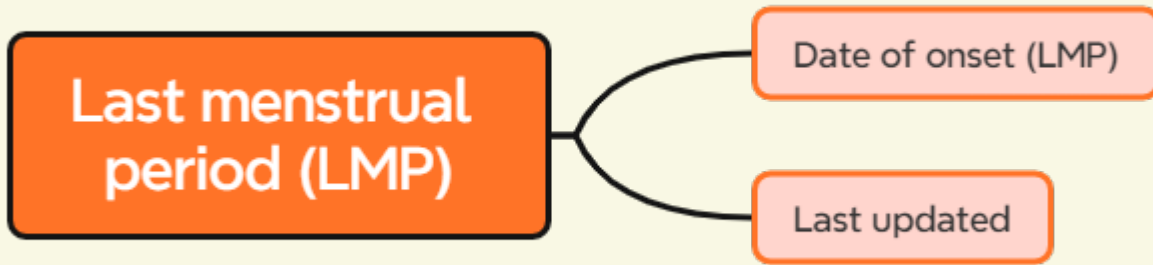
AND

- Postpartum – [X] or Yes/No

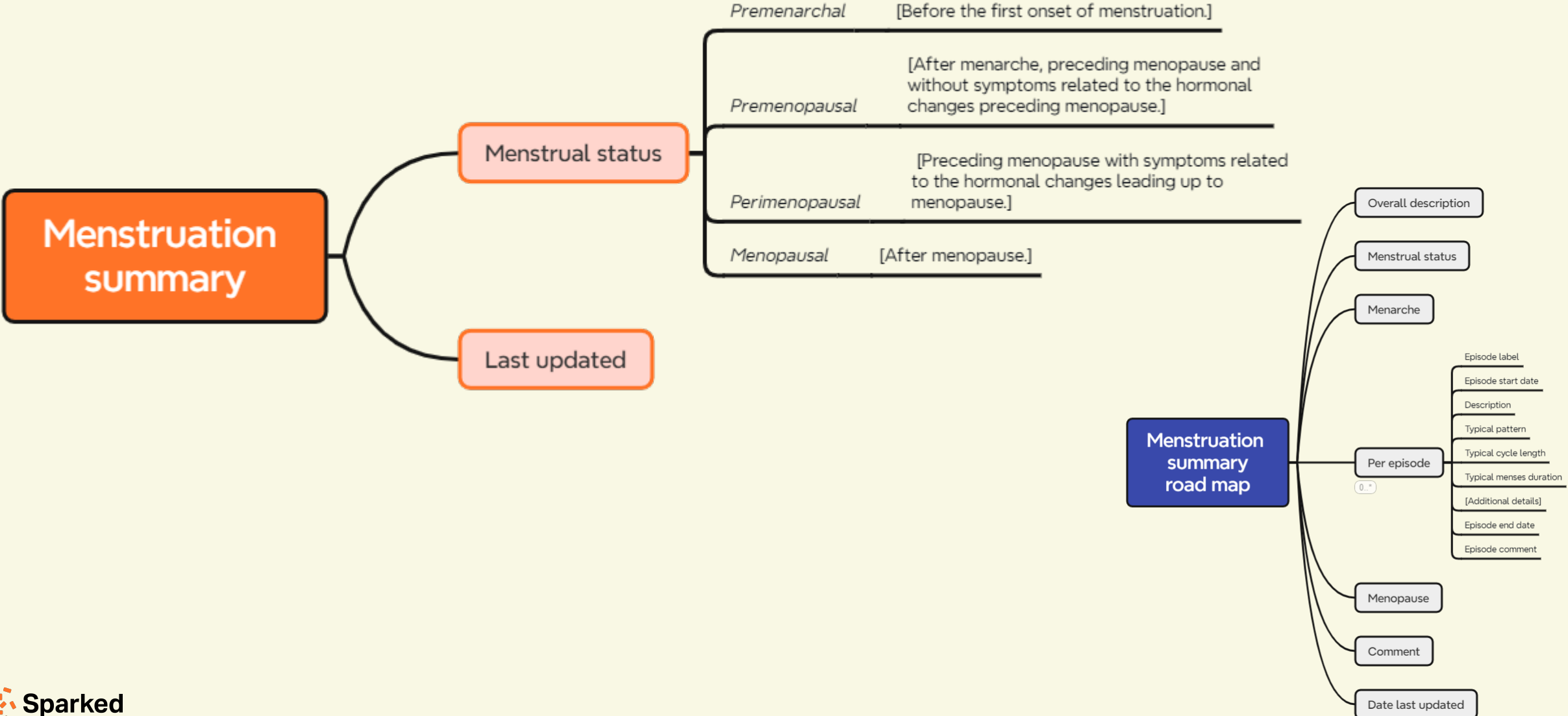
Estimated date of delivery



Last menstrual period



Menstruation summary

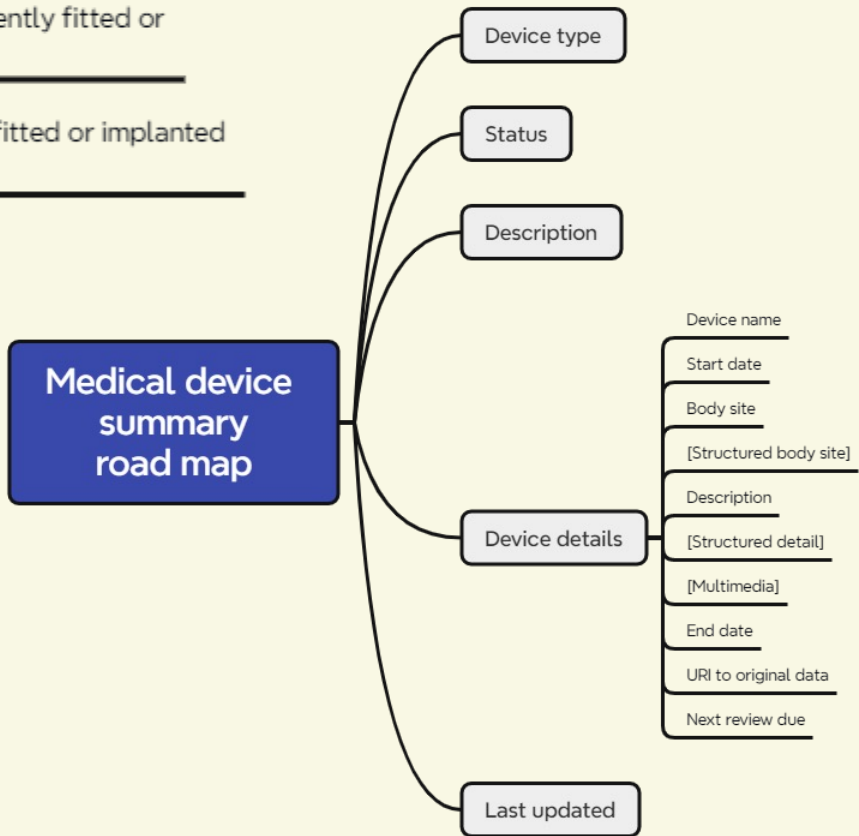
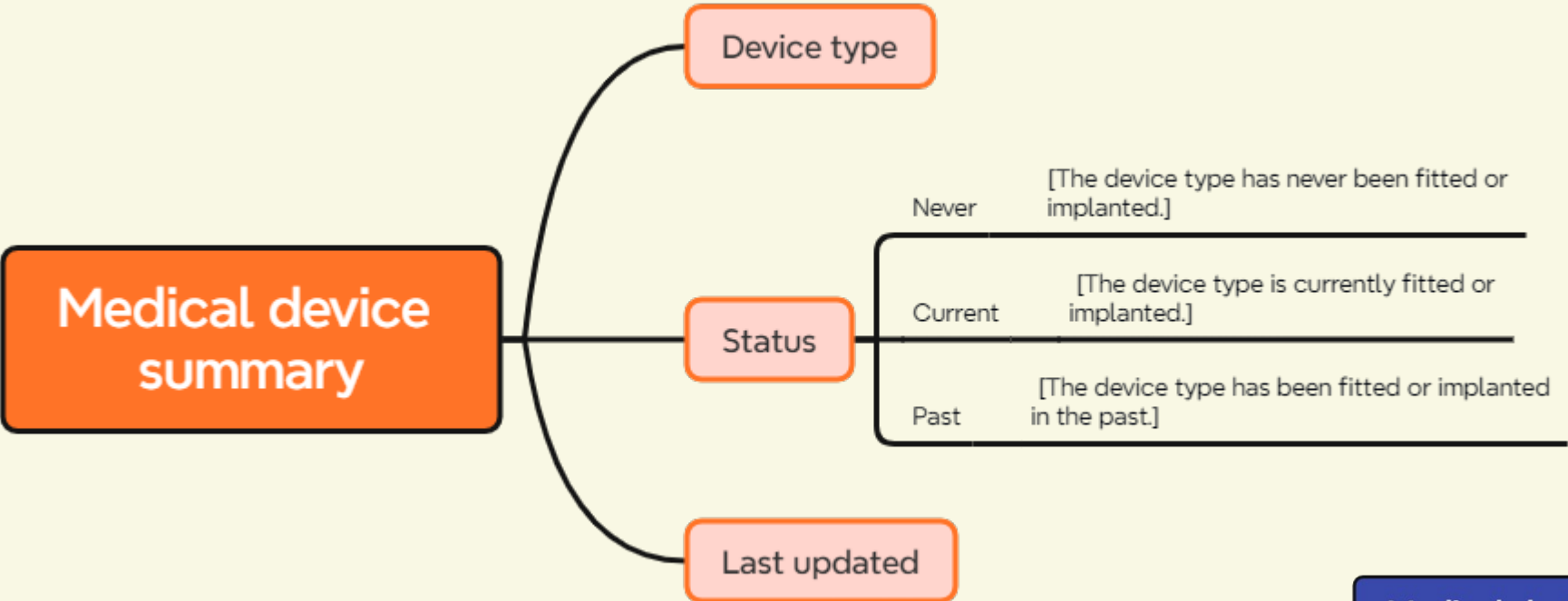


Obligatory **MRI** questionnaire

Aneurysm clip	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Embolisation coils	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Inner ear implant	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Neuro/biostimulator	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Heart surgery	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Prosthetic cardiac valves	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Cardiac pacemaker/wires	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Vena cava filter	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No

Programmable shunt	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Metal prosthesis	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Penetrating eye injury ever	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Stent	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Requires sedation/pain relief	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Requires GA	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Claustrophobia	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Able to lie flat	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No

Medical device summary





Service request

- Including versions specific for Laboratory test request and Imaging examination request
- For discussion in the April 23 online CDG meeting



Timelines

- Draft for Community review – Mid May
- Publish R1 - October



AUCDI R1 Draft for Comment Update

- Closed 8th March – Super big thank you to everyone who has taken the time to read the AUCDI R1
- Number of response received: 36
- Requests for deadline extension: 4



Next steps

- Slides and minutes of this meeting will be posted on Sparked CDG confluence page
 - Please provide feedback by commenting on confluence (you will need a PUMA account) or by emailing fhir@csiro.au



Upcoming items

- Upcoming online meetings
 - 17 April – out of session meeting Sex and eRequesting (1 hour)
 - 23 April – regular meeting - Service request (eReqDI) focus
- Next face to face meeting
 - 15 May (CDG) and 16 May (TDG) - Sydney

The image features a solid orange background with six white rounded rectangular shapes scattered across it. These shapes are of varying sizes and orientations, some tilted and some horizontal. On the right side of the image, there is white text.

Thank you

See you next time!