INTERWEAVE
CONNECTING CARE

Using FHIR to exchange social care information

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Questions/Discussion points

Please either place in the chat

or

raise hand at the end of the presentation.

Interweave - Introduction

- Interweave provides a modern, NHS owned, shared care record platform.

- Interweave has developed from LHCRE (Local Health & Care Record Exemplar)/Yorkshire & Humber Care Record.

- Operate a partnership model. The current partners are;

    - HNY - Humber & North Yorkshire ICS founding member in 2018
    - SY -South Yorkshire ICS founding member in 2018
    - WY - West Yorkshire ICS founding member in 2018
    - LLR - Leicestershire, Leicester and Rutland ICS joined in 2021
    - NCR - Nottinghamshire and Nottingham ICS joined in 2022
    - DCR - Derbyshire ICS joined in 2023

Sophie Lowsley - Introduction

- Worked in various data driven roles in the NHS for around 14 years
- Prior to joining Interweave I worked for an Acute trust as a Senior “full stack” Developer
- Joined Interweave in 2022 as their data service manager
- Currently hold the Architect position (with overall responsibility for data standards)
- Board member of HL7® UK and member of the HL7® UK FHIR® Social Care sub group

What is FHIR?

In summary…..

- FHIR = Fast Healthcare Interoperability Resources
- It is a global standard for exchanging healthcare data between systems
- Provides data models and APIs for moving the data around
- Its free, easy to use and implement

Interested, find out more……

Webinar: Exchanging healthcare information – an introduction to the FHIR standard | BCS

Presented by Rik Smithies - HL7® UK Technical Chair

Background (Why FHIR?)

- Platform already successfully used FHIR
- No equivalent standard for exchanging social care data
- Many concepts overlap between health and care
- Vision for single platform for sharing Health and Care data
- Health and Care organisations enacting change

Challenges

- Me!
- FHIR Health focused
- Mixed partner priorities (different landscapes)
- What people wanted v what is achievable
- Different terminology for same concepts
- Lack of existing data definitions
- Engagement in standards development

Our approach – Data Standards as a Product

- Recognise the importance of data standards
- Development and release cycles
- Continuous support
- Dedicated design/implementation team
- Principles

Our approach - Principles

#	Title
1	Support a Shared Care Record
2	Build Networks of Interrelated Resource
3	Give Prescriptive Advice
4	Capture Standard Coding
5	Focus on Important Fields
6	Iterate and Respond to Feedback

Full definition here: https://fhir.interweavedigital.com/principles

Our approach – Where to start

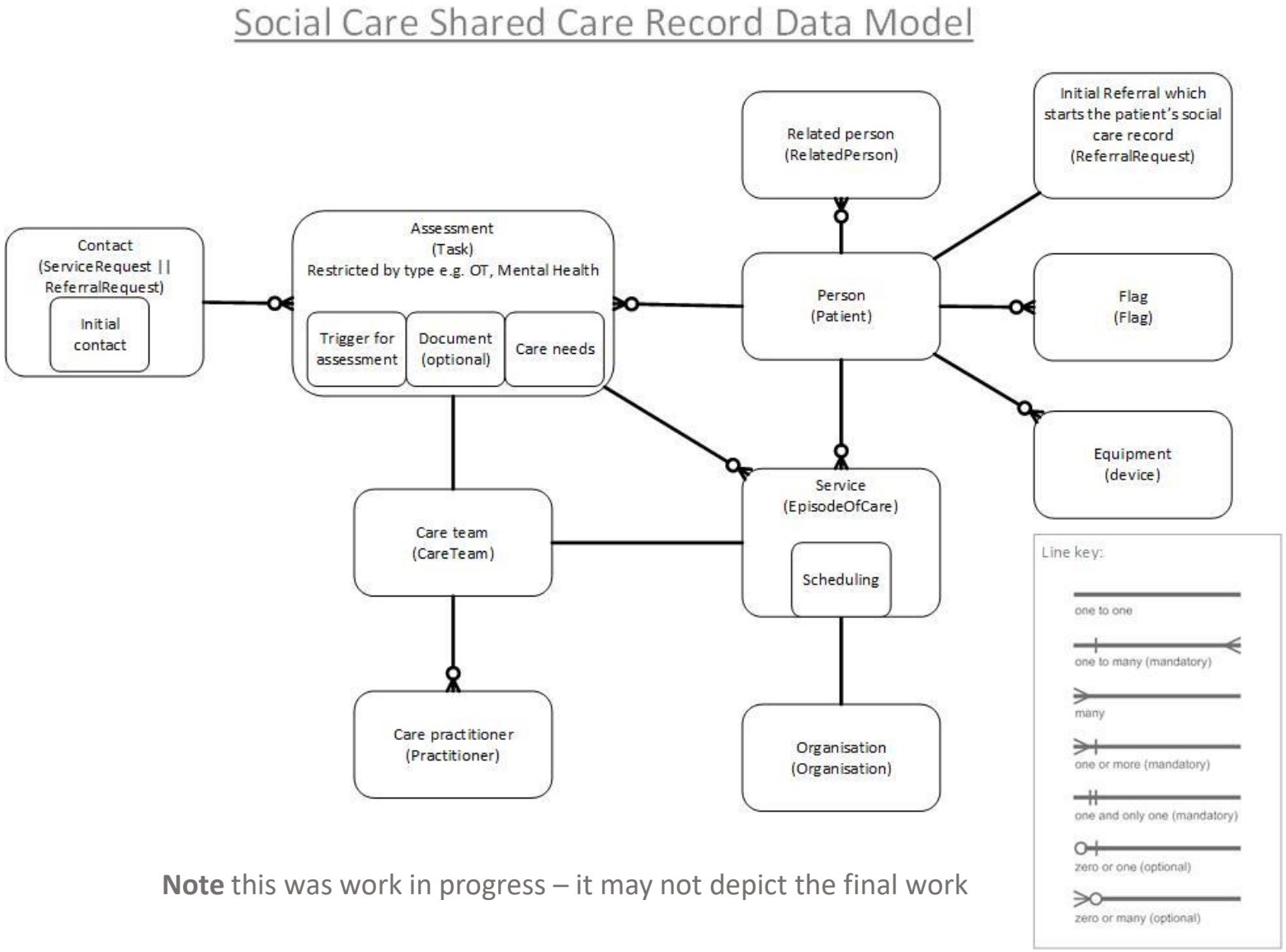
Established a working group

- Social care domain experts
- Technical/FHIR knowledge
- Consumer and Provider representation
- Inter-regional representation
- Other groups and suppliers

Our approach – where next

- First group meeting….. Looked at use case and went straight into FHIR ✖
- Next two meetings focused on what we wanted to model (MVD – Minimal Viable Dataset)
- Created a logical model to follow
  - Decided the real-world entities to model (desired v achievable)
  - Gave them clear definitions and boundaries (in a human readable way)
  - Established their defining attributes
  - Established relationships with each other (Avoiding complex hierarchies where possible, providing a simple linear view.)

Our approach – model example

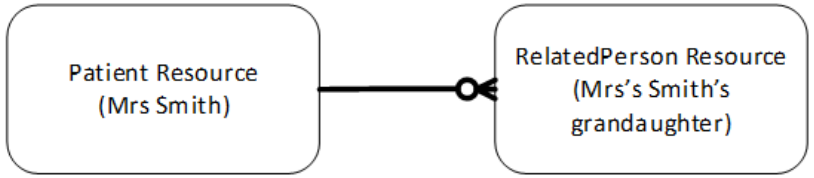


Note this was work in progress – it may not depict the final work

Our approach – model example

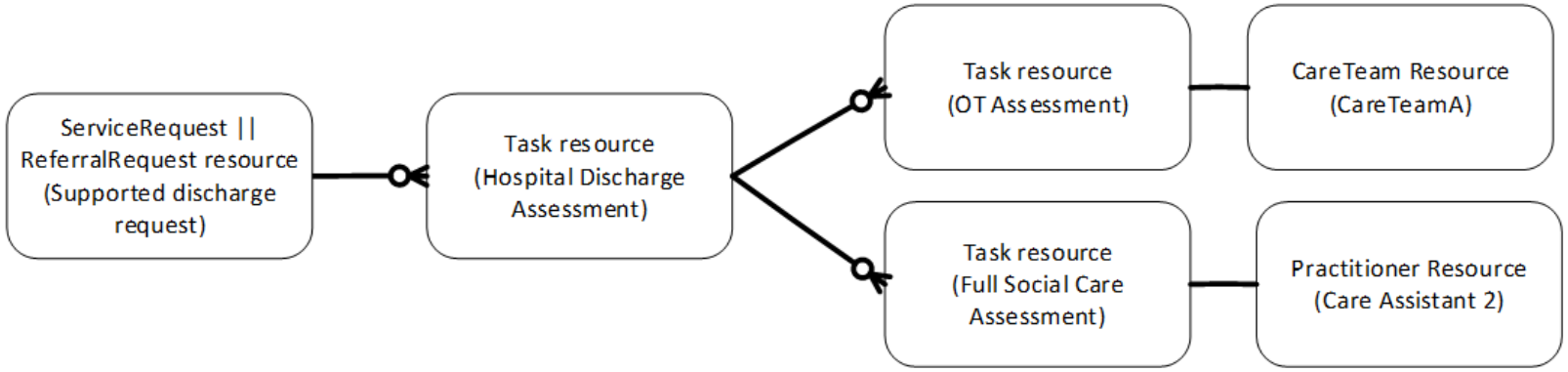
Real world scenario – Patient with no previous services presents to ED and requires reablement

Mrs Smith presents to ED with her granddaughter. She has had a fall and fractured her hip. She requires treatment and a hospital stay.



At the end of her stay, a supported discharge request is submitted from the hospital team to social care.

A hospital discharge assessment is raised of the back of the service request and is performed. The outcome of the discharge assessment is that a full social care assessment is to be performed, alongside and OT assessment.



Note this was work in progress – it may not depict the final work

Our approach – Selecting FHIR resources

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Social Care MVD for the shared care record

Contact

Definition: A notification to social services that a person may need their support – a contact can be made by the person themselves, a relative, health professional or any concerned member of the public.

FHIR Resource: ReferralRequest

Assessment

Definition: A record of an assessment to determine a person's support needs. An assessment maybe in the following statuses: - in progress; has taken place; or is planned to be performed.

FHIR Resource: Task

Flag

Definition: Active information or a warning, about a person or their situation, which may affect how their support is delivered.

FHIR Resource: Flag

Support Reason

Definition: The reason why a person is receiving support.

FHIR Resource: Condition

Service

Definition: A collection of activities which deliver support to a person funded by a Local Authority.

FHIR Resource: EpisodeOfCare

Related Person

Definition: A person who has a relationship with another person who is receiving support (e.g. Spouse, Relative, Friend etc)and who optionally plays a role in the persons support (e.g. Key holder, Main carer etc).

FHIR Resource: RelatedPerson

Organisational Team

Definition: An organisational sub-unit of workers which act as a team within an Organisation

FHIR Resource: Organisation

Equipment Provision

Definition: The occurrence of a physical item being requested to be placed or having been placed with a person to aid with support.

FHIR Resource: DeviceRequest

Our approach – The working document

Note this was work in progress – it may not depict the final work

Entity: Assessment

Description: A record of an assessment that is in progress, has taken place, or is planned to be performed, to determine a person's care needs. Restricted by type e.g. OT, Mental Health

FHIR Resource Model: Task

Social Care Attribute	Description/Notes	FHIR Field	Conformance	Cardinality
	Field removed to strip out non-relevant data	extension(incrementNumber)	Remove	0..0
	Field removed to strip out non-relevant data	extension(failsafeRuleVersions)	Remove	0..0
	Optionally provide a local assessment identifier, to help identify the record at a local level	identifier:localIdentfier	Optional	0..*
	Field removed to strip out non-relevant data	definition	Remove	0..0
Assessment trigger	This would be a link to either another assessment or a contact	basedOn.Task (assessment) basedOn.ReferralRequest (contact)	Must Support	0..*
	It is not the intention to create a complex grouping or hierarchy of assessments, a simple flat structure is informative and preferred. Therefore both these fields have been removed.	groupIdentfier	Remove	0..0
		partOf	Remove	0..0
Status	Planned, Inprogress, Finished	status	Mandatory	1..1
	Field removed to strip out non-relevant data	statusReason	Remove	0..0
	Field removed to strip out non-relevant data	businessStatus	Remove	0..0
	intent is not relevant to social care but is mandated by FHIR – therefore we set a default value of 'plan' here.	intent	Mandatory	1..1
	Field removed to strip out non-relevant data	priority	Remove	0..0
type	The type of assessment. Currently social care providers have vast lists of assessment types. We aim here to categorise the types and use type.text for displaying the more granular local term. see Appendix H for a list of assessment types.	code	Mandatory	1..1
	Option to provide an additional description of the assessment, over and above the name.	description	Optional	0..1
	Field removed to strip out non-relevant data	focus	Remove	0..0
Subject	Reference to person who is the subject of the assessment.	for(patient)	Mandatory	1..1
	Optional link back to an encounter resource – a use case has	context	Optional	0..1

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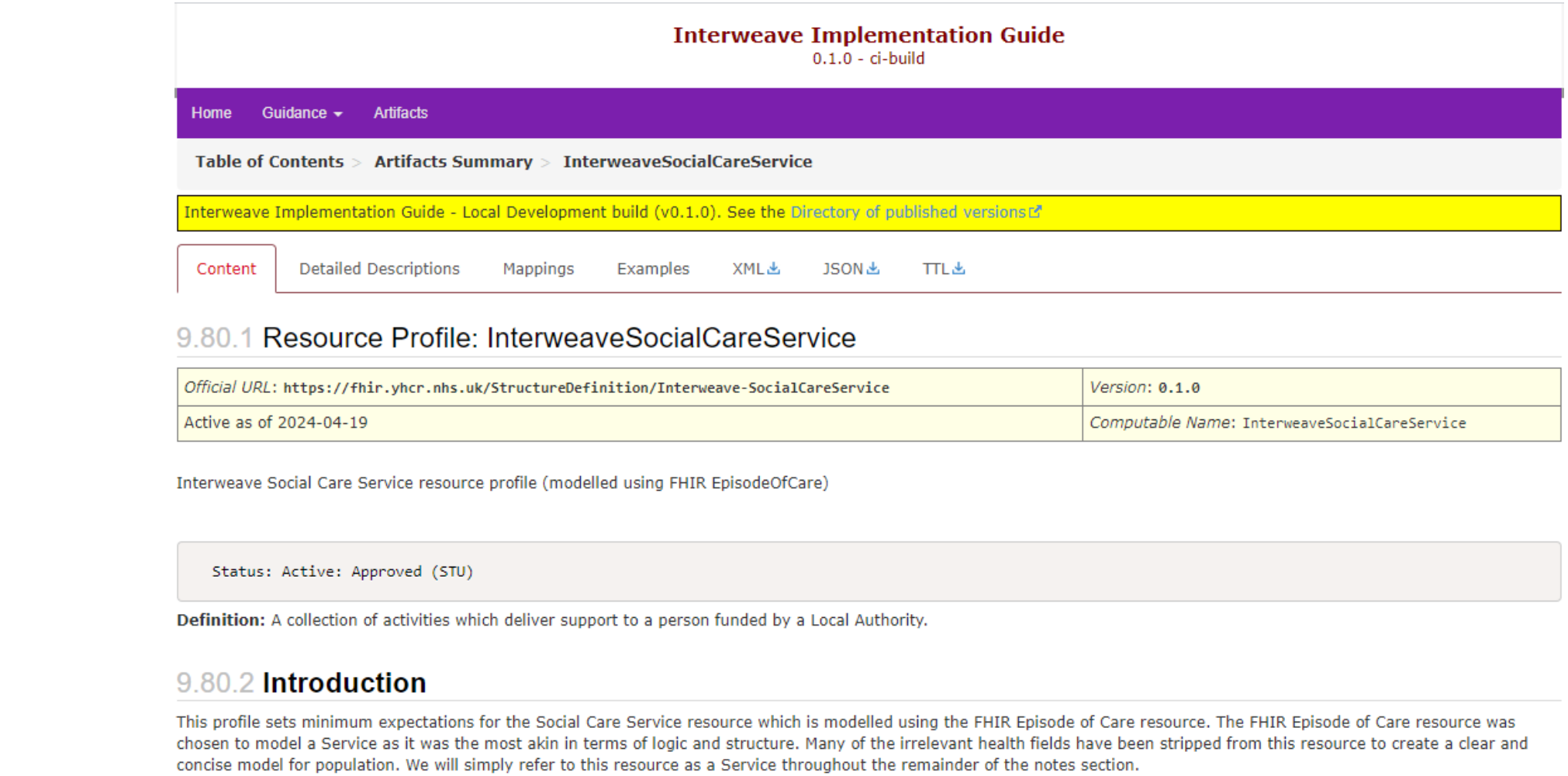

Interweave Implementation Guide
0.1.0 - ci-build

Home | Guidance | Artifacts

Table of Contents > Artifacts Summary > InterweaveSocialCareService

Interweave Implementation Guide - Local Development build (v0.1.0). See the Directory of published versions

Content | Detailed Descriptions | Mappings | Examples | XML | JSON | TTL

9.80.1 Resource Profile: InterweaveSocialCareService

Official URL: `https://fhir.yhcr.nhs.uk/StructureDefinition/Interweave-SocialCareService`	*Version*: `0.1.0`
Active as of 2024-04-19	*Computable Name*: `InterweaveSocialCareService`

Interweave Social Care Service resource profile (modelled using FHIR EpisodeOfCare)

```
Status: Active: Approved (STU)
```

Definition: A collection of activities which deliver support to a person funded by a Local Authority.

9.80.2 Introduction

This profile sets minimum expectations for the Social Care Service resource which is modelled using the FHIR Episode of Care resource. The FHIR Episode of Care resource was chosen to model a Service as it was the most akin in terms of logic and structure. Many of the irrelevant health fields have been stripped from this resource to create a clear and concise model for population. We will simply refer to this resource as a Service throughout the remainder of the notes section.

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9.80.2.2 Mandatory fields

The following fields are mandatory:

- **status** It is envisaged that only the following values will be used to describe the status of a Social Care service and therefore we restrict the valueset to these values: active; planned; onhold; finished; entered-in-error
- **type** is used to house the 'type' of service. This should always be known, and vital for meaningful display purposes. We have defined a list of codes derived from the Service Component field of the Social Care Client Level Data V5 Specification. This list has been made extensible as it is foreseen that the list will grow. In addition to providing the 'display' field, the **type.text** must also be populated with the local description of the type of service being provided.
- **category** An extension has been created which allows for a high-level grouping of service types. This should always be known, and vital for meaningful display purposes. We have defined a list of codes derived from the Service Type field of the Social Care Client Level Data V5 Specification. This list has been made extensible as it is foreseen that this list will grow.
- **patient** The person who is in receipt of the service. NB: The term Patient and Person can be used interchangeably throughout the FHIR specification.
- **managingOrganization** The organisation which is providing the service. This can be a reference to either and external provider or an organisational team.

9.80.2.3 Must Support fields

In addition, the following fields are "Must Support" - i.e. they must be populated if relevant and known:

- **statusHistory** When the service has been through several status changes, it is important to populate this field to share this information.
- **period** The duration of the service as a whole, including the time when the service may have been in the planning and onhold statuses. Status history can be used to determine the amount of time that the service was in a particular status.
- **careManager** This field can be used to provide a link to the practitioner delivering the service. Many social care organisations are unable to currently provide this information, however, it is envisaged that this will be something which is available in the future and will be useful if known.

9.80.2.4 Optional fields

Other fields are optional and may be populated if known - on the understanding that not all data consumers will necessarily make use of them. Optional fields to note include:

- **identifier:localIdentifier** - As with most other resources, there is the option to include a local identifier which may help to identify the record at a local level.
- **referralRequest** - An optional link to a Social Care Contact which is modelled using a referralRequest FHIR resource.
- **triggeringAssessment** An extension has been created which will allow an optional link to the assessment which triggered the service to be created. We make this optional, as not all services are triggered by an assessment.

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Differential Table | Key Elements Table | **Snapshot Table** | Statistics/References | All

Name	Flags	Card.	Type	Description & Constraints
EpisodeOfCare		0..*	CareConnect-EpisodeOfCare-1	An association of a Patient with an Organization and Healthcare Provider(s) for a period of time that the Organization assumes some level of responsibility
id	S Σ	0..1	id	Logical id of this artifact
meta	Σ	0..1	Meta	Metadata about the resource
implicitRules	?! Σ	0..1	uri	DISCOURAGED - may not be honoured by Data Consumers
language		0..1	code	English is assumed (not currently a multi-lingual implementation) **Binding:** Common Languages (extensible): A human language. **Additional Bindings** / Purpose: AllLanguages / Max Binding
text		0..1	Narrative	DISCOURAGED - the preferred approach is to offer structured data fields which a Data Consumer can then render and present in a manner most suited to its users
contained		0..*	Resource	Contained, inline Resources
Slices for extension		1..*	Extension	Extension **Slice:** Unordered, Open by value:url
category		1..1	CodeableConcept	Social Care Service Category **URL:** https://fhir.yhcr.nhs.uk/StructureDefinition/Extension-Interweave-SocialCareServiceCategory **Binding:** InterweaveSocialCareServiceCategory (required)
triggeringAssessment		0..1	Reference(CareConnect-Task-1)	Reference to an assessment which triggered the start of the service. **URL:** https://fhir.yhcr.nhs.uk/StructureDefinition/Extension-Interweave-SocialCareServiceTrigger
modifierExtension	?!	0..*	Extension	Extensions that cannot be ignored
Slices for identifier		*0..**	*Identifier*	*Business Identifier(s) relevant for this EpisodeOfCare* ***Slice:*** *Unordered, Open by value:system*
status	?! S Σ	1..1	code	A mandatory flag to indicate the status of the service. **Binding:** Interweave Social Care Service Status (required)
statusHistory	S	0..*	BackboneElement	Past list of status codes (the current status may be included to cover the start date of the status)
type	S Σ	1..1	CodeableConcept	Type/class - e.g. specialist referral, disease management **Binding:** InterweaveSocialCareServiceType (required)
patient	S Σ	1..1	Reference(CareConnectPatient1)	The patient who is the focus of this episode of care
managingOrganization	S Σ	1..1	Reference(CareConnect-Organization-1)	The organisation which is providing the service. This can be a reference to either and external provider or an organisational team.
period	Σ	0..1	Period	Interval during responsibility is assumed
referralRequest		0..*	Reference(CareConnect-ReferralRequest-1)	An optional link to a Social Care Contact (FHIR STU3 ReferralRequest).
careManager	S	0..1	Reference(CareConnect-Practitioner-1)	An optional link to a practitioner delivering the service.
team		0..*	Reference(CareConnect-CareTeam-1)	DISCOURAGED - The care team resource is yet to be defined (see notes)

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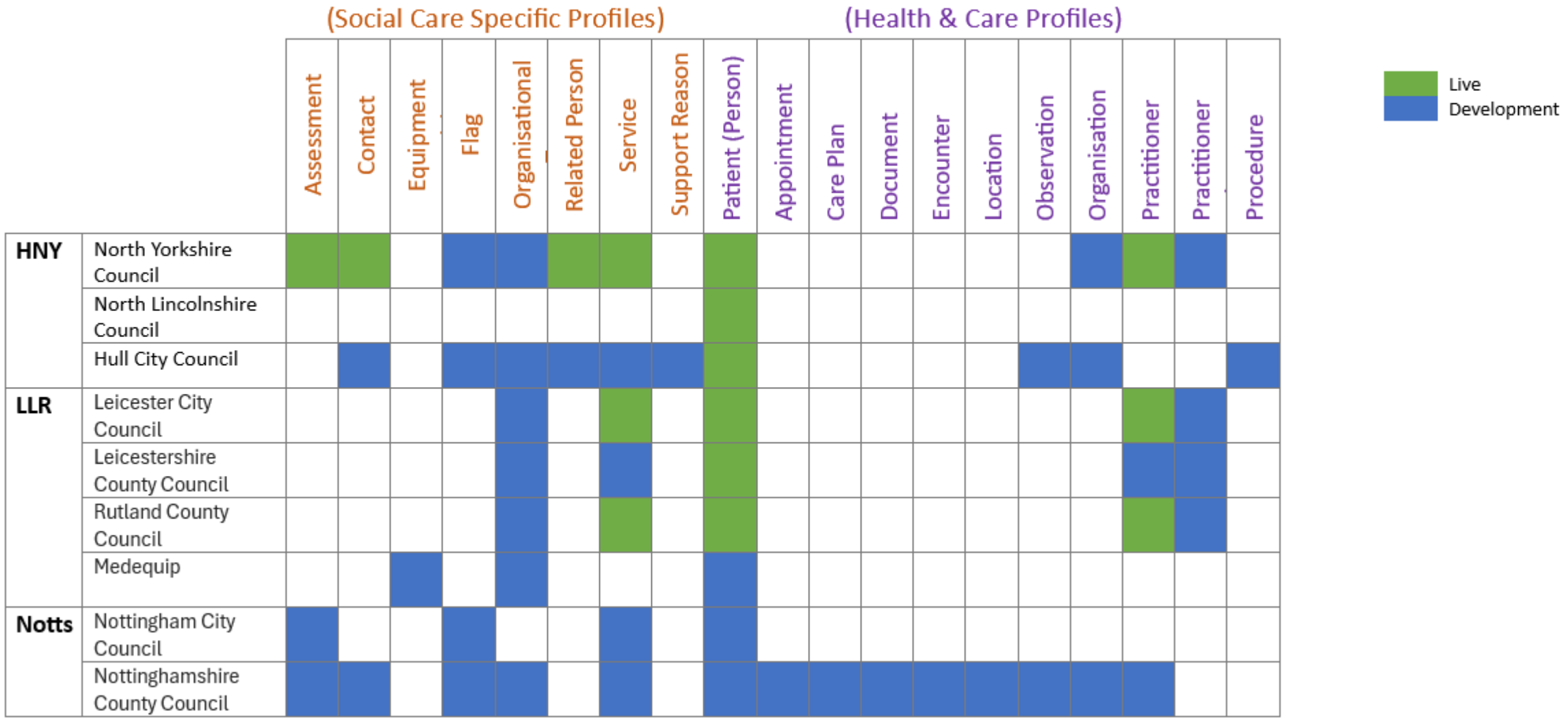
Progress so far



➢ [Data provision - Interweave (interweavedigital.com)]

Partner Benefits

Humber & North Yorkshire;

Key piece of Provision work currently with North Yorkshire Council in which they are providing their practitioner (practitioner name details), code (the roles which a practitioner is authorised to perform) and speciality if relevant. This was identified early on in NYCs use case to be of huge benefit as providing these resources into the YHCR is projected to massively reduce call handling from GP Practices chasing contact information. Therefore, freeing up efficiencies at NYC that can be re-directed elsewhere.

Leicester Leicestershire and Rutland;

Identified 24 use cases, 21 of which are fulfilled by providing the Service data! The remaining use cases are realised through the sharing of the remainder of social care data which has been profiled.

Benefits being anticipated or realised are very often time savings plus one or more other things such as better care; improved patient experience; less duplication of resources and many more

Partner Benefits – Feedback

Sometimes we are worried about someone's ability to cope at home and seeing the social care picture straightaway is a big help then. We can also easily confirm which Council to contact if that's needed.
(GP)

If we have treated someone and can see they have social care support at home, then it is more likely we will send them straight home without admitting them, if that's the best course of action for them.
(UHL urgent assessment, therapy)

Simply being able to see who the social care provider is saves me an hour and a half. (community nursing)

Summary of Lessons Learnt

- Spend time defining the use cases/benefits
- Define logical models first
- Have clear and realistic objectives for a working group
- Bridge the gap between the logical and technical
- Involve other groups and suppliers
- Don’t be held back by perfection

The Future (short term)

- ICSs to mature their LA (Local Authority) data provision
- Target other social care providers e.g. childrens, community, domiciliary etc
- Consumption of the Reasonable Adjustment, CPIS, and FGM flags Via NHS E FHIR API
- R4/UK Core modelling
- User centered design personas
- Build upon the minimum viable dataset – creating levels of maturity
- Review with MODS
- PRSB assurance

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Thank you!

Questions?

Website
https://www.interweavedigital.com

FHIR Implementation guide
FHIR.INTERWEAVE\Home - FHIR v3.0.2 (interweavedigital.com)

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