Merseycare Use Case:

To utilise models developed from artificial intelligence processes using data from mental health linked to community data to increase patient preparation for consultations or appointments (based on Trust premises or at home) to maximise the value of those interventions for the patient and for the clinician.

This will include ensuring that the intervention is appropriate in terms of setting, clinical expertise required and timely.

The new models may support clinical decision making and/or patient self-care and awareness of condition.

(Most of the data is collected based on the patients response to doctors questions - https://www.nhs.uk/using-the-nhs/nhs-services/mental-health-services/mental-health-assessments/. Please see the data description below for more information).

Mersey Care Data Descriptions:

The Trust will share data 10 years of data from the previous EPR system (ePEX) and from the current EPR system (Rio). The 2 systems record information differently but largely the same data should be present in each.

The systems differ because ePEX recorded data as episodic data. When a service user started a mental health spell with the Trust an episode was opened and all data was recorded against that episode.

The current system, Rio, records everything from a referral which is generated when a service user is referred to the Trust. This means the current system works in much the same way as many current acute Trust systems.

The data completeness may be different in each system due to the different recording mechanisms but fundamentally the same data items will exist.
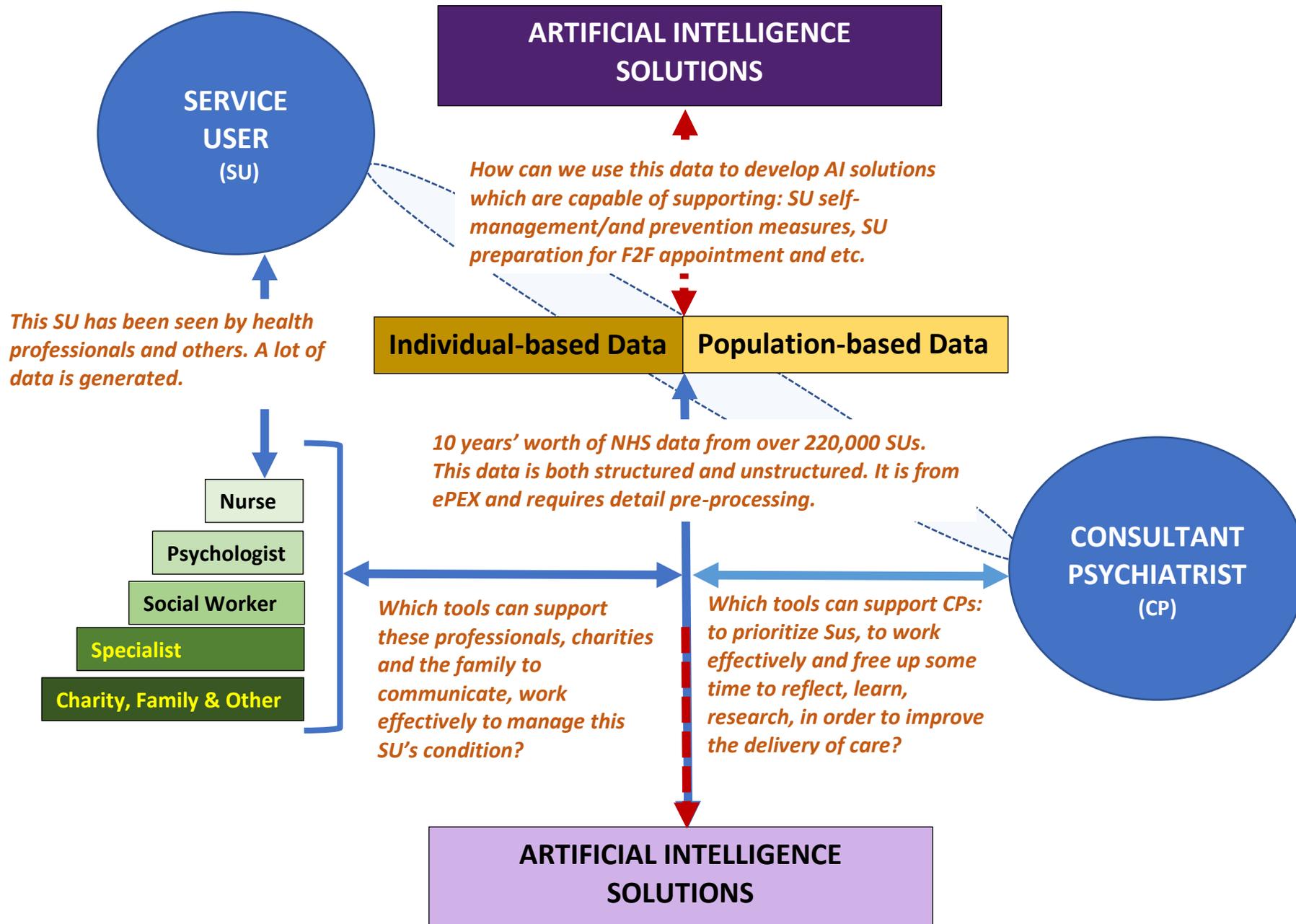
The types of data available are:

Structured data:

Referrals	Date, source, reason, outcome etc
Episode Date	Specialty, start date, end date, CPA level etc
F2F Contacts (incl Outpatients)	Date, duration, contact type, contact with, outcome etc
NF2F Contacts	Date, duration, contact type, contact with etc
Inpatient data	Admission date, admission reason, ward, ward type, discharge date, discharge reason etc
MHA	Section information

Unstructured data:
Scanned letters and free text notes. Although medications data does exist it is generally captured in the free text data.
(See below for diagram)

SERVICE USER (SU)

ARTIFICIAL INTELLIGENCE SOLUTIONS

How can we use this data to develop AI solutions which are capable of supporting: SU self-management/and prevention measures, SU preparation for F2F appointment and etc.

This SU has been seen by health professionals and others. A lot of data is generated.

Individual-based Data | **Population-based Data**

Nurse
Psychologist
Social Worker
Specialist
Charity, Family & Other

10 years' worth of NHS data from over 220,000 SUs. This data is both structured and unstructured. It is from ePEX and requires detail pre-processing.

CONSULTANT PSYCHIATRIST (CP)

Which tools can support these professionals, charities and the family to communicate, work effectively to manage this SU's condition?

Which tools can support CPs: to prioritize Sus, to work effectively and free up some time to reflect, learn, research, in order to improve the delivery of care?

ARTIFICIAL INTELLIGENCE SOLUTIONS

KEY FEATURES: *Explainability, Compatibility, Interoperability, Expandability, Learning, Reporting, Alerting, User-Friendly, provide Predictive facilities.*