



Derby Teaching Hospitals NHS Foundation Trust | AKI Renal Registry Supporting Documentation

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Note:

These instructions describe the inclusion of the Date of Admission into the AKI Alerts file. This addition is being trailed by Derby for inclusion in a future specification but is **not** part of the current requirements for data submission to the UKRR.

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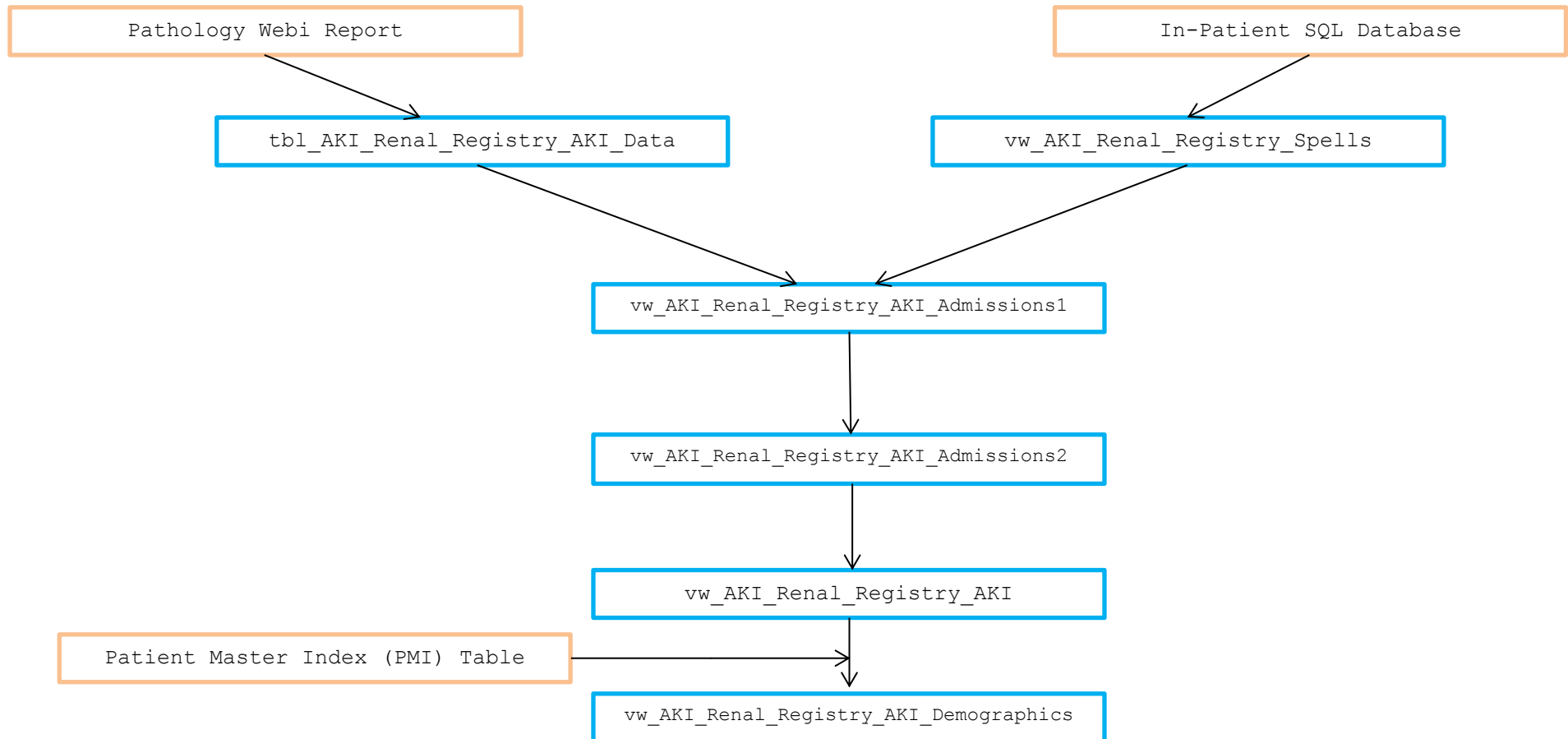
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Part 1 | Core DataSet

1. Procedure



2. Table and View Schema

tbl_aki_Renal_Registry_AKI_Data

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
NHS_Number	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Local_Patient_Identifier	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Forename	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Surname	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Sex	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
DOB	datetime	no	8			yes	(n/a)	(n/a)	NULL
Address_1	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Address_2	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Town	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
County	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
PostCode	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Lab_Code	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Specimen_No	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Source_of_Request	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Default Patient Type	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
AgeAtTest	float	no	8	53	NULL	yes	(n/a)	(n/a)	NULL
CreatBaseline_Date	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
AKI	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
CREAT	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Baseline_eGFR	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
CreatBaseline	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Received Date Time	datetime	no	8			yes	(n/a)	(n/a)	NULL
ISRN	float	no	8	53	NULL	yes	(n/a)	(n/a)	NULL
Alert_Date_Time	datetime	no	8			yes	(n/a)	(n/a)	NULL

AKI Renal Return Supporting Documentation

vw_AKI_Renal_Registry_Spells

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
LOCAL_PATIENT_IDENTIFIER	varchar	no	10			yes	no	yes	Latin1_General_CI_AS
PROV_SPELL_ID	varchar	no	50			yes	no	yes	Latin1_General_CI_AS
PROV_SPELL_ADMISSION_DATE	smalldatetime	no	4			yes	(n/a)	(n/a)	NULL
PROV_SPELL_DISCHARGE_DATE	varchar	no	30			yes	no	yes	Latin1_General_CI_AS

vw_AKI_Renal_Registry_AKI_Admissions1

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
ISRN	float	no	8	53	NULL	yes	(n/a)	(n/a)	NULL
Local_Patient_Identifier	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Received Date Time	datetime	no	8			yes	(n/a)	(n/a)	NULL
PROV_SPELL_ID	varchar	no	50			yes	no	yes	Latin1_General_CI_AS
PROV_SPELL_ADMISSION_DATE	smalldatetime	no	4			yes	(n/a)	(n/a)	NULL
PROV_SPELL_DISCHARGE_DATE	varchar	no	30			yes	no	yes	Latin1_General_CI_AS

vw_AKI_Renal_Registry_AKI_Admissions2

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
ISRN	float	no	8	53	NULL	yes	(n/a)	(n/a)	NULL
PROV_SPELL_ID	varchar	no	50			yes	no	yes	Latin1_General_CI_AS
PROV_SPELL_ADMISSION_DATE	smalldatetime	no	4			yes	(n/a)	(n/a)	NULL
Date_Order	bigint	no	8	19	0	yes	(n/a)	(n/a)	NULL

AKI Renal Return Supporting Documentation

vw_AKI_Renal_Registry_AKI

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
NHS_Number	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Local_Patient_Identifier	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Forename	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Surname	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Sex	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
DOB	datetime	no	8			yes	(n/a)	(n/a)	NULL
Address_1	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Address_2	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Town	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
County	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
PostCode	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Lab_Code	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Specimen_No	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Source_of_Request	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Default Patient Type	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
AgeAtTest	float	no	8	53	NULL	yes	(n/a)	(n/a)	NULL
CreatBaseline_Date	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
AKI	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
CREAT	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Baseline_eGFR	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
CreatBaseline	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Received Date Time	datetime	no	8			yes	(n/a)	(n/a)	NULL
ISRN	float	no	8	53	NULL	yes	(n/a)	(n/a)	NULL
Alert_Date_Time	datetime	no	8			yes	(n/a)	(n/a)	NULL
PROV_SPELL_ID	varchar	no	50			yes	no	yes	Latin1_General_CI_AS
PROV_SPELL_ADMISSION_DATE	smalldatetime	no	4			yes	(n/a)	(n/a)	NULL

AKI Renal Return Supporting Documentation

vw_AKI_Renal_Registry_AKI_Demographics

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
NHS Number	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Local Patient Identifier	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Forename	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Surname	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Sex	varchar	no	1			yes	no	yes	Latin1_General_CI_AS
DOB	date	no	3	10	0	yes	(n/a)	(n/a)	NULL
CURR_ADDRESS_L1	varchar	no	60			yes	no	yes	Latin1_General_CI_AS
CURR_ADDRESS_L2	varchar	no	60			yes	no	yes	Latin1_General_CI_AS
CURR_ADDRESS_L3	varchar	no	60			yes	no	yes	Latin1_General_CI_AS
CURR_ADDRESS_L4	varchar	no	60			yes	no	yes	Latin1_General_CI_AS
Post Code	varchar	no	8			yes	no	yes	Latin1_General_CI_AS
Lab Code	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Specimen Number	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Source of Request	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Inpatient / Outpatient Care Indicator Field	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Alert Datetime	datetime	no	8			yes	(n/a)	(n/a)	NULL
AKI Warning Stage Test Result	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
CREAT	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
egfr	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Admission Date	smalldatetime	no	4			yes	(n/a)	(n/a)	NULL

3. Table and View Creation

3.1) [dbo].[vw_AKI_Renal_Registry_Spells]

Creates a list of all IP admissions to reference against the AKI data stored in table `tbl_AKI_Renal_Registry_AKI_Data`

```
CREATE VIEW [dbo].[vw_AKI_Renal_Registry_Spells]
AS
Select
IP.LOCAL_PATIENT_IDENTIFIER,
IP.PROV_SPELL_ID,
IP.PROV_SPELL_ADMISSION_DATE,
CASE WHEN IP.PROV_SPELL_DISCHARGE_DATE Is Null THEN '' ELSE
CONVERT(varchar,IP.PROV_SPELL_DISCHARGE_DATE,120) END as PROV_SPELL_DISCHARGE_DATE
from

IPTABLE IP

GO
```

3.2) [dbo].[vw_aki_Renal_Registry_AKI_Admissions1]

Joins `vw_AKI_Renal_Registry_Spells` to the pathology data imported into `tbl_AKI_Renal_Registry_AKI_Data` on Hospital number and sample date between an admission date-1 and discharge date OR open discharge date

```
CREATE VIEW [dbo].[vw_aki_Renal_Registry_AKI_Admissions1]
AS

Select Distinct
aki.ISRN,
aki.Local_Patient_Identifier,
aki.[Received Date Time],
IP.PROV_SPELL_ID,
IP.PROV_SPELL_ADMISSION_DATE,
```



```
CASE WHEN IP.PROV_SPELL_DISCHARGE_DATE Is Null THEN ''
ELSE CONVERT (varchar,IP.PROV_SPELL_DISCHARGE_DATE,120) END as PROV_SPELL_DISCHARGE_DATE
from

dbo.tbl_aki_Renal_Registry_AKI_Data aki

Left Join
[dbo].[vw_AKI_Renal_Registry_Spells] IP
on 'R'+IP.LOCAL_PATIENT_IDENTIFIER=aki.Local_Patient_Identifier

and
convert(datetime,aki.[Received Date Time],120)>= convert(datetime,IP.PROV_SPELL_ADMISSION_DATE-
1,120)
and (convert(date,aki.[Received Date Time],120) <= convert(date,IP.PROV_SPELL_DISCHARGE_DATE,120)
or IP.PROV_SPELL_DISCHARGE_DATE='')

GO
```

3.3) [dbo].[vw_aki_Renal_Registry_AKI_Admissions2]

On occasions the Pathology sample may be linked to more than one admission. This view Partitions the data in Admissions1 by unique Pathology ID (ISRN)

```
CREATE VIEW [dbo].[vw_aki_Renal_Registry_AKI_Admissions2]
as

Select
ISRN,
PROV_SPELL_ID,
PROV_SPELL_ADMISSION_DATE,
Date_Order=ROW_NUMBER()
OVER(PARTITION BY ISRN
ORDER BY PROV_SPELL_ADMISSION_DATE)

From
[dbo].[vw_aki_Renal_Registry_AKI_Admissions1]
```

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GO

3.4) [dbo].[vw_aki_Renal_Registry_AKI]

Selects the first admission date aligned to the Pathology sample.

```
CREATE VIEW [dbo].[vw_aki_Renal_Registry_AKI]
AS

SELECT DISTINCT
bd.*,
aki.PROV_SPELL_ID,
aki.PROV_SPELL_ADMISSION_DATE from
dbo.tbl_aki_Renal_Registry_AKI_Data bd

Left JOin
[dbo].[vw_aki_Renal_Registry_AKI_Admissions2] aki
on aki.ISRN=bd.ISRN
where date_order=1
```

GO

3.5) [dbo].[vw_aki_Renal_Registry_AKI_Demographics]

Cleans up field headers, column orders and patient address details from [dbo].[vw_aki_Renal_Registry_AKI]

```
CREATE VIEW [dbo].[vw_aki_Renal_Registry_AKI_Demographics]
as

Select
AKI.NHS_Number as 'NHS Number',
AKI.Local_Patient_Identifier as 'Local Patient Identifier',
AKI.Forename as 'Forename',
AKI.Surname as 'Surname',
CASE
```

```

WHEN AKI.Sex = 'Male' then 'M'
WHEN AKI.Sex = 'Female' then 'F' END as 'Sex',
Convert(Date,AKI.DOB,103) as 'DOB',
CASE WHEN pmi.CURR_ADDRESS_L1 IS NULL then pmi.CURR_ADDRESS_L2 else pmi.CURR_ADDRESS_L1 END as
'CURR_ADDRESS_L1',
CASE WHEN pmi.CURR_ADDRESS_L1 IS NULL then pmi.CURR_ADDRESS_L3 else pmi.CURR_ADDRESS_L2 END as
'CURR_ADDRESS_L2',
CASE WHEN pmi.CURR_ADDRESS_L1 IS NULL then pmi.CURR_ADDRESS_L4 else pmi.CURR_ADDRESS_L3 END as
'CURR_ADDRESS_L3',
CASE WHEN pmi.CURR_ADDRESS_L1 IS NULL then NULL else pmi.CURR_ADDRESS_L4 END as 'CURR_ADDRESS_L4',
pmi.CURR_POSTCODE as 'Post Code',
AKI.Lab_Code as 'Lab Code',
AKI.Specimen_No as 'Specimen Number',
AKI.Source_of_Request as 'Source of Request',
CASE
WHEN AKI.[Default Patient Type]='MP' then 'IP'
WHEN AKI.[Default Patient Type]='U' then 'COM'
WHEN AKI.[Default Patient Type]='LAB' then 'IP'
WHEN AKI.[Default Patient Type]='DP' then 'OP'
WHEN AKI.[Default Patient Type]='GP' then 'COM'
else AKI.[Default Patient Type] END as 'Inpatient / Outpatient Care Indicator Field',
Convert(Datetime,AKI.Alert_Date_Time,120) as 'Alert Datetime',
AKI.AKI as 'AKI Warning Stage Test Result',
AKI.CREAT,
CASE
WHEN AKI.Baseline_eGFR='CBASE=NA' then ''
WHEN AKI.Baseline_eGFR='Rev GFR' then '' else AKI.Baseline_eGFR END as 'egfr',
AKI.PROV_SPELL_ADMISSION_DATE as 'Admission Date'

```

```

From dbo.vw_aki_Renal_Registry_AKI AKI

```

```

left join
PMITable PMI
on AKI.Local_Patient_Identifier=PATID

```

```

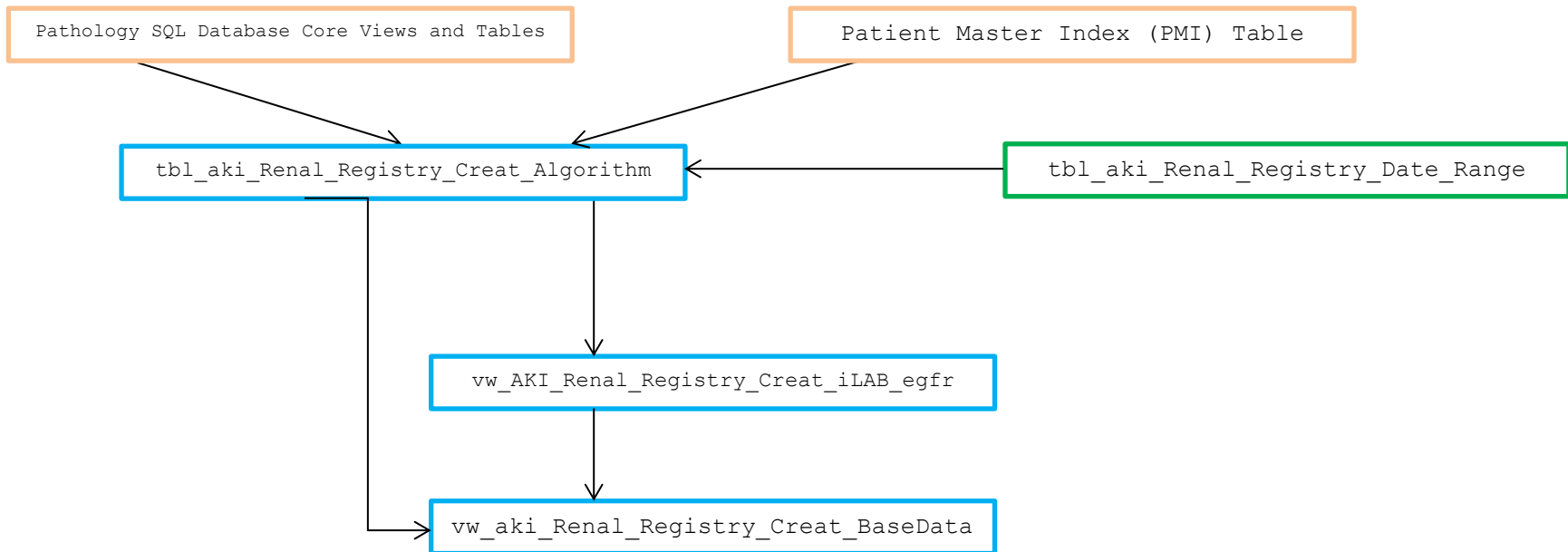
GO

```

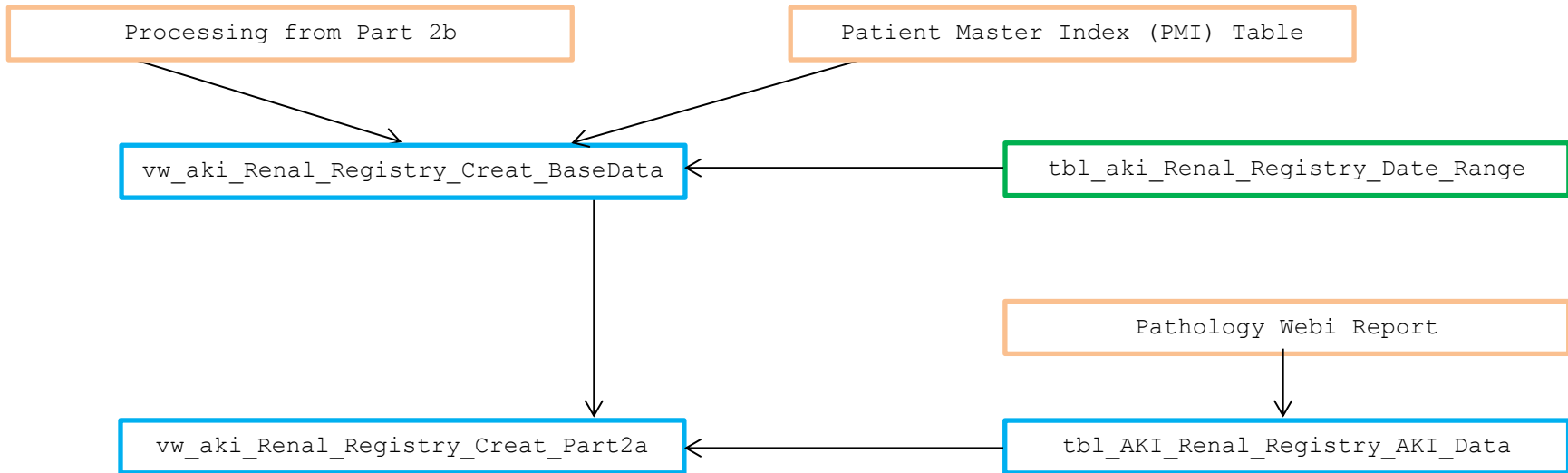
Part 2 | Creatinine DataSet

4. Procedure

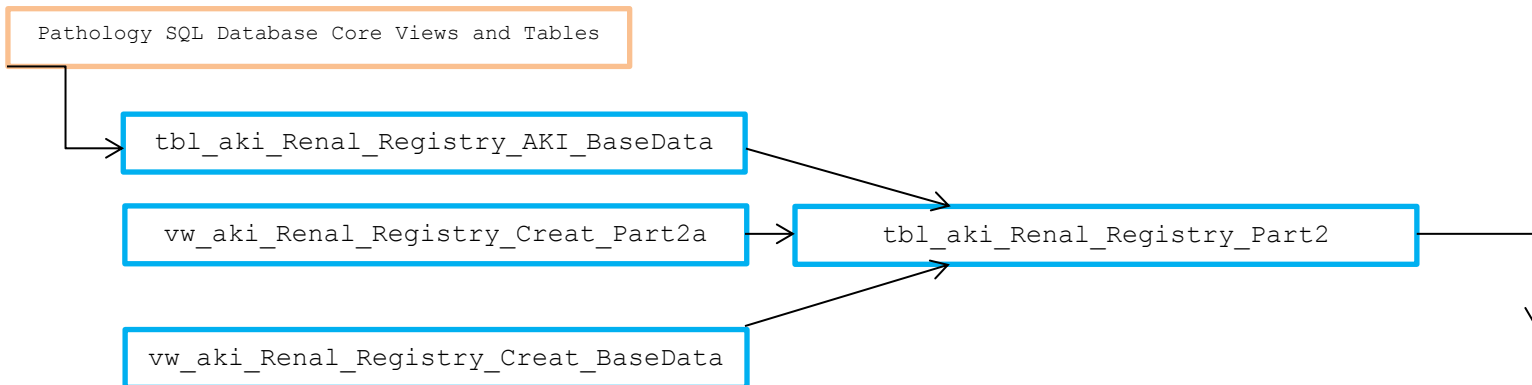
2b | Creatinine Result occurred in the reporting period and the patient had an AKI Alert within 15 months of processing date of the test



2a Procedure | AKI Alert recorded in the reporting period with a creatinine result occurring within 15 months prior to the alert date



Joining 2a and 2b | Each result should only appear once even if it meets multiple criteria for inclusion



5. Table and View Schema

vw_aki_Renal_Registry_Creat

tbl_aki_Renal_Registry_Creat_Algorithm

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
Identifier	nvarchar	no	82			yes	(n/a)	(n/a)	Latin1_General_CI_AS
NHS_Number	varchar	no	17			yes	no	yes	Latin1_General_CI_AS
Local_Patient_Identifier	nvarchar	no	60			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Lab_Code	varchar	no	5			no	no	no	Latin1_General_CI_AS
Specimen_No	nvarchar	no	18			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Source_of_Request	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
NewCategory	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Patient_Type	varchar	no	8			yes	no	yes	Latin1_General_CI_AS
Collection_Date	datetime	no	8			yes	(n/a)	(n/a)	NULL
Processing_Date	datetime	no	8			yes	(n/a)	(n/a)	NULL
Test Result	nvarchar	no	16			yes	(n/a)	(n/a)	Latin1_General_CI_AS
DOB	date	no	3	10	0	yes	(n/a)	(n/a)	NULL
AgeAtTest	int	no	4	10	0	yes	(n/a)	(n/a)	NULL
AgeAtTest2	numeric	no	5	5	2	yes	(n/a)	(n/a)	NULL
Sex_code	varchar	no	1			yes	no	yes	Latin1_General_CI_AS
ISRN	decimal	no	9	18	0	yes	(n/a)	(n/a)	NULL
Num	int	no	4	10	0	yes	(n/a)	(n/a)	NULL
Sex_number	int	no	4	10	0	yes	(n/a)	(n/a)	NULL

vw_AKI_Renal_Registry_Creat_iLAB_egfr

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
Identifier	nvarchar	no	80			yes	(n/a)	(n/a)	Latin1_General_CI_AS
LOCAL_PATIENT_IDENTIFIER	nvarchar	no	60			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Specimen_No	nvarchar	no	18			yes	(n/a)	(n/a)	Latin1_General_CI_AS

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Processing_Date	datetime	no	8			yes	(n/a)	(n/a)	NULL
Baseline_eGFR_creat	int	no	4	10	0	yes	(n/a)	(n/a)	NULL

vw_aki_Renal_Registry_Creat_BaseData

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
NHS_Number	varchar	no	17			yes	no	yes	Latin1_General_CI_AS
Local_Patient_Identifier	nvarchar	no	60			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Lab_Code	varchar	no	5			no	no	no	Latin1_General_CI_AS
Specimen_No	nvarchar	no	18			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Source_of_Request	varchar	no	30			yes	no	yes	Latin1_General_CI_AS
Patient_Type	varchar	no	8			yes	no	yes	Latin1_General_CI_AS
Collection_Date	datetime	no	8			yes	(n/a)	(n/a)	NULL
Processing_Date	datetime	no	8			yes	(n/a)	(n/a)	NULL
AgeAtTest	int	no	4	10	0	yes	(n/a)	(n/a)	NULL
Creatinine_Result	nvarchar	no	16			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Baseline_eGFR_creat	int	no	4	10	0	yes	(n/a)	(n/a)	NULL

vw_aki_Renal_Registry_Creat_Part2a

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
NHS_Number	varchar	no	17			yes	no	yes	Latin1_General_CI_AS
Local_Patient_Identifier	nvarchar	no	60			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Lab_Code	varchar	no	5			no	no	no	Latin1_General_CI_AS
Specimen_No	nvarchar	no	18			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Source_of_Request	varchar	no	30			yes	no	yes	Latin1_General_CI_AS
Patient_Type	varchar	no	8			yes	no	yes	Latin1_General_CI_AS
Collection_Date	datetime	no	8			yes	(n/a)	(n/a)	NULL
Processing_Date	datetime	no	8			yes	(n/a)	(n/a)	NULL

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AgeAtTest	int	no	4	10	0	yes	(n/a)	(n/a)	NULL
Creatinine_Result	nvarchar	no	16			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Baseline_eGFR_creat	int	no	4	10	0	yes	(n/a)	(n/a)	NULL

tbl_aki_Renal_Registry_AKI_BaseData

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
Identifier	nvarchar	no	82			yes	(n/a)	(n/a)	Latin1_General_CI_AS
NHS_Number	varchar	no	17			yes	no	yes	Latin1_General_CI_AS
Local_Patient_Identifier	nvarchar	no	60			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Lab_Code	varchar	no	5			no	no	no	Latin1_General_CI_AS
Specimen_No	nvarchar	no	18			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Source_of_Request	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
NewCategory	nvarchar	no	510			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Patient_Type	varchar	no	8			yes	no	yes	Latin1_General_CI_AS
Collection_Date	datetime	no	8			yes	(n/a)	(n/a)	NULL
Processing_Date	datetime	no	8			yes	(n/a)	(n/a)	NULL
Test Result	nvarchar	no	16			yes	(n/a)	(n/a)	Latin1_General_CI_AS
DOB	date	no	3	10	0	yes	(n/a)	(n/a)	NULL
AgeAtTest	int	no	4	10	0	yes	(n/a)	(n/a)	NULL
AgeAtTest2	numeric	no	5	5	2	yes	(n/a)	(n/a)	NULL
Sex_code	varchar	no	1			yes	no	yes	Latin1_General_CI_AS
ISRN	decimal	no	9	18	0	yes	(n/a)	(n/a)	NULL
Num	int	no	4	10	0	yes	(n/a)	(n/a)	NULL
Sex_number	int	no	4	10	0	yes	(n/a)	(n/a)	NULL

AKI Renal Return Supporting Documentation

tbl_aki_Renal_Registry_Part2

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
NHS_Number	varchar	no	17			yes	no	yes	Latin1_General_CI_AS
Local_Patient_Identifier	nvarchar	no	60			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Lab_Code	varchar	no	5			no	no	no	Latin1_General_CI_AS
Specimen_No	nvarchar	no	18			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Source_of_Request	varchar	no	30			yes	no	yes	Latin1_General_CI_AS
Patient_Type	varchar	no	8			yes	no	yes	Latin1_General_CI_AS
Collection_Date	datetime	no	8			yes	(n/a)	(n/a)	NULL
Processing_Date	datetime	no	8			yes	(n/a)	(n/a)	NULL
AgeAtTest	int	no	4	10	0	yes	(n/a)	(n/a)	NULL
Creatinine_Result	nvarchar	no	16			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Baseline_eGFR_creat	int	no	4	10	0	yes	(n/a)	(n/a)	NULL

vw_aki_Renal_Registry_Creat

Column_name	Type	Computed	Length	Prec	Scale	Nullable	TrimTrailingBlanks	FixedLenNullInSource	Collation
NHS Number	varchar	no	17			yes	no	yes	Latin1_General_CI_AS
Local Patient Identifier	nvarchar	no	60			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Lab Code	varchar	no	5			no	no	no	Latin1_General_CI_AS
Specimen Number	nvarchar	no	18			yes	(n/a)	(n/a)	Latin1_General_CI_AS
Souce Of Request	varchar	no	30			yes	no	yes	Latin1_General_CI_AS
Inpatient / Outpatient Care Indicator Field	varchar	no	8			yes	no	yes	Latin1_General_CI_AS
Collection Date	datetime	no	8			yes	(n/a)	(n/a)	NULL
Processing Date	datetime	no	8			yes	(n/a)	(n/a)	NULL
Serum Creatinine Result	nvarchar	no	16			yes	(n/a)	(n/a)	Latin1_General_CI_AS
eGFR	int	no	4	10	0	yes	(n/a)	(n/a)	NULL

6. Table and View Creation

6.1) tbl_aki_Renal_Registry_Creat_Algorithm

This creates a table of all creatinine results recorded in the Pathology Base Tables, Views and Hospital Patient Master Index, between the start and end dates as declared in tbl_aki_Renal_Registry_Date_Range (15 month period).

The select query creates and casts 'AgeAtTest2' as numeric, test result as integer and sex code as integer for calculation of egfr in the next view.

```
SELECT DISTINCT

S.HospitalNo+ '_' +S.SpecimenNo AS 'Identifier',
PMI.NHS_NO as 'NHS_Number',
S.HospitalNo as 'Local_Patient_Identifier',
'69160' as 'Lab_Code',
S.SpecimenNo as 'Specimen_No',
CASE
When LOC.NewCategory='GP' then LOC.Location_Code
When LOC.NewCategory='NHS Hospital' then LOC.Hospital
Else LOC.NewCategory END as 'Source_of_Request',
LOC.Default_Patient_Type as 'Patient_Type',
S.CollectionDateTime as 'Collection_Date',
a.AuthorisedDateTime as 'Processing_Date',
T.TestResult as [Test Result],
Convert(date, S.DOB, 105) as 'DOB',
Case When Convert(Date, S.DOB, 120)>Convert(Date, S.ReceiveDateTime, 120) then
DateDiff(year, S.DOB, S.ReceiveDateTime) Else DateDiff(Year, S.DOB, S.ReceiveDateTime) END as AgeAtTest,
Cast(Case When Convert(Date, S.DOB, 120)>Convert(Date, S.ReceiveDateTime, 120) then
DateDiff(year, S.DOB, S.ReceiveDateTime) Else DateDiff(Year, S.DOB, S.ReceiveDateTime) END as numeric
(5, 2)) as AgeAtTest2,
Case
when PMI.SEX_CODE IS NULL then 'U'
Else PMI.SEX_CODE end as 'Sex_code',
S.ISRN,
Cast(Case when Not(ISNUMERIC(T.TestResult)=1) then '' Else T.TestResult end as int) as 'Num',
Case
when Sex_code='F' then (Convert(int, 2))
```

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```
when Sex_code='M' then (Convert(int,1))
when Sex_code='U' then (Convert(int,0))
Else (Convert(int,0)) end as Sex_number

Into dbo.tbl_aki_Renal_Registry_Creat_Algorithm

FROM

Clinicians_Directorates CD

RIGHT OUTER JOIN Clinician_Mapping CM
ON (CD.ClinCode=CM.ClinId)

RIGHT OUTER JOIN HaemSpec S
ON (CM.ClinIdLocal=S.ConsultantCode)

LEFT OUTER JOIN HaemTest T
ON (S.ISRN=T.ISRN)

LEFT OUTER join HaemAuthorisedTests a on a.ISRN=s.isrn and t.TestCode=a.TEST_CODE

LEFT OUTER JOIN Test_Code_Grouping GR
ON (T.FileID=GR.Discipline and T.TestCode=GR.Code and GR.Category is null)

LEFT OUTER JOIN LocationLookup LOC
ON (LOC.Location_Code=S.LocationCode)

LEFT OUTER JOIN PMITable PMI
ON (PMI.PATID='R'+S.HospitalNo)

WHERE
(GR.Code IN ('CREAT'))
AND ISNUMERIC(T.TestResult)=1
AND
Convert(datetime,a.AuthorisedDateTime,120) >= (SELECT StartDate From
pathology.dbo.tbl_aki_Renal_Registry_Date_Range)
and
Convert(datetime,a.AuthorisedDateTime,120) < (SELECT EndDate From
pathology.dbo.tbl_aki_Renal_Registry_Date_Range)
AND Not(s.PatientFullName Like '%NEQAS%')
```

6.2) vw_aki_Renal_Registry_Creat_iLAB_egfr

Calculates egfr for samples with AgeAtTest > 1 and test result (aliased as Num) >2. This is to avoid divide by zero errors in SQL.

```
CREATE VIEW [dbo].[vw_aki_Renal_Registry_Creat_iLAB_egfr]
AS

Select distinct
Identifier,
LOCAL_PATIENT_IDENTIFIER,
Specimen_No,
Processing_Date,
Cast(Case when Sex_number='2' and ISNUMERIC([Test Result])=1 then Round((0.742*(Power(AgeAtTest2,-
0.203))* (Power(( [Num]-3.068)/88.4,-1.154)) *175), 0)
When Sex_number='1' and ISNUMERIC([Test Result])=1 then Round((1*(Power(AgeAtTest2,-
0.203))* (Power(( [Num]-3.068)/88.4,-1.154)) *175), 0)
Else '-1'
End as int) as 'Baseline_eGFR_creat'

From
dbo.tbl_aki_Renal_Registry_Creat_Algorithm

Where
AgeAtTest >'1'
And
Num >'2'

GO
```

6.3) [dbo].[vw_aki_Renal_Registry_Creat_BaseData]

Joins samples with egfr calculated in 6.2 to the main creatinine cohort returned from step 6.1

```
CREATE VIEW [dbo].[vw_aki_Renal_Registry_Creat_BaseData]
AS
Select distinct

Creat.NHS_Number,
Creat.Local_Patient_Identifier,
```

```
    Creat.Lab_Code,  
    Creat.Specimen_No,  
    Creat.Source_of_Request,  
    Creat.Patient_Type,  
    Creat.Collection_Date,  
    Creat.Processing_Date,  
    Creat.AgeAtTest,  
    Creat.[Test Result] as 'Creatinine_Result',  
    egfr.Baseline_eGFR_creat  
  
From dbo.tbl_aki_Renal_Registry_Creat_Algorithm Creat  
  
left Join  
  
dbo.vw_aki_Renal_Registry_Creat_iLAB_egfr egfr  
  
On (egfr.Identifier=Creat.Identifier  
and egfr.Processing_Date=Creat.Processing_Date)  
  
GO
```

6.4) [dbo].[vw_aki_Renal_Registry_Creat_Part2a]

Inner joins the pathology data imported into tbl_AKI_Renal_Registry_AKI_Data in 3.2 to 6.3

```
CREATE VIEW [dbo].[vw_aki_Renal_Registry_Creat_Part2a] as  
Select Distinct  
bd.*  
  
from dbo.vw_aki_Renal_Registry_Creat_BaseData bd  
  
Inner Join  
dbo.tbl_aki_Renal_Registry_AKI_Data aki  
on aki.LOCAL_PATIENT_IDENTIFIER='R'+bd.Local_Patient_Identifier  
Where Convert (datetime,bd.Processing_Date,120)<CONVERT(datetime,aki.Alert_Date_Time,120)
```

GO

6.5) dbo.tbl_aki_Renal_Registry_AKI_BaseData

This creates a table of all AKI results recorded in the Pathology Base Tables, Views and Hospital Patient Master Index, between the start and end dates as declared in tbl_aki_Renal_Registry_Date_Range (15 month period).

The select query creates and casts 'AgeAtTest2' as numeric, test result as integer and sex code as set out in 6.1, however the egr calculation is not required for this dataset so this data can be omitted

SELECT DISTINCT

```
S.HospitalNo+ '_' +S.SpecimenNo AS 'Identifier',
PMI.NHS_NO as 'NHS_Number',
S.HospitalNo as 'Local_Patient_Identifier',
'69160' as 'Lab_Code',
S.SpecimenNo as 'Specimen_No',
CASE
When LOC.NewCategory='GP' then LOC.Location_Code
When LOC.NewCategory='NHS Hospital' then LOC.Hospital
Else LOC.NewCategory END as 'Source_of_Request',
LOC.Default_Patient_Type as 'Patient_Type',
S.CollectionDateTime as 'Collection_Date',
a.AuthorisedDateTime as 'Processing_Date',
T.TestResult as [Test Result],
Convert(date,S.DOB,105) as 'DOB',
Case When Convert(Date,S.DOB,120)>Convert(Date,S.ReceiveDateTime,120) then
DateDiff(year,S.DOB,S.ReceiveDateTime) Else DateDiff(Year,S.DOB,S.ReceiveDateTime) END as AgeAtTest,
Cast(Case When Convert(Date,S.DOB,120)>Convert(Date,S.ReceiveDateTime,120) then
DateDiff(year,S.DOB,S.ReceiveDateTime) Else DateDiff(Year,S.DOB,S.ReceiveDateTime) END as numeric
(5,2)) as AgeAtTest2,
Case
when PMI.SEX_CODE IS NULL then 'U'
Else PMI.SEX_CODE end as 'Sex_code',
S.ISRN,
Cast(Case when Not(ISNUMERIC(T.TestResult)=1) then '' Else T.TestResult end as int) as 'Num',
Case
when Sex_code='F' then (Convert(int,2))
when Sex_code='M' then (Convert(int,1))
when Sex_code='U' then (Convert(int,0))
```

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```
Else (Convert(int,0)) end as Sex_number

Into dbo.tbl_aki_Renal_Registry_AKI_BaseData

FROM

Pathology.dbo.vw_ilab_Clinicians_Directorates CD

RIGHT OUTER JOIN Pathology.dbo.vw_Ilab_Clinician_Mapping CM
ON (CD.ClinCode=CM.ClinId)

RIGHT OUTER JOIN Pathology.dbo.Ilab_0910_HaemSpec S
ON (CM.ClinIdLocal=S.ConsultantCode)

LEFT OUTER JOIN Pathology.dbo.Ilab_0910_HaemTest T
ON (S.ISRN=T.ISRN)

LEFT OUTER join dbo.Ilab_0910_HaemAuthorisedTests a on a.ISRN=s.isrn and t.TestCode=a.TEST_CODE

LEFT OUTER JOIN Pathology.dbo.vw_Ilab_Test_Code_Grouping GR
ON (T.FileID=GR.Discipline and T.TestCode=GR.Code and GR.Category is null)

LEFT OUTER JOIN Pathology.dbo.vw_Ilab_LocationLookup LOC
ON (LOC.Location_Code=S.LocationCode)

LEFT OUTER JOIN TCPAS_PMI.dbo.ZADMIN_PMI PMI
ON (PMI.PATID='R'+S.HospitalNo)

WHERE
(GR.Code IN ('AKIDUM'))
AND
ISNUMERIC(T.TestResult)=1
AND
Convert(datetime,a.AuthorisedDateTime,120) >= (SELECT StartDate From
pathology.dbo.tbl_aki_Renal_Registry_Date_Range)
AND
Convert(datetime,a.AuthorisedDateTime,120) < (SELECT EndDate From
pathology.dbo.tbl_aki_Renal_Registry_Date_Range)
AND
Not(s.PatientFullName Like '%NEQAS%')
```

6.6) [dbo].[tbl_aki_Renal_Registry_Part2]

Union query to join 2a and 2b together. The start date is declared before the select query to reference the current reporting month. This is to aid the Stored Procedure

```
Truncate Table [dbo].[tbl_aki_Renal_Registry_Part2]

DECLARE @startOfCurrentMonth DATETIME
SET @startOfCurrentMonth = DATEADD(month, DATEDIFF(month, 0, CURRENT_TIMESTAMP), 0)
--Insert Into [dbo].[tbl_aki_Renal_Registry_Part2]

SELECT DISTINCT
*

From
[dbo].[vw_aki_Renal_Registry_Creat_Part2a]

Union All

SELECT DISTINCT
bd.*

FROM dbo.vw_aki_Renal_Registry_Creat_BaseData bd

Inner Join
dbo.tbl_aki_Renal_Registry_AKI_BaseData aki
on 'R'+aki.LOCAL_PATIENT_IDENTIFIER='R'+bd.Local_Patient_Identifier

WHERE
bd.Processing_Date >= DATEADD(month, -1, @startOfCurrentMonth)
AND bd.Processing_Date < @startOfCurrentMonth
And CONVERT(datetime,aki.Processing_Date,120) < Convert(datetime,bd.Processing_Date,120)

GO
```


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6.7) [dbo].[vw_aki_Renal_Registry_Creat]

Cleans up field headers, column orders and patient address details from 6.6

```
CREATE VIEW [dbo].[vw_aki_Renal_Registry_Creat] as
Select distinct
NHS_Number as 'NHS Number',
Local_Patient_Identifier as 'Local Patient Identifier',
Lab_Code as 'Lab Code',
Specimen_No as 'Specimen Number',
Source_of_Request as 'Souce Of Request',
CASE
WHEN Patient_Type='MP' then 'IP'
WHEN Patient_Type='U' then 'COM'
WHEN Patient_Type='LAB' then 'IP'
WHEN Patient_Type='DP' then 'OP'
WHEN Patient_Type='GP' then 'COM'
else Patient_Type END as 'Inpatient / Outpatient Care Indicator Field',
Collection_Date as 'Collection Date',
Processing_Date as 'Processing Date',
Creatinine_Result as 'Serum Creatinine Result',
Case
When Baseline_eGFR_creat='-1' then '' else Baseline_eGFR_creat End as 'eGFR'
from
[dbo].[tbl_aki_Renal_Registry_Part2]
```

GO

8. Final Views

The following view are the final output for the AKI Renal Return

Core DataSet	Select * from [dbo].[vw_aki_Renal_Registry_AKI_Demographics]
Creatinine DataSet	Select * from [dbo].[vw_aki_Renal_Registry_Creat]

9. Stored Procedure

After creating the views and tables the report can be writing into a Stored Procedure.

```
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO

ALTER          PROC [dbo].[usp_aki_Renal_Registry] AS

--Step 1
--Enter 15 month Date Range Into pathology.dbo.tbl_aki_Renal_Registry_Date_Range
--The Creat and AKI Base Date will reference this table

--Step2
--Run AKI_Renal_Registry Webi Report and insert into dbo.tbl_aki_Renal_Registry_AKI_Data

--Step3
--Create CREAT table
Truncate Table dbo.tbl_aki_Renal_Registry_Creat_Algorithm

Insert Into dbo.tbl_aki_Renal_Registry_Creat_Algorithm

SELECT DISTINCT

S.HospitalNo+ '_' +S.SpecimenNo AS 'Identifier',
PMI.NHS_NO as 'NHS_Number',
S.HospitalNo as 'Local_Patient_Identifier',
'69160' as 'Lab_Code',
S.SpecimenNo as 'Specimen_No',
CASE
When LOC.NewCategory='GP' then LOC.Location_Code
When LOC.NewCategory='NHS Hospital' then LOC.Hospital
Else LOC.NewCategory END as 'Source_of_Request',
```

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```

LOC.NewCategory,
LOC.Default_Patient_Type as 'Patient_Type',
S.CollectionDateTime as 'Collection_Date',
a.AuthorisedDateTime as 'Processing_Date',
T.TestResult as [Test Result],
Convert(date, S.DOB, 105) as 'DOB',
Case When Convert(Date, S.DOB, 120) > Convert(Date, S.ReceiveDateTime, 120) then
DateDiff(year, S.DOB, S.ReceiveDateTime) Else DateDiff(Year, S.DOB, S.ReceiveDateTime) END as AgeAtTest,
Cast(Case When Convert(Date, S.DOB, 120) > Convert(Date, S.ReceiveDateTime, 120) then
DateDiff(year, S.DOB, S.ReceiveDateTime) Else DateDiff(Year, S.DOB, S.ReceiveDateTime) END as numeric (5,2)) as
AgeAtTest2,
Case
when PMI.SEX_CODE IS NULL then 'U'
Else PMI.SEX_CODE end as 'Sex_code',
S.ISRN,
Cast(Case when Not(ISNUMERIC(T.TestResult)=1) then '' Else T.TestResult end as int) as 'Num',
Case
when Sex_code='F' then (Convert(int,2))
when Sex_code='M' then (Convert(int,1))
when Sex_code='U' then (Convert(int,0))
Else (Convert(int,0)) end as Sex_number

FROM

Clinicians_Directorates CD

RIGHT OUTER JOIN Clinician_Mapping CM
ON (CD.ClinCode=CM.ClinId)

RIGHT OUTER JOIN HaemSpec S
ON (CM.ClinIdLocal=S.ConsultantCode)

LEFT OUTER JOIN HaemTest T
ON (S.ISRN=T.ISRN)

LEFT OUTER join HaemAuthorisedTests a on a.ISRN=s.isrn and t.TestCode=a.TEST_CODE

LEFT OUTER JOIN Test_Code_Grouping GR
ON (T.FileID=GR.Discipline and T.TestCode=GR.Code and GR.Category is null)

LEFT OUTER JOIN LocationLookup LOC

```

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```

ON (LOC.Location_Code=S.LocationCode)

LEFT OUTER JOIN PMITable PMI
ON (PMI.PATID='R'+S.HospitalNo)

WHERE
(GR.Code IN ('CREAT'))
AND ISNUMERIC(T.TestResult)=1
AND
Convert(datetime,a.AuthorisedDateTime,120) >= (SELECT StartDate From
pathology.dbo.tbl_aki_Renal_Registry_Date_Range)
and
Convert(datetime,a.AuthorisedDateTime,120) < (SELECT EndDate From
pathology.dbo.tbl_aki_Renal_Registry_Date_Range)
AND Not(s.PatientFullName Like '%NEQAS%'))

--Step4
--Create AKI table
Truncate Table dbo.tbl_aki_Renal_Registry_AKI_BaseData

Insert Into dbo.tbl_aki_Renal_Registry_AKI_BaseData
SELECT DISTINCT

S.HospitalNo+ '_' +S.SpecimenNo AS 'Identifier',
PMI.NHS_NO as 'NHS_Number',
S.HospitalNo as 'Local_Patient_Identifier',
'69160' as 'Lab_Code',
S.SpecimenNo as 'Specimen_No',
CASE
When LOC.NewCategory='GP' then LOC.Location_Code
When LOC.NewCategory='NHS Hospital' then LOC.Hospital
Else LOC.NewCategory END as 'Source_of_Request',
LOC.NewCategory,
LOC.Default_Patient_Type as 'Patient_Type',
S.CollectionDateTime as 'Collection_Date',
a.AuthorisedDateTime as 'Processing_Date',
T.TestResult as [Test Result],
Convert(date,S.DOB,105) as 'DOB',
Case When Convert(Date,S.DOB,120)>Convert(Date,S.ReceiveDateTime,120) then
DateDiff(year,S.DOB,S.ReceiveDateTime) Else DateDiff(Year,S.DOB,S.ReceiveDateTime) END as AgeAtTest,

```

```

Cast (Case When
Convert (Date, S.DOB, 120) > Convert (Date, S.ReceiveDateTime, 120) then DateDiff (year, S.DOB, S.ReceiveDateTime)
Else DateDiff (Year, S.DOB, S.ReceiveDateTime) END as numeric (5, 2)) as AgeAtTest2,
Case
when PMI.SEX_CODE IS NULL then 'U'
Else PMI.SEX_CODE end as 'Sex_code',
S.ISRN,
Cast (Case when Not (ISNUMERIC (T.TestResult)=1) then '' Else T.TestResult end as int) as 'Num',
Case
when Sex_code='F' then (Convert (int, 2))
when Sex_code='M' then (Convert (int, 1))
when Sex_code='U' then (Convert (int, 0))
Else (Convert (int, 0)) end as Sex_number

FROM

Clinicians_Directorates CD

RIGHT OUTER JOIN Clinician_Mapping CM
ON (CD.ClinCode=CM.ClinId)

RIGHT OUTER JOIN HaemSpec S
ON (CM.ClinIdLocal=S.ConsultantCode)

LEFT OUTER JOIN HaemTest T
ON (S.ISRN=T.ISRN)

LEFT OUTER join HaemAuthorisedTests a on a.ISRN=s.isrn and t.TestCode=a.TEST_CODE

LEFT OUTER JOIN Test_Code_Grouping GR
ON (T.FileID=GR.Discipline and T.TestCode=GR.Code and GR.Category is null)

LEFT OUTER JOIN LocationLookup LOC
ON (LOC.Location_Code=S.LocationCode)

LEFT OUTER JOIN PMITable PMI
ON (PMI.PATID='R'+S.HospitalNo)

WHERE
(GR.Code IN ('AKIDUM'))
AND

```

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```

ISNUMERIC (T.TestResult)=1
AND
Convert(datetime,a.AuthorisedDateTime,120) >= (SELECT StartDate From
pathology.dbo.tbl_aki_Renal_Registry_Date_Range)
AND
Convert(datetime,a.AuthorisedDateTime,120) < (SELECT EndDate From
pathology.dbo.tbl_aki_Renal_Registry_Date_Range)
AND
Not(s.PatientFullName Like '%NEQAS%')

--Step 5
    --Join Part 2a to Part 2b

Truncate Table [dbo].[tbl_aki_Renal_Registry_Part2]

DECLARE @startOfCurrentMonth DATETIME
SET @startOfCurrentMonth = DATEADD(month, DATEDIFF(month, 0, CURRENT_TIMESTAMP), 0)
Insert Into [dbo].[tbl_aki_Renal_Registry_Part2]

SELECT DISTINCT
*

From
[dbo].[vw_aki_Renal_Registry_Creat_Part2a]

Union All

SELECT DISTINCT
bd.*

FROM dbo.vw_aki_Renal_Registry_Creat_BaseData bd

Inner Join
dbo.tbl_aki_Renal_Registry_AKI_BaseData aki
on 'R'+aki.LOCAL_PATIENT_IDENTIFIER='R'+bd.Local_Patient_Identifier

WHERE
bd.Processing_Date >= DATEADD(month, -1, @startOfCurrentMonth)
AND bd.Processing_Date < @startOfCurrentMonth
And CONVERT(datetime,aki.Processing_Date,120)< Convert(datetime,bd.Processing_Date,120)
    
```