

Analysis Method Notice

Clinical Coding Completeness (Rolling 12 Months)

This notice describes an Analysis Method that has been developed for use in the production of published national outcome indicators, performance measures and/or currencies, which are derived directly from NHS Wales data.

The Analysis Method has been reviewed by the Analysis Methodologies Group and its output submitted to the Welsh Information Standards Board (WISB) for potential accreditation.

*It should be noted that, where the data flow on which the analysis is being undertaken has not been reviewed by WISB (see 'Status of WISB Data Standards Assurance' below), accreditation of the analysis method **cannot** be interpreted as an approval of the underlying data standards or the quality of the data used.*

It is recognised that formal review and/or assurance of the data flow may have been undertaken by other bodies, where those data are being formally published; for example, as 'Official Statistics'. In such circumstances, users of this method are advised to contact the relevant organisations should they require further information on the underlying quality of the specified data source.

For further details about the group, including Terms of Reference and membership, please visit the following website:

<http://howis.wales.nhs.uk/sites3/page.cfm?orgid=742&pid=56696>

WISB Reference: ISRN Ref. 2013/014

Please address enquiries about this Analysis Method the NHS Wales Informatics Service Data Standards Team.

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WISB Analysis Method Appraisal Assessment	<p>Accredited This Analysis Method has been appraised by WISB and is felt to:</p> <ul style="list-style-type: none"> • Meet the specified indicator requirement, in that it is suitable for its calculation / derivation; • Is reproducible by organisations, where appropriate.
WISB Analysis Method Appraisal Outcome(s)	<p><u>Outcome</u></p>

Status of Data Standards Assurance	<p>Not WISB Reviewed Some or all of the data used in this Analysis Method do not have standards approved via the Information Standards Assurance Process. This may include data flows that predate the establishment of WISB.</p>
WISB Decision	<p>n/a</p>
Data Standards Assurance Outcome(s)	<p>n/a</p>

Indicator

Admitted Patient Care data set (APC ds) episodes are clinically coded within 3 completed calendar months of the episode end date.

Target:

98% of all Local Health Board (LHB) / Trust Admitted Patient Care data set (APC ds) episodes for any given 12 month period (full completed months).

Formal performance monitoring against this target is monitored at an individual Health Board level. However, LHBs / Trusts are also informally monitored to ensure this target is met across all of the following:

- All specialties (Treatment Functions);
- All Admission Methods (i.e. elective, emergency) and;
- All Patient Classifications (i.e. inpatient, day case, regular day admission).

Rationale / Context

There are a number of reasons as to why clinical coding completion in a timely manner is vital, for example:

- To enable assessment and scrutiny of progress in delivering the condition specific Annual Quality Plans and Tier 1 Measures e.g. clinical outcomes, mortality rates, quality in care, stroke care and efficiency and productivity.
- For patient level costing and service line reporting for finance purposes.
- Allows monitoring of treatment effectiveness and clinical governance.
- To enable case mix planning.
- To monitor public health trends along with epidemiological and aetiology studies.
- To provide early awareness of cancers diagnosis to the Cancer Registry.

This measure forms part of the Welsh Government NHS Delivery Framework.

Data Source

Admitted Patient Care data set (APC ds) / Patient Episode Database for Wales (PEDW)

Definitions:

Definitional Guidance:

Welsh Local Health Boards and NHS Trusts are required by Welsh Government to ensure that all APC ds episodes are clinically coded within 3 completed calendar months of the episode end date. For example, an episode with an end date of 13th March 2014 must be coded by 30th June 2014.

The monitoring of adherence to this standard is measured by analysing the completeness of the primary diagnosis (ICD-10) field within individual APC ds episodes.

The following data items and terms are relevant

Data Items:

[Primary ICD Diagnostic Code](#)
[Record Type](#)

Terms:

[Primary Diagnosis](#)

Consultant Episode (Hospital Provider)

The definitions associated with all the data items and terms above can be accessed via the NHS Wales Data Dictionary - <http://www.datadictionary.wales.nhs.uk>.

Detailed Specification

'Birth' episodes (i.e. APC ds episodes where 'Record Type' = '33') are excluded from the calculation, as these episodes are not loaded onto PEDW when nationally submitted APC ds data extracts are processed by the NHS Wales Informatics Service (NWIS).

Calculation:

Numerator

Number of finished consultant episodes with a complete and valid primary diagnosis in the rolling 12 month period.

Denominator

Total number of finished consultant episodes in the rolling 12 month period.

Reporting Format / Frequency

Monthly.

A delay of three months is allowed for in terms of the reporting of clinical coding completeness performance, so as to allow for the national standards associated with clinical coding completeness. For example, the coding completeness for episodes whose end dates fall in March will not be reported until July.

Data are published at an individual Health Board level only on the Welsh Government's 'My Local Health Service' website¹. However, monthly clinical coding completeness performance is made available to Welsh Government and Health Boards / Trusts by specialty (Treatment Function), Patient Classification and Admission Method, so as to aid further investigation of underperformance.

¹ <http://mylocalhealthservice.wales.gov.uk>

Areas for Future Development

The following points reflect considerations raised by either the Analysis Methodologies Group or WISB in terms of aspects of the Analysis Method that require further investigation or development.

For a full breakdown of the issues considered, please refer to the formal WISB Outcome for this Analysis Method, which can be access via the Information Standards Assurance website:

<http://howis.wales.nhs.uk/sites3/page.cfm?orgid=742&pid=52532>

Consideration of applying a 90 day time limit to the reporting of performance

- The Analysis Methodologies group considered the most suitable approach for reporting of clinical completeness performance given the 3-month time delay that is allowed for the completion of APC ds episodes. The application of an exact 90-day timeframe was considered; however, this was dismissed as reporting of clinical coding completeness performance is almost universally broken down by calendar month, making the presentation of such a timeframe on reporting outputs particularly difficult.
- It was agreed to retain the reference to a 'generic' target of three months, but that this would be presented based on completed calendar months when reporting clinical coding completeness performance.

Appendix A – Additional Information

n/a

Appendix B – SQL Code (where applicable)

Important: The following code is intended for information purposes only. It will contain references to specific references (servers, data item descriptions etc.) that are applicable within the NHS Wales Informatics Service only and therefore will not be suitable for direct application to local (LHB) data.

```
select
CalendarMonthNo EpEndMonth,
Org.OrganisationSubmittedProviderCode as ProviderCode,
Org.OrganisationSubmittedProviderDescription as ProviderName,
Org.OrganisationSubmittedCode as HospitalCode,
Org.OrganisationSubmittedDescription as HospitalName,
pat.PatientClassSubmittedCode as PatientClass,
spec.SpecialtyDerivedCode as SpecialtyTreat,
spec.SpecialtyDerivedDescription as SpecialtyDesc,
'AdmMethod' = case
    when (adm.AdmissionMethodDerivedCode like '2%'
        or (adm.AdmissionMethodDerivedCode = '81' and
intm.IntendedManagementDerivedCode = '8')) then 'Emergency'
    when adm.AdmissionMethodDerivedCode like '1%' then 'Elective'
    else 'Other'
end,
'DischMethod' = case
    when dis.DischargeMethodDerivedCode in ('4','5') then 'Death'
    else 'Other'
end,
'Valid_Primary_Diag' = SUM(case when diagnosisprimaryvalid = 'Valid' then 1 ELSE 0
END),
'TotalRecs' = SUM(EpisodeCount)

INTO #ClinCodMonth

FROM dw.fact.APCEpisode fact

JOIN dw.dim.Organisation Org on
fact.TreatmentSiteOrganisationKey = Org.OrganisationKey

JOIN dw.dim.[Date] epienddate on
epienddate.DateKey = fact.EpisodeEndDateKey

JOIN dw.dim.RecordType rec on
rec.RecordTypeKey = fact.RecordTypeKey

JOIN dw.dim.Diagnosis diag on
diag.DiagnosisKey = fact.Diagnosis01Key

JOIN dw.dim.PatientClass pat on
pat.PatientClassKey = fact.PatientClassKey

JOIN dw.dim.Specialty spec on
spec.SpecialtyKey = fact.TreatmentSpecialtyKey

JOIN dw.dim.AdmissionMethod adm on
adm.AdmissionMethodKey = fact.AdmissionMethodKey

JOIN dw.dim.DischargeMethod dis on
dis.DischargeMethodKey = fact.DischargeMethodKey

JOIN dw.dim.IntendedManagement intm on
intm.IntendedManagementKey = fact.IntendedManagementKey

where 1=2 and
    epienddate.FinancialYear >= '2010'
    AND epienddate.MonthOffset <= CASE WHEN datepart(day,getdate()) <= 17 THEN -2
```

```

ELSE -1 END
    and rec.RecordTypeDerivedCode <> '33'
    and (left(OrganisationSubmittedProviderCode,1) = '7'
        or OrganisationSubmittedProviderCode = 'RQF')

Group by
CalendarMonthNo,
DATEADD(month, DATEDIFF(month, 0, date), 0),
Org.OrganisationSubmittedProviderCode,
Org.OrganisationSubmittedProviderDescription,
Org.OrganisationSubmittedCode,
Org.OrganisationSubmittedDescription,
pat.PatientClassSubmittedCode,
spec.SpecialtyDerivedCode,
spec.SpecialtyDerivedDescription,
case
    when (adm.AdmissionMethodDerivedCode like '2%'
        or (adm.AdmissionMethodDerivedCode = '81' and
intm.IntendedManagementDerivedCode = '8')) then 'Emergency'
    when adm.AdmissionMethodDerivedCode like '1%' then 'Elective'
    else 'Other'
end,
case
    when dis.DischargeMethodDerivedCode in ('4','5') then 'Death'
    else 'Other'
end

--

INSERT INTO #ClinCodMonth

select
CalendarMonthNo EpEndMonth,
Org.OrganisationSubmittedProviderCode as ProviderCode,
Org.OrganisationSubmittedProviderDescription as ProviderName,
Org.OrganisationSubmittedCode as HospitalCode,
Org.OrganisationSubmittedDescription as HospitalName,
pat.PatientClassSubmittedCode as PatientClass,
spec.SpecialtyDerivedCode as SpecialtyTreat,
spec.SpecialtyDerivedDescription as SpecialtyDesc,
'AdmMethod' = case
    when (adm.AdmissionMethodDerivedCode like '2%'
        or (adm.AdmissionMethodDerivedCode = '81' and
intm.IntendedManagementDerivedCode = '8')) then 'Emergency'
    when adm.AdmissionMethodDerivedCode like '1%' then 'Elective'
    else 'Other'
end,
'DischMethod' = case
    when dis.DischargeMethodDerivedCode in ('4','5') then 'Death'
    else 'Other'
end,
'Valid_Primary_Diag' = SUM(case when diagnosisprimaryvalid = 'Valid' then 1 ELSE 0
END),
'TotalRecs' = SUM(EpisodeCount)

FROM dw.fact.APCEpisode fact

JOIN dw.dim.Organisation Org on
fact.TreatmentSiteOrganisationKey = Org.OrganisationKey

JOIN dw.dim.[Date] epienddate on
epienddate.DateKey = fact.EpisodeEndDateKey

JOIN dw.dim.RecordType rec on
rec.RecordTypeKey = fact.RecordTypeKey

```



```

JOIN dw.dim.Diagnosis diag on
diag.DiagnosisKey = fact.Diagnosis01Key

JOIN dw.dim.PatientClass pat on
pat.PatientClassKey = fact.PatientClassKey

JOIN dw.dim.Specialty spec on
spec.SpecialtyKey = fact.TreatmentSpecialtyKey

JOIN dw.dim.AdmissionMethod adm on
adm.AdmissionMethodKey = fact.AdmissionMethodKey

JOIN dw.dim.DischargeMethod dis on
dis.DischargeMethodKey = fact.DischargeMethodKey

JOIN dw.dim.IntendedManagement intm on
intm.IntendedManagementKey = fact.IntendedManagementKey

where
    epienddate.FinancialYear >= '2010'
    AND epienddate.MonthOffset <= CASE WHEN datepart(day,getdate()) <= 17 THEN -2
ELSE -1 END
    and rec.RecordTypeDerivedCode <> '33'
    and (left(OrganisationSubmittedProviderCode,1) = '7'
        or OrganisationSubmittedProviderCode = 'RQF')

Group by
CalendarMonthNo,
DATEADD(month, DATEDIFF(month, 0, date), 0),
Org.OrganisationSubmittedProviderCode,
Org.OrganisationSubmittedProviderDescription,
Org.OrganisationSubmittedCode,
Org.OrganisationSubmittedDescription,
pat.PatientClassSubmittedCode,
spec.SpecialtyDerivedCode,
spec.SpecialtyDerivedDescription,
case
    when (adm.AdmissionMethodDerivedCode like '2%'
        or (adm.AdmissionMethodDerivedCode = '81' and
intm.IntendedManagementDerivedCode = '8')) then 'Emergency'
    when adm.AdmissionMethodDerivedCode like '1%' then 'Elective'
    else 'Other'
end,
case
    when dis.DischargeMethodDerivedCode in ('4','5') then 'Death'
    else 'Other'
end

-- Rolling 12 months

Select a.EpEndMonth,
b.ProviderCode,
b.ProviderName,
b.HospitalCode,
b.HospitalName,
b.PatientClass,
b.SpecialtyTreat,
b.SpecialtyDesc,
b.AdmMethod,
b.DischMethod,
SUM(b.Valid_Primary_Diag) Valid_Primary_Diag,
SUM(b.TotalRecs) TotalRecs

```

```

into #ClinCodRolling

from

(Select distinct EpEndMonth
from #ClinCodMonth) a

join #ClinCodMonth b on
b.EpEndMonth between
CASE WHEN RIGHT(a.EpEndMonth,2) = '12' THEN CAST(LEFT(a.EpEndMonth,4) AS
VARCHAR)+'01'
ELSE CAST(LEFT(a.EpEndMonth,4)-1 AS VARCHAR)+RIGHT('0'+CAST(RIGHT(a.EpEndMonth,2)+1
AS VARCHAR),2)
END and a.EpEndMonth

where 1=2

Group by a.EpEndMonth,
b.ProviderCode,
b.ProviderName,
b.HospitalCode,
b.HospitalName,
b.PatientClass,
b.SpecialtyTreat,
b.SpecialtyDesc,
b.AdmMethod,
b.DischMethod

Insert into #ClinCodRolling

Select a.EpEndMonth,
b.ProviderCode,
b.ProviderName,
b.HospitalCode,
b.HospitalName,
b.PatientClass,
b.SpecialtyTreat,
b.SpecialtyDesc,
b.AdmMethod,
b.DischMethod,
SUM(b.Valid_Primary_Diag),
SUM(b.TotalRecs)

from

(Select distinct EpEndMonth
from #ClinCodMonth) a

join #ClinCodMonth b on
b.EpEndMonth between
CASE WHEN RIGHT(a.EpEndMonth,2) = '12' THEN CAST(LEFT(a.EpEndMonth,4) AS
VARCHAR)+'01'
ELSE CAST(LEFT(a.EpEndMonth,4)-1 AS VARCHAR)+RIGHT('0'+CAST(RIGHT(a.EpEndMonth,2)+1
AS VARCHAR),2)
END and a.EpEndMonth

Group by a.EpEndMonth,
b.ProviderCode,
b.ProviderName,
b.HospitalCode,
b.HospitalName,
b.PatientClass,
b.SpecialtyTreat,
b.SpecialtyDesc,
b.AdmMethod,

```

b.DischMethod

--Insert data in to final table

```
IF EXISTS (SELECT * FROM dw_outputs.dbo.SYSOBJECTS
WHERE NAME = 'PDiagCompletenessFinal')
BEGIN EXEC ('DROP TABLE dw_outputs.app.PDiagCompletenessFinal') END

Select b.ProviderCode, b.ProviderName, b.HospitalCode, b.HospitalName,
b.PatientClass, b.SpecialtyTreat, b.SpecialtyDesc, b.AdmMethod, b.DischMethod,
b.ependmonth Month,
b.TotalRecs TotalRecs_R12, b.Valid_Primary_Diag TotalValidPrimaryDiag_R12,
coalesce(a.TotalRecs,0) TotalRecs, coalesce(a.Valid_Primary_Diag,0)
TotalValidPrimaryDiag

into dw_outputs.app.PDiagCompletenessFinal

from #ClinCodMonth a

full outer join #ClinCodRolling b on
coalesce(a.ProviderCode,'x') = coalesce(b.ProviderCode,'x') and
coalesce(a.HospitalCode,'x') = coalesce(b.HospitalCode,'x') and
coalesce(a.PatientClass,'x') = coalesce(b.PatientClass,'x') and
coalesce(a.SpecialtyTreat,'x') = coalesce(b.SpecialtyTreat,'x') and
coalesce(a.AdmMethod,'x') = coalesce(b.AdmMethod,'x') and
coalesce(a.DischMethod,'x') = coalesce(b.DischMethod,'x') and
a.ependmonth = b.ependmonth

where b.ependmonth <= cast(datepart(year,DATEADD(mm, -1+1, DATEADD(dd, -1,
DATEADD(mm, DATEDIFF(mm,0,GETDATE()), 0)) )) as char(4))+
cast(RIGHT(LTRIM(RTRIM(('0'+cast(datepart(mm,DATEADD(mm, -1+1, DATEADD(dd, -1,
DATEADD(mm, DATEDIFF(mm,0,GETDATE()), 0)) )) as char))),2) as char(2))
and b.ependmonth >= '201104'

drop table #ClinCodMonth
drop table #ClinCodRolling
```