Finding Outpatient Visits in PIT

This document presents one logical approach; it is not study specific. Users should assess whether the code in this document fits their particular need. Please consult with the study PI, Office of Community Care, CREEK, and/or VIReC regarding study-specific questions.

Revision History

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erin Beilstein-Wedel</td>
<td>15March2021</td>
<td>Original</td>
</tr>
</tbody>
</table>

Introduction

This document focuses on identifying claims for outpatient visits (excluding claims for emergency rooms, home health, nursing facilities, outpatient surgeries at ambulatory surgery centers, renal dialysis centers, and laboratory services). Appendix A presents code pairs that may be useful in identifying these other types of care.

In PIT, outpatient visits can be found in both the institutional and professional tables. This separation of data is caused by the claims process, which uses two different claim forms depending on the type of provider submitting the claim.

In the professional claims table, place of service (PoS) codes are used to identify whether a service was rendered in an outpatient setting. In the institutional claims tables, type of bill codes (ToB) are used to identify outpatient services received at a facility (e.g. hospital, rural health clinic). The outpatient indicating values of both code types are listed in Table 1.

- **Type of Bill**: Four-digit code that identifies the location (e.g., hospital, clinic) and type of bill (e.g., outpatient, ambulatory surgery center). This field can be found on PIT.PITInstitutionalClaim. A full breakdown of ToB codes can be found [here](#).
- **Place of Service**: Two-digit codes representing the setting care was received in. This field can be found on the PIT.PITProfessionalClaimDetails. A full breakdown of PoS codes can be found [here](#). A list of values found in PIT and associated descriptions can be found in CDNWork.NDim.PITPlaceOfService.

To identify outpatient claims in the Institutional tables, the query presented in this document relies on the type of bill variable (values starting with 13x, 14x, 43x, 71x, 72x, 73x, 74x, 75x, 76x, 77x, 83x, 84x, 85x, 86x, 89x). This list of ToB values was gleaned from [ResDAC documentation](#) and correspondence with VIReC. Although the Institutional tables in PIT have a PoS field, using it to identify outpatient visits is unreliable because it is not a required field. For Institutional claims with an outpatient ToB, there is high agreement between the ToB and PoS fields (Table 2).

Outpatient claims in the Professional tables can be found using PoS values 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 17, 18, 19, 22, 24, 26, 49, 50, 52, 53, 55, 56, 57, 62, 71, and 72. Additionally, PoS values 10, 27, 28, 29, 30, 35, 36, 37, 38, 39, 40, 43, 44, 45, 46, 47, 48, 59, 63, 64, 99 are unassigned, and the CPTs on the claim
can be compared against BETOS (v1 or v2) categories to classify the claim as outpatient or other. For example, laboratory services are identified with codes T1A-T1H in BETOS v1 and TA-TX in BETOS v2.

### Table 1. Outpatient Code Values

<table>
<thead>
<tr>
<th>Code Type</th>
<th>Inpatient-related Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Bill</td>
<td>13x, 14x, 43x, 71x, 72x, 73x, 74x, 75x, 76x, 77x, 83x, 84x, 85x, 86x, 89x</td>
</tr>
<tr>
<td>Place of Service</td>
<td>2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 17, 18, 19, 22, 24, 26, 49, 50, 52, 53, 55, 56, 57, 62, 71, 72</td>
</tr>
</tbody>
</table>

TOB values of 86x and 89x are also used to indicate long term care. ToB value 85x can also indicate inpatient care.

### Table 2. Breakdown of PoS categories for Institutional Claims with Outpatient ToB

<table>
<thead>
<tr>
<th>PoS Category</th>
<th>N Claims</th>
<th>% Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home health</td>
<td>15178</td>
<td>0.16%</td>
</tr>
<tr>
<td>Inpatient</td>
<td>47471</td>
<td>0.49%</td>
</tr>
<tr>
<td>Laboratory</td>
<td>23207</td>
<td>0.24%</td>
</tr>
<tr>
<td>Outpatient</td>
<td>9616473</td>
<td>98.90%</td>
</tr>
<tr>
<td>Unassigned</td>
<td>10578</td>
<td>0.11%</td>
</tr>
<tr>
<td>Unknown</td>
<td>10170</td>
<td>0.10%</td>
</tr>
</tbody>
</table>

Appendix B contains the code used to generate Table 2.

1. PIT Institutional Claims
   1.1. The first query gets ToB values that indicate outpatient claims. These ToB values, along with a date range will be used to limit the claims pulled from the Institutional tables.

```sql
drop table if exists #outpatient_tob
select *
into #outpatient_tob
from CDWork.NDim.PITBillType
where pitbilltypecode like '[0-9a-z]%' -- bill type codes that only contain letter or numbers
```

1.2. This query pulls institutional claims for outpatient care.
2. PIT Professional Claims

To pull outpatient visits from the Professional claims we use PoS values, which are contained in CDWWork.NDim.PITPlaceofService.

<table>
<thead>
<tr>
<th>Place of Service Code</th>
<th>Place of Service Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Telehealth</td>
</tr>
<tr>
<td>3</td>
<td>School</td>
</tr>
<tr>
<td>4</td>
<td>Homeless Shelter</td>
</tr>
<tr>
<td>5</td>
<td>Indian Health Service Free-standing Facility</td>
</tr>
<tr>
<td>6</td>
<td>Indian Health Service Provider-based Facility</td>
</tr>
<tr>
<td>7</td>
<td>Tribal 638 Free-standing Facility</td>
</tr>
</tbody>
</table>
2.1. The first SQL query selects claims from the PIT.PITProfessionalDetails table with an outpatient PoS that fall within a date range of interest.
-- declared variables
DECLARE @startdate DATE = '2018-10-01'
DECLARE @enddate DATE = '2019-10-01'

DROP TABLE IF EXISTS #tmp_professionalclaims

-- PITProfessional
SELECT p.PITClaimSID,
       p.ClaimStatus,
       p.PITpatientSID,
       p.[ServiceFromDate],
       p.[ServiceToDate],
       p.ServiceDate,
       p.PITProfessionalClaimDetailssid,
       p.[IsCurrentFlag],
       p.[PaidAmount],
       p.[PayFlag],
       p.[ModifierCode],
       place.[pitplaceofservice],
       place.[pitplaceofservicecode]
  -- here we keep Unknown/unassigned PoS in case we want to check the CPTs on the claim against BETOS classification codes
  CASE WHEN p.[pitplaceofservicecode] IN
        (2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 17, 18, 19, 22, 24, 26, 49, 50, 52, 53, 55, 56, 57, 62, 71, 72)
       THEN 'Outpatient'
      WHEN p.[pitplaceofservicecode] IS NULL
       OR p.[pitplaceofservicecode] IN
        (10, 27, 28, 29, 30, 35, 36, 37, 38, 39, 40, 43, 44, 45, 46, 47, 48, 59, 63, 64, 99, '')
       THEN 'Unknown'
  END AS setting_type
INTO #tmp_professionalclaims
FROM CDWWORK.PIT.PITProfessionalClaimDetails AS picd
LEFT OUTER JOIN CDWWORK.PIT.PITProfessionalClaims AS ppc ON picd.PITClaimSID = ppc.PITClaimSID
LEFT OUTER JOIN CDWWORK.PIT.PITClaim AS p ON picd.PITClaimSID = p.PITClaimSID
LEFT OUTER JOIN CDWWORK.NDim.PITPlaceOfService AS place ON picd.PITPlaceOfServiceSID = place.PITPlaceOfServiceSID

WHERE
  p.CurrentFlag = 'Y'
  AND p.ClaimStatus = 'accepted'
  AND picd.[isCurrentFlag] = 'Y'
  AND picd.[PayFlag] = 'Y'
  -- Dates of interest
  AND picd.ServiceFromDate >= @startdate
  AND picd.ServiceToDate < @enddate
  AND ISNULL(p.[pitplaceofservicecode], 2) IN
    (2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 17, 18, 19, 22, 24, 26, 49, 50, 52, 53, 55, 56, 57, 62, 71, 72, 10, 27, 28, 29, 30, 35, 36, 37, 38, 39, 40, 43, 44, 45, 46, 47, 48, 59, 63, 64, 99, '')
2.2. If you know you are only interested in claims with an explicit outpatient PoS, then delete records with ‘Unknown’ here.

```sql
-- Keep only Professional claims with Inpatient or Unknown PoS
delete from #tmp_professionalclaims where setting_type = 'Unknown'
```

3. Combining Institutional and Professional Claims

3.1. Identify Professional claims that overlap with Institutional claims.

Using MemberID (SSN) from the SVeteran.PITPatient table, we can identify which Professional claims fall within the date range on the Institutional outpatient claims.

```sql
-- combining institutional claims with professional claims via MemberID where servicefromdate falls between statementfromdate and statemenetodate
drop table if exists #Combined_inpatient
with prof as(
  select p.*, pat.MemberID
  from #tmp_professionalclaims as p
  inner join CDWork.SVeteran.PITPatient as pat
  on p.PITPatientSID=pat.PITPatientSID
)
-- professional claims that overlap with institutional
select distinct
  pat.MemberID,
  pat.PatientICN,
  i.PITClaimSID as institutional_pitclaiimsid,
  p.PITClaimSID as professional_pitclaimSID,
  i.FacilityType,
  i.PITBillTypeCode,
  i.StatementFromDate,
  i.StatementToDate,
  i.AdmissionDate,
  p.ServiceFromDate,
  p.ServiceToDate,
  p.PITPlaceOfServiceCode,
  p.setting_type
into #Combined_inpatient
from #inst_outpatient as i
inner join CDWork.SVeteran.PITPatient as pat on
  i.PITPatientSID=pat.PITPatientSID
left outer join prof as p on pat.MemberID=p.MemberID and p.servicefromdate >=
  i.StatementFromDate and p.servicefromdate <= i.StatementToDate
```

3.2. Identify Professional claims that do not overlap with any institutional claims.
3.3. Counts of outpatient claim records from the Institutional and Professional tables.

```sql
-- Professional claims that do not overlap in date with Institutional claims
create clustered columnstore index cci_claimid on #tmp_professionalclaims

drop table if exists #professional_only_outpatient
select
  p.*, pat.MemberID
into #professional_only_outpatient
from #tmp_professionalclaims as p
inner join CDWWork.SVeteran.PITPatient as pat on
  p.PITPatientSID=pat.PITPatientSID
left outer join #Combined_inpatient as has_match on
  p.PITClaimSID=has_match.professional_pitclaimSID
where has_match.professional_pitclaimSID is null

-- 1,641,938 institutional outpatient claims
select
  count(distinct institutional_pitclaimsid) as n_institutional
from #Combined_inpatient

-- 1,014,989 institutional claims that have an overlapping professional outpatient claim
select
  count(distinct institutional_pitclaimsid) as n_institutional_w_professional
from #Combined_inpatient
where professional_pitclaimSID is not null

-- 10,839,957 professional claim match to an institutional
select
  count(distinct pitclaimSID) as n_only_prof
from #professional_only_outpatient
```

Appendix A

A list of ToB and PoS code sets for other potential types of inpatient stays is presented below. They are a place to start and have not been tested; please contact VIReC and/or a program office and use your best judgement before wholesale applying them.

<table>
<thead>
<tr>
<th>Type of Care</th>
<th>Type of Bill codes</th>
<th>Place of Service code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Room</td>
<td>PITBillTypeCode, FacilityType, BillClassification, ClassificationType, PITBillTypeFrequency</td>
<td>20,23</td>
</tr>
<tr>
<td></td>
<td>from cdwwork.NDim.PITBillType where len(pitbilltypecode) = 3 and PITBillTypeCode like '1[3]%'</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ResDAC recommends using revenue codes VIReC has a list of ER related CPT codes</td>
<td></td>
</tr>
<tr>
<td>Home Health</td>
<td>select distinct PITBillTypeCode, FacilityType</td>
<td>12</td>
</tr>
<tr>
<td>Facility Type</td>
<td>SQL</td>
<td>Line</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Laboratory Services</td>
<td><code>select distinct PITBillTypeCode, FacilityType, BillClassification, ClassificationType, PITBillTypeFrequency</code> from cdwwork.NDim.PITBillType where len(pitbilltypecode) = 3 and (PITBillTypeCode like '14[a-z]%' or BillClassification like '%laboratory%')`</td>
<td>81</td>
</tr>
<tr>
<td>Ambulatory Surgical Center</td>
<td><code>select distinct PITBillTypeCode, FacilityType, BillClassification, ClassificationType, PITBillTypeFrequency</code> from cdwwork.NDim.PITBillType where len(pitbilltypecode) = 3 and PITBillTypeCode like '83%'</td>
<td>24</td>
</tr>
<tr>
<td>Renal Dialysis</td>
<td><code>select distinct PITBillTypeCode, FacilityType, BillClassification, ClassificationType, PITBillTypeFrequency</code> from cdwwork.NDim.PITBillType where len(pitbilltypecode) = 3 and PITBillTypeCode like '72%'</td>
<td>65</td>
</tr>
</tbody>
</table>

Appendix B

/****************************INSTITUTIONAL CLAIMS FOR FY18***************************/

```sql
declare @startdate date = '2018-10-01'
declare @enddate date = '2019-10-01'

drop table if exists #instclaim
select distinct claim.PITClaimSID, claim.[PITInstitutionalClaimSID], claim.StatementFromDate, claim.StatementToDate, claim.DRGNumber, tob.FacilityType, tob.pitbilltypecode, tob.pitbilltypefrequency
```

8
, tob.BillClassification,
, pit.ClaimID, claim.PITPatientSID,
, pos.PITPlaceOfBirthCode, pos.PITPlaceOfBirthService,
, case when pos.pitplaceofservicecode in (2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 17, 18, 19, 22, 24, 26, 49, 50, 52, 53, 55, 56, 57, 62, 71, 72) then 'Outpatient'
    when pos.pitplaceofservicecode is null or pitplaceofservicecode in (10, 17, 18, 19, 22, 24, 26, 49, 50, 52, 53, 55, 56, 57, 62, 71, 72) then 'Unknown'
    when pos.PITPlaceOfBirthCode in (20, 53) then 'Emergency Room'
    when pos.PITPlaceOfBirthCode in (21, 31, 32, 33, 34, 51, 54, 55, 56, 61) then 'Service During Facility Stay'
    when pos.PITPlaceOfBirthCode in (12, 13, 14, 16) then 'Home health'
    when pos.PITPlaceOfBirthCode = 81 then 'Laboratory'
end as PoS_setting_type
into #instclaim
from cdwwork.pit.PITInstitutionalClaim as claim
-- Getting TOB
left outer join CDWork.NDim.PITBillType as tob on claim.PITBillTypeID=tob.PITBillTypeID
left outer join CDWork.NDim.PITPlaceOfBirth as pos on claim.PITPlaceOfBirthSID=pos.PITPlaceOfBirthSID
inner join cdwwork.pit.pitclaim as pit on claim.pitclaimsid=pit.pitclaimsid
where
    claim.StatementFromDate >= @startdate
and claim.StatementFromDate < @enddate
and claim.CurrentFlag = 'Y'
and pit.claimstatus='Accepted'
and pit.currentflag='Y'

/************************************************************
Table 2. EXAMINING ALIGNMENT BETWEEN TOB VALUES AND PLACE OF SERVICE CODES ON INSTITUTIONAL CLAIMS
/*************************************************************/
select BillClassification, substring(pitbilltypecode,1,2) as fac_type, PoS_setting_type, PITPlaceOfBirthCode, sourceentity, sourcesystem, count(pitclaimsid) as n
from #instclaim
where substring(pitbilltypecode,1,2) in (13, 14, 15, 16, 17, 18, 19, 22, 24, 26, 49, 50, 52, 54, 55, 56, 57, 62, 71, 72)
    and (BillClassification not like '%Ambulatory Surgery Center%' and BillClassification not like '%Laboratory%')
and PITPlaceOfBirthCode <> 23
group by BillClassification, substring(pitbilltypecode,1,2), PoS_setting_type, PITPlaceOfBirthCode, sourceentity, sourcesystem
order by substring(pitbilltypecode,1,2), BillClassification, PoS_setting_type