**TITLE: ED Visits Analysis**

**PREPARED BY: Nan Zhang**

**REVIEWED BY: Nik Tchopev**

**DATE: January 18, 2017**

# Executive Summary

**Purpose**: Using paid claim data to find out the members with high frequency Non-Emergent outpatient ED visits in all LOBs , and then to understand the status and distribution of utilization usage for those members. LOBs leaders and project managers can make business decision on this analysis, in order to improve members’ health condition and also effectively manage the utilization resource.

**Data Selection**: The analysis includes XXX Non-emergent ED visits for active XXX members found though CPHiT ED category from 20150901 to 20160831 for all LOBs [i.e., EHP, PP, USFHP, and Advantage MD (MA)]. This time frame represents a year-long period, after allowing for 3 months claims run out. The data pull date was 1/2/2017. ACG data from the experience period ending in the month prior to the ED visit are used to describe the characteristics of non-emergent ED users. ED visits cost is calculated from paid claims including institutional and professional fee. All claim and member data are from tables in the DWBI new data warehouse.

**Methods:** This reports has 2 parts analysis. First part for how to obtain Non-Emergent ED visits is omitted. This part has fully description in the previous ED visits report. This analysis is focus on the second part for analyzing 18+ Non-Emergent ED visits in ANNE ARUNDEL, BALTIMORE and BALTIMORE CITY counties for all LOBs.

In the second part analysis, frequency tables are used to summarize high frequency Non-emergent ED visits by zip code, attributed PCP site, venders and diagnosis code. These tables clearly show the distribution by those factors for those members. The PMPM and total cost tables represent the cost status of Non-Emergent ED visits members and high frequency Non-Emergent ED visits members in 3 counties. Finally, reducing 10%, 25%, 50% PMPM (i.e., through management of conditions or redirection of members to the appropriate care setting) could potentially lead to cost savings.

**Results:** The results are listed below.

Table 1 Distribution of Non-Emergent ED visits by times in ANNE ARUNDEL, BALTIMORE and BALTIMORE CITY counties ( 3 counties)

| **ED visit times1** | **Member Count** | **Percent** |
| --- | --- | --- |
| **1-5 ED visits** |  |  |
| **6-10 ED visits** |  |  |
| **11-15 ED visits** |  |  |
| **16-20 ED visits2** |  |  |
| **20+ ED visits** |  |  |
| **Total Non-Emergent ED visits** |  |  |

1: The total number of outpatient ED visits (excluding urgent care) is XXX during the 09/01/2015 to 08/31/2016 period for all LOBs. The corresponding number of member is XXX. The total number of Non-Emergent ED visits is XXX corresponding to XXX members. In the ANNE ARUNDEL, BALTIMORE and BALTIMORE CITY counties, there are XXX Non-Emergent ED visits corresponding to XXX members.

2: The target sample size is around 500 members in the following analysis.

Table 21. Distribution of over-18+ Non-ED visits members by LOB and member county

| **LOB2** | **Member County3** | | |
| --- | --- | --- | --- |
| **ANNE ARUNDEL N (%)** | **BALTIMORE CITY**  **N (%)** | **Total** |
| **MA** |  |  |  |
| **PP** |  |  |  |
| **Total** |  |  |  |

1: The number of member who has over 18+ Non-ED visits is XXX (corresponding to XXX ED visits).This table is break-down for the members with over 18 Non-ED visits in ANNE ARUNDEL, BALTIMORE and BALTIMORE CITY counties.

2: No members with over 18 Non-ED visits are in EHP and USFHP.

3: No members with over 18 Non-ED visits are in BALTIMORE County.

Table 3 Frequency table of 18+ -Non-Emergent ED visits members by Zip code in 3 counties

| **LOB2** | **Member County** | **Zip code** | **Frequency Count** |
| --- | --- | --- | --- |
| MA | ANNE ARUNDEL |  |  |
|  |  |
| PP | ANNE ARUNDEL |  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  | ANNE ARUNDEL |  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
| BALTIMORE CITY |  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1:”.” and 99999 means the missing zip code. XXX out of XXX members can’t find the zip code information in LOB PP.

2. No members with 18+ Non Emergent ED visits in USFHP and EHP during the time period.

Table4 Frequency table of 18+ -Non-Emergent ED visits members by PCP group in 3 counties

| **LOB2** | **Member County** | **Attributed PCP Group Number** | **Attributed PCP Group Name** | **Frequency Count** |
| --- | --- | --- | --- | --- |
| MA | ANNE ARUNDEL |  |  |  |
|  |  |  |
| PP | ANNE ARUNDEL |  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| BALTIMORE CITY |  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

1: The missing value. In LOB MA, 1 out of 2members can’t find the PCP information. In LOB PP, 2 out of XXX members can’t find the PCP information.

2. No members with 18+ Non Emergent ED visits in USFHP and EHP during the time period.

Table 5. Frequency table of 18+ -Non-Emergent ED visits members by Vendor name in 3 counties

| **LOB** | **Member County** | **Vendor Name** | **Frequency Count** |
| --- | --- | --- | --- |
| MA | ANNE ARUNDEL |  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
| PP | ANNE ARUNDEL |  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |  |  |
|  |  |
|  |  |
|  |  |
| BALTIMORE CITY |  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |  |  |
|  |  |
|  |  |
|  |  |

Table6 The top 5 high frequency of the first primary diagnosis for 18+ Non-ED Visits members by LOB and county

| **LOB** | **Member County** | **ED Visits** | **Member Count** | **Diagnosis 1 Code** | **Diagnosis 1 Description** |
| --- | --- | --- | --- | --- | --- |
| MA | ANNE ARUNDEL |  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| PP | ANNE ARUNDEL |  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| BALTIMORE CITY |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Table7 The highest frequency of the second, third and fourth primary diagnosis by LOB and county

| **Diagnosis** | | **MA** | **PP** | |
| --- | --- | --- | --- | --- |
| **ANNE ARUNDEL** | **ANNE ARUNDEL** | **BALTIMORE CITY** |
| **Diagnosis 2** | **Code** |  |  |  |
| **Description** |  |  |  |
|  | **ED Visits** |  |  |  |
|  | **Member Count** |  |  |  |
| **Diagnosis 3** | **Code** |  |  |  |
|  | **Description** |  |  |  |
|  | **ED Visits** |  |  |  |
|  | **Member Count** |  |  |  |
| **Diagnosis 4** | **Code** |  |  |  |
|  | **Description** |  |  |  |
|  | **ED Visits** |  |  |  |
|  | **Member Count** |  |  |  |

Table 8 PMPM and ED/1000 for all Non-Emergent ED visit members

| **LOB** | **Member County** | **Non Emergent ED Visits PMPM** | **Non Emergent ED/1000** |
| --- | --- | --- | --- |
| EHP | EHP DEFAULT2 |  |  |
| MA | ANNE ARUNDEL |  |  |
| BALTIMORE |  |  |
| BALTIMORE CITY |  |  |
| CALVERT |  |  |
| CARROLL |  |  |
| HOWARD |  |  |
| MONTGOMERY |  |  |
| SOMERSET |  |  |
| WASHINGTON |  |  |
| WICOMICO |  |  |
| WORCESTER |  |  |
| PP | ALLEGANY |  |  |
| ANNE ARUNDEL |  |  |
| BALTIMORE CITY |  |  |
| BALTIMORE COUNTY |  |  |
| CALVERT |  |  |
| CAROLINE |  |  |
| CARROLL |  |  |
| CECIL |  |  |
| CHARLES |  |  |
| DORCHESTER |  |  |
| FREDERICK |  |  |
| GARRETT |  |  |
| HARFORD |  |  |
| HOWARD |  |  |
| KENT |  |  |
| MONTGOMERY |  |  |
| OUT OF STATE |  |  |
| PRINCE GEORGES |  |  |
| QUEEN ANNE'S |  |  |
| SOMERSET |  |  |
| ST. MARY'S |  |  |
|  | TALBOT |  |  |
| WASHINGTON |  |  |
| WICOMICO |  |  |
| WORCESTER |  |  |
| USFHP | ---1 |  |  |

1: no county information for members in USFHP and EHP.

Table 9 PMPM and ED/1000 for 18+ -Non-Emergent ED visits members

| **LOB1** | **Member County** | **18+ ED Visits PMPM** | **18+ ED Visits /1000** |
| --- | --- | --- | --- |
| MA | ANNE ARUNDEL |  |  |
| PP | ANNE ARUNDEL |  |  |
| BALTIMORE CITY |  |  |

1: No members with 18+ Non Emergent ED visits in USFHP and EHP during the time period.

Table 10 PMPM and Saving by ED visits time for Non-Emergent ED visit in 3 counties

| **LOB** | **Member County** | **PMPM** | | | | | | **Saving of reducing difference between 18+ and overall PMPM** | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **3+** | **5+** | **10+** | **15+** | **18+** | **Overall** | **10%** | **25%** | **50%** |
| MA | ANNE ARUNDEL |  |  |  |  |  |  |  |  |  |
| MA | BALTIMORE |  |  |  |  |  |  |  |  |  |
| MA | BALTIMORE CITY |  |  |  |  |  |  |  |  |  |
| PP | ANNE ARUNDEL |  |  |  |  |  |  |  |  |  |
| PP | BALTIMORE CITY |  |  |  |  |  |  |  |  |  |
| Total Cost Saving1 | |  | | | | | |  |  |  |

1: Total Cost Saving = ( PMPM–overall PMPM)×n%×avg(months)×#mems

Table 11 Distribution of 18+ Non-Emergent ED visits members with high and very high RUB by county and LOB

| **High Resource Band distribution(RUB) by county and LOB** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Member County** | | | | | |
| **LOB** | | **ANNE ARUNDEL**  **N (%)** | **BALTIMORE CITY**  **N (%)** | **Total Member** | **Total**  **Visits** | **Total**  **Cost** | **Saving for 30% reduction of 18+ ED Visits** |
| **MA** | **Member count1** |  |  |  |  |  |  |
| **ED Visits count2** |  |  |  |
| **Cost by county and LOB3** |  |  |  |
| **PP** | **Member count** |  |  |  |  |  |  |
| **ED Visits count** |  |  |  |
| **Cost by county and LOB3** |  |  |  |

1: The number of unique members by LOB and county

2: The number of ED visits by LOB and county

3: The total cost of ED visits by LOB and county