Kuwait Health Network

Summary (All Clinics) Report

** The data used in this report is anonymised/scrambled KHN data **

Date: Saturday 22nd February, 2014
Author: Data Science Team, Aridhia Informatics
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Summary

Number of registered patients with diabetes is: **4,821**

- **Patient Demographics:**

<table>
<thead>
<tr>
<th>Breakdown by Type of Diabetes</th>
<th>Previous*</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>1.9% (89)</td>
<td>1.8% (87)</td>
</tr>
<tr>
<td>Type 2</td>
<td>97.8% (4,572)</td>
<td>97.9% (4,718)</td>
</tr>
<tr>
<td>Other Type</td>
<td>0.34% (16)</td>
<td>0.33% (16)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Breakdown by Gender</th>
<th>Previous*</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>53.2% (2,490)</td>
<td>55.4% (2,672)</td>
</tr>
<tr>
<td>Female</td>
<td>46.8% (2,187)</td>
<td>44.6% (2,149)</td>
</tr>
<tr>
<td>Unknown or not recorded</td>
<td>0% (0)</td>
<td>0% (0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Breakdown by Nationality</th>
<th>Previous*</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kuwaiti</td>
<td>44.2% (2,066)</td>
<td>44% (2,122)</td>
</tr>
<tr>
<td>Non Kuwaiti</td>
<td>53.5% (2,503)</td>
<td>53.7% (2,591)</td>
</tr>
<tr>
<td>Unknown, other or not recorded</td>
<td>2.3% (108)</td>
<td>2.2% (108)</td>
</tr>
</tbody>
</table>

- **Patients with a clinical outcome recorded in the past 15 months:**

<table>
<thead>
<tr>
<th>Clinical Outcome</th>
<th>Previous*</th>
<th>Current</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI</td>
<td>39.9% (1,868)</td>
<td>28.5% (1,373)</td>
<td>↓</td>
</tr>
<tr>
<td>BP</td>
<td>51.3% (2,397)</td>
<td>33.3% (1,607)</td>
<td>↓</td>
</tr>
<tr>
<td>HbA1c</td>
<td>61.9% (2,897)</td>
<td>57.5% (2,770)</td>
<td>↓</td>
</tr>
<tr>
<td>Total Cholesterol</td>
<td>37.5% (1,753)</td>
<td>35.8% (1,728)</td>
<td>↓</td>
</tr>
<tr>
<td>LDL Cholesterol</td>
<td>35.9% (1,677)</td>
<td>34.3% (1,655)</td>
<td>↓</td>
</tr>
<tr>
<td>eGFR</td>
<td>46.1% (2,156)</td>
<td>44.1% (2,125)</td>
<td>↓</td>
</tr>
<tr>
<td>UACR</td>
<td>2.5% (115)</td>
<td>2.3% (109)</td>
<td>↓</td>
</tr>
<tr>
<td>Smoking Status</td>
<td>74.9% (3,505)</td>
<td>71.8% (3,461)</td>
<td>↓</td>
</tr>
<tr>
<td>Alcohol</td>
<td>31.9% (1,494)</td>
<td>30.5% (1,471)</td>
<td>↓</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>9% (422)</td>
<td>9.1% (438)</td>
<td>↓</td>
</tr>
</tbody>
</table>

* Current date is 22-Feb-2014; Previous date is 22-Aug-2013 (ie. 6 months prior to Current)
Chapter 1

Patient Demographic and Clinical Outcome Graphs

- The following section shows the breakdown of the patient demographic and clinical outcome metrics
- They are based on most recent data
Figure 1.1: Type 1 Diabetes by Age Group

Patients with Type 1 Diabetes = 1.8% (87)

Figure 1.2: Type 2 Diabetes by Age Group

Patients with Type 2 Diabetes = 97.9% (4,718)
Figure 1.3: Nationality Breakdown

Patients with nationality recorded = 97.8% (4,715)

<table>
<thead>
<tr>
<th>Nationality A</th>
<th>Nationality B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>Type 1</td>
</tr>
<tr>
<td>1.5% (72)</td>
<td>0.3% (12)</td>
</tr>
<tr>
<td>Type 2</td>
<td>Type 2</td>
</tr>
<tr>
<td>43.4% (2039)</td>
<td>54.8% (2576)</td>
</tr>
</tbody>
</table>

Figure 1.4: Gender Breakdown

Patients with gender recorded = 100% (4,821)

<table>
<thead>
<tr>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>Type 1</td>
</tr>
<tr>
<td>0.6% (31)</td>
<td>1.2% (56)</td>
</tr>
<tr>
<td>Type 2</td>
<td>Type 2</td>
</tr>
<tr>
<td>44% (2114)</td>
<td>54.2% (2604)</td>
</tr>
</tbody>
</table>
Figure 1.5: Body Mass Index

Patients with BMI recorded = 28.5% (1,373)

- Underweight (BMI < 18.5): 0.8% (11)
- Healthy (BMI 18.5 < 25): 25% (343)
- Overweight (BMI 25 < 30): 43% (590)
- Obese (BMI 30 < 40): 28.2% (387)
- Morbid Obese (BMI 40+): 3.1% (42)

Figure 1.6: Blood Pressure

Patients with blood pressure recorded = 33.3% (1,607)

- Normotensive (< 130/80): 37.8% (608)
- Hypertensive (>= 130/80): 62.2% (999)

Normotensive is defined as patients with a systolic BP < 130 and diastolic BP < 80
Hypertensive is defined as patients with a systolic BP >= 130 or diastolic BP >= 80
Figure 1.7: HbA1c Categories

Patients with HbA1c recorded = 57.5% (2,770)

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target (&lt; 7%)</td>
<td>39.6%</td>
<td>1096</td>
</tr>
<tr>
<td>Moderate (7% &lt; 9%)</td>
<td>43.7%</td>
<td>1211</td>
</tr>
<tr>
<td>High (9% &lt; 10%)</td>
<td>8.7%</td>
<td>240</td>
</tr>
<tr>
<td>High+ (10% &lt; 11%)</td>
<td>3.9%</td>
<td>109</td>
</tr>
<tr>
<td>High++ (11% &lt; 12%)</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>High+++ (12% &lt; 13%)</td>
<td>1.3%</td>
<td>37</td>
</tr>
<tr>
<td>High++++ (&gt;=13%)</td>
<td>2.8%</td>
<td>77</td>
</tr>
</tbody>
</table>

Patients with total cholesterol recorded = 35.8% (1,728)

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target (&lt; 5.2 mmol/L)</td>
<td>87.2%</td>
<td>1506</td>
</tr>
<tr>
<td>High (&gt;= 5.2 mmol/L)</td>
<td>12.8%</td>
<td>222</td>
</tr>
</tbody>
</table>

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Figure 1.9: LDL Cholesterol

Patients with LDL cholesterol recorded = 34.3% (1,655)

- Ideal* (< 1.8)
- Ideal (1.8 < 2.6)
- Near Ideal (2.6 < 3.4)
- Borderline High (3.4 < 4.1)
- High (4.1 < 4.9)
- Very High (>=4.9)

* Ideal for those at very high risk of heart disease

Figure 1.10: Estimated Glomerular Filtration Rate (eGFR)

Patients with eGFR recorded = 44.1% (2,125)

- Target (eGFR >=60)
- Moderate (eGFR 30 < 60)
- High (eGFR <30 )
Figure 1.11: Urine Albumin Creatinine Ratio (UACR)

Patients with UACR recorded = 2.3% (109)

- Normal (0.9% (1))
- Microalbuminuria (39.4% (43))
- Proteinuria (59.6% (65))

Normal is defined as Males with a UACR < 2.5 or Females with a UACR < 3.5.
Microalbuminuria is defined as Males with a UACR 2.5-30 or Females with a UACR 3.5-30.
Proteinuria is defined as patients with a UACR > 30.

Figure 1.12: Smoking

Patients with smoking status recorded = 71.8% (3,461)

- Smoker–No (80.2% (2775))
- Smoker–Previous (5.7% (199))
- Smoker–Yes (14.1% (487))

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Figure 1.13: Alcohol

Patients with Alcohol recorded = 30.5% (1,471)

97.6% (1,435) 2.4% (36)
Alcohol – No Alcohol – Yes

Figure 1.14: Physical Activity

Patients with Physical Activity recorded = 9.1% (438)

0.2% (1) 11.9% (52) 50.9% (223) 37% (162)
Strenuous Moderate Light Sedentary
Chapter 2

Clinical Outcomes Over Time

- The following section shows the breakdown over time, of each Clinical Outcome
- It currently shows the 3 key measurements: Blood Pressure, Body Mass Index, HbA1c
- Each data point is the percentage of patients having a recorded measurement within the last 15 months
- Each plot has a dotted line representing the median value based on the most recent 15 data points
Figure 2.1: Blood Pressure Over Time

**BP Recorded**

**Hypertensive**

**Normotensive**
Figure 2.2: HbA1c Over Time

**HbA1c Recorded**

- Apr 2013: 60%
- Jul 2013: 70%
- Oct 2013: 80%
- Jan 2014: 60%

**Target HbA1c**

- Apr 2013: 30%
- Jul 2013: 35%
- Oct 2013: 40%
- Jan 2014: 45%

**Moderate HbA1c**

- Apr 2013: 40%
- Jul 2013: 42.5%
- Oct 2013: 45%
- Jan 2014: 47.5%

**High HbA1c**

- Apr 2013: 7%
- Jul 2013: 8%
- Oct 2013: 9%
- Jan 2014: 11%
Figure 2.3: BMI Over Time

BMI Recorded

Underweight

Normal

Overweight

Obese

Morbid Obese

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