Kuwait Health Network

Summary (Clinic) Report

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

Date: Saturday 22\textsuperscript{nd} February, 2014

Author: Data Science Team, Aridhia Informatics
List of Figures

1.1 Type 1 Diabetes by Age Group .................................................. 4
1.2 Type 2 Diabetes by Age Group .................................................. 4
1.3 Nationality Breakdown ............................................................. 5
1.4 Gender Breakdown ................................................................. 5
1.5 Body Mass Index ................................................................. 6
1.6 Blood Pressure ................................................................. 6
1.7 HbA1c Categories ............................................................... 7
1.8 Total Cholesterol ............................................................... 7
1.9 LDL Cholesterol ............................................................... 8
1.10 Estimated Glomerular Filtration Rate (eGFR) ......................... 8
1.11 Urine Albumin Creatinine Ratio (UACR) .............................. 9
1.12 Smoking ................................................................. 9
1.13 Alcohol ............................................................... 10
1.14 Physical Activity ........................................................... 10

2.1 Blood Pressure Over Time .................................................... 12
2.2 HbA1c Over Time ............................................................ 13
2.3 BMI Over Time ............................................................. 14
Summary

Number of registered patients with diabetes is: 2,006

- 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>1.5% (30)</td>
<td>1.4% (28)</td>
</tr>
<tr>
<td>Type 2</td>
<td>97.8% (1,994)</td>
<td>97.9% (1,964)</td>
</tr>
<tr>
<td>Other Type</td>
<td>0.69% (14)</td>
<td>0.7% (14)</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>55% (1,121)</td>
<td>55.3% (1,110)</td>
</tr>
<tr>
<td>Female</td>
<td>45% (917)</td>
<td>44.7% (896)</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>41.8% (851)</td>
<td>41.3% (829)</td>
</tr>
<tr>
<td>Non Kuwaiti</td>
<td>57.2% (1,166)</td>
<td>57.7% (1,157)</td>
</tr>
<tr>
<td>Unknown, other or not recorded</td>
<td>1% (21)</td>
<td>1% (20)</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>31.2% (636)</td>
<td>30.1% (604)</td>
<td>↓</td>
</tr>
<tr>
<td>BP</td>
<td>44.2% (901)</td>
<td>36.2% (726)</td>
<td>↓</td>
</tr>
<tr>
<td>HbA1c</td>
<td>56.6% (1,153)</td>
<td>52.5% (1,054)</td>
<td>↓</td>
</tr>
<tr>
<td>Total Cholesterol</td>
<td>29% (592)</td>
<td>27.1% (543)</td>
<td>↓</td>
</tr>
<tr>
<td>LDL Cholesterol</td>
<td>27.3% (556)</td>
<td>25.5% (512)</td>
<td>↓</td>
</tr>
<tr>
<td>eGFR</td>
<td>37.4% (762)</td>
<td>34.8% (699)</td>
<td>↓</td>
</tr>
<tr>
<td>UACR</td>
<td>2.5% (50)</td>
<td>2.5% (50)</td>
<td>↓</td>
</tr>
<tr>
<td>Smoking Status</td>
<td>68.8% (1,403)</td>
<td>68.5% (1,375)</td>
<td>↓</td>
</tr>
<tr>
<td>Alcohol</td>
<td>29% (592)</td>
<td>28.6% (573)</td>
<td>↓</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>4.1% (83)</td>
<td>4.3% (86)</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
- The graphs in this section show the national average as a black circle with the 95% confidence interval as a bar either side of the national average. We are 95% confident that the range between the upper and lower limits of each bar will contain the average. Larger numbers give us greater confidence and so the range narrows accordingly. If the graph shows that your clinic's values fall somewhere in the range of the 95% confidence interval, then you can be reasonably confident that your clinic is similar to the national average. Similarly, if your clinic is above or below the 95% confidence range then you can be reasonably confident that your clinic's results are significantly greater than or less than the national average.
Figure 1.1: Type 1 Diabetes by Age Group

Patients with Type 1 Diabetes = 1.4% (28)
National Average is shown by black circles, with 95% CI

Figure 1.2: Type 2 Diabetes by Age Group

Patients with Type 2 Diabetes = 97.9% (1,964)
National Average is shown by black circles, with 95% CI
Figure 1.3: Nationality Breakdown

Patients with nationality recorded = 99.1% (1,987)
National Average is shown by black circles, with 95% CI

- Nationality A
  - Type 1: 1.2% (23)
  - Type 2: 40.3% (796)

- Nationality B
  - Type 1: 0.2% (4)
  - Type 2: 58.3% (1150)

Figure 1.4: Gender Breakdown

Patients with gender recorded = 100% (2,006)
National Average is shown by black circles, with 95% CI

- Female
  - Type 1: 0.3% (6)
  - Type 2: 44.5% (887)

- Male
  - Type 1: 1.1% (22)
  - Type 2: 54.1% (1077)
Figure 1.5: Body Mass Index

Patients with BMI recorded = 30.1% (604)

National Average is shown by black circles, with 95% CI

- Underweight (BMI < 18.5): 1.2% (7)
- Healthy (BMI 18.5 < 25): 26.3% (159)
- Overweight (BMI 25 < 30): 42.2% (255)
- Obese (BMI 30 < 40): 26.7% (161)
- Morbid Obese (BMI 40+): 3.6% (22)

Figure 1.6: Blood Pressure

Patients with blood pressure recorded = 36.2% (726)

National Average is shown by black circles, with 95% CI

- Normotensive (< 130/80): 38.7% (281)
- Hypertensive (>= 130/80): 61.3% (445)

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 = 52.5% (1,054)
National Average is shown by black circles, with 95% CI

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target (&lt; 7%)</td>
<td>38.3%</td>
<td>404</td>
</tr>
<tr>
<td>Moderate (7% &lt; 9%)</td>
<td>44.6%</td>
<td>470</td>
</tr>
<tr>
<td>High (9% &lt; 10%)</td>
<td>8.7%</td>
<td>92</td>
</tr>
<tr>
<td>High+ (10% &lt; 11%)</td>
<td>3.7%</td>
<td>39</td>
</tr>
<tr>
<td>High++ (11% &lt; 12%)</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>High+++ (12% &lt; 13%)</td>
<td>1.6%</td>
<td>17</td>
</tr>
<tr>
<td>High++++ (&gt;=13%)</td>
<td>3%</td>
<td>32</td>
</tr>
</tbody>
</table>

Figure 1.8: Total Cholesterol

Patients with total cholesterol recorded = 27.1% (543)
National Average is shown by black circles, with 95% CI

<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>87.3%</td>
<td>474</td>
</tr>
<tr>
<td>High (&gt;= 5.2 mmol/L)</td>
<td>12.7%</td>
<td>69</td>
</tr>
</tbody>
</table>
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**Figure 1.9: LDL Cholesterol**

Patients with LDL cholesterol recorded = 25.5% (512)

National Average is shown by black circles, with 95% CI

- Ideal* (< 1.8): 28.3% (145)
- Ideal (1.8 < 2.6): 43.9% (225)
- Near Ideal (2.6 < 3.4): 18.8% (96)
- Borderline High (3.4 < 4.1): 6.6% (34)
- High (4.1 < 4.9): 1.6% (8)
- Very High (>=4.9): 0.8% (4)

* ideal for those at very high risk of heart disease

**Figure 1.10: Estimated Glomerular Filtration Rate (eGFR)**

Patients with eGFR recorded = 34.8% (699)

National Average is shown by black circles, with 95% CI

- Target (eGFR >=60): 85.1% (595)
- Moderate (eGFR 30 < 60): 8.7% (61)
- High (eGFR <30): 6.2% (43)
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Figure 1.11: Urine Albumin Creatinine Ratio (UACR)

- Patients with UACR recorded = 2.5% (50)
- National Average is shown by black circles, with 95% CI

- 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 = 68.5% (1,375)
- National Average is shown by black circles, with 95% CI

- Smoker-No
- Smoker-Previous
- Smoker-Yes
Figure 1.13: Alcohol

Patients with Alcohol recorded = 28.6% (573)
National Average is shown by black circles, with 95% CI

Alcohol – No

96.5% (553)

Alcohol – Yes

3.5% (20)

Figure 1.14: Physical Activity

Patients with Physical Activity recorded = 4.3% (86)
National Average is shown by black circles, with 95% CI

Strenuous

Moderate

Light

Sedentary

0% (0)

7% (6)

52.3% (45)

40.7% (35)
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

Target HbA1c

Moderate HbA1c

High HbA1c

percentage of patients

percentage of patients

percentage of patients

percentage of patients


Saturday 22nd February, 2014

13 | Page
Figure 2.3: BMI Over Time

- **BMI Recorded**
- **Underweight**
- **Normal**
- **Overweight**
- **Obese**
- **Morbid Obese**