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How do we monitor inequality?

We can incorporate inequality monitoring into our hospital or clinic’s existing system, whether electronic or manual. The monitoring cycle is shown in Figure 2.

We have already selected the relevant health and social indicators and chosen the subgroups we want to monitor. The next step is to collect the data. If we want to know if there is inequality in who receives cataract surgery, for example, we can begin to record, on a regular basis (e.g. monthly), the number of people in each of our selected subgroups who are receiving surgery.

Figure 2: Cycle of health monitoring

Select relevant health and social indicators
Implement changes
Collect data
Report results
Analyse data

Once we have collected the data, we can calculate, and then compare, the proportion of cataract surgery delivered to each subgroup (e.g. by dividing the number of women by the total number of operations). These figures are often

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presented as percentages (the proportion multiplied by 100). Another simple way to quantify inequality is to calculate the gap between the subgroups (e.g., subtract the number of women from the number of men to see how many more men have received surgery).

This can be done on a monthly, quarterly and annual basis, and inequality calculations can be reported alongside the total number of operations in each subgroup in well-designed tables, graphs and maps. The information can then be communicated to hospital administrators and health managers. A worked example is provided below.

When expanding your monitoring process, try to be realistic about what is feasible and sustainable in your setting. It is better to begin with a small number of indicators (such as uptake of cataract surgery by gender and urban/rural residence) and collect and analyse these accurately and consistently, rather than introducing many measurements that take a lot of time and effort; which means it will become unsustainable. You can expand your monitoring system with more indicators once it is running smoothly.

Monitoring is essential if we are to understand the nature and extent of inequality in the populations we serve. The information must then be used to inform policies, programmes and practices to reduce inequities and ultimately achieve universal eye health.

For more information on monitoring inequality, see WHO’s Health Inequality Monitoring Handbook: http://www.who.int/gho/health_equity/handbook/en/

References

Worked example

Imagine your eye clinic is in an urban centre (population 150,000) that also serves the surrounding rural district (population 350,000). You conduct intermittent outreach services, and would like to conduct more as you think few rural dwellers are coming to your eye clinic.

You begin to monitor who is presenting for cataract surgery. In the first quarter you conduct no outreach trips and your services each quarter to identify further changes that are needed.

Table 1. Tally of cataract operations by gender and area of residence

<table>
<thead>
<tr>
<th>Number of operations</th>
<th>Women</th>
<th>Men</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>4</td>
<td>31</td>
<td>35</td>
</tr>
<tr>
<td>Urban</td>
<td>91</td>
<td>94</td>
<td>185</td>
</tr>
<tr>
<td>Total</td>
<td>95</td>
<td>125</td>
<td>220</td>
</tr>
</tbody>
</table>

You can work out and compare what percentage of the total number of operations were performed on patients belonging to each subgroup, e.g.: • 57% of patients (125 + 220 x 100) were men • 43% of patients (95 + 220 x 100) were women • 84% of patients (195 + 220 x 100) were urban • 16% of patients (35 + 220 x 100) were rural

You can further demonstrate the inequality between women and men, and between rural and urban dwellers, by calculating the absolute gap (subtract the smaller number from the larger number) and the relative gap (divide the larger number by the smaller number).

Table 2. Measures of inequality: absolute gap and relative gap

<table>
<thead>
<tr>
<th></th>
<th>Absolute gap Difference</th>
<th>Relative gap Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Men – Women 125 – 95 = 30</td>
<td>Men ÷ Women 125 ÷ 95 = 1.3</td>
</tr>
<tr>
<td>Place of residence</td>
<td>Urban – Rural 185 – 35 = 150</td>
<td>Urban ÷ Rural 185 ÷ 35 = 5.3</td>
</tr>
</tbody>
</table>

In a report, you would normally include Table 1 (which shows the number of operations in each subgroup) and compare the percentages in each subgroup). In addition, you can use the information about the relative ratio to point out that there were 1.3 times more male than female patients, and 5.3 times more urban than rural patients.

This information alerts you that rural dwellers, and rural women in particular (of whom there were only 4), are not accessing your services as much as their urban counterparts.

You then decide to do more outreach and deliver two outreach activities in the next quarter. The monitoring data for April to June is given in Table 3.

Table 3. Tally of cataract operations after outreach

<table>
<thead>
<tr>
<th></th>
<th>Women</th>
<th>Men</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>35</td>
<td>41</td>
<td>76</td>
</tr>
<tr>
<td>Urban</td>
<td>62</td>
<td>59</td>
<td>121</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100</td>
<td>197</td>
</tr>
</tbody>
</table>

Table 2. Measures of inequality after outreach

<table>
<thead>
<tr>
<th></th>
<th>Absolute gap Difference</th>
<th>Relative gap Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Men – Women 100 – 97 = 3</td>
<td>Men ÷ Women 100 ÷ 97 = 1.0</td>
</tr>
<tr>
<td>Place of residence</td>
<td>Urban – Rural 121 – 76 = 45</td>
<td>Urban ÷ Rural 121 ÷ 76 = 1.6</td>
</tr>
</tbody>
</table>

You might conclude from this that providing outreach services has been effective in reducing both gender and place of residence inequalities. You could use this information to advocate for regular outreach activities and continue to monitor your services each quarter to identify further changes that are needed.