The Economic Burden of Diarrhoeal Disease in the Olifants WMA, SA

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5 July 2011
MY message

1. Why we did it
2. What we did
3. What we found
Dr Seuss’s Horton hears a Who
The study

- Olifants WMA
- Illness – Diarrhoea
- Cost of illness approach
Diarrhoea

WHO (2002) Definition
“Passing of three or more loose stools per 24hr period”
“Any stools passed within that time period containing blood”
• Local & District Municipalities
• Stats SA Community Survey 2007
• Limpopo – 1.8mil
• Mpumalanga – 1.5mil
  • Nr of People – 3.4 mil
Factors

- Age groups – old versus young
  - < 5; 5-14; 15-64; >65

- Water supply and sanitation
  - < RDP water & sanitation supply
  - > RDP water & sanitation supply

- Confounding factors not included (type of housing, education, income)
Cost of illness (COI) approach

- Direct costs
  - Medical treatment costs
  - Transport costs

- In-direct costs *(Done by De Lange and Mahumani)*
  - Opportunity costs

- Pegram et al 1998
- DWAF, 2001
  - Assumptions
Water Supply and Age groups

Water Supply and Sanitation

Nr of People

< RDP

> RDP

< 5 years
5-14 years
>14 -65 years
>65 years
Total

Water Supply and Sanitation

www.csir.co.za
Assumptions

- Incidence rate – 2.5 episodes
  - Wright et al., 2007 – 7.2 episodes
- 8% treated if < RDP W & S
- 5% treated if > RDP w & S
- 50% of local clinic, GP
- 70% of hospital cases – transport costs, rest walked
## Diarrhoea: Incidence and Death

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Diarrhoea in group with &lt; RDP W &amp; S</th>
<th>Diarrhoea in group with &gt;RDP W &amp; S</th>
<th>Diarrhoea deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5</td>
<td>600 798</td>
<td>62 669</td>
<td>3 723</td>
</tr>
<tr>
<td>5 - 14</td>
<td>471 943</td>
<td>61 719</td>
<td>931</td>
</tr>
<tr>
<td>&gt;14 - 65</td>
<td>1 048 693</td>
<td>76 145</td>
<td>2 516</td>
</tr>
<tr>
<td>&gt;65</td>
<td>114 925</td>
<td>10 881</td>
<td>498</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2 225 650</td>
<td>210 728</td>
<td>4 654</td>
</tr>
</tbody>
</table>
## COST

<table>
<thead>
<tr>
<th>Description</th>
<th>&lt; RDP (Low service level) Direct health costs (R3 769)</th>
<th>&gt;RDP (High service level) Direct health costs (R 3 349)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated diarrhoea incidences</td>
<td>2 220 151</td>
<td>210 636</td>
</tr>
<tr>
<td># of cases treated</td>
<td>(8%) 177 612</td>
<td>(5%) 10 532</td>
</tr>
<tr>
<td>Average Treatment costs</td>
<td>R 3 769</td>
<td>R 3 349</td>
</tr>
<tr>
<td>Total Direct Health costs</td>
<td>R 669 419 899</td>
<td>R 35 270 978</td>
</tr>
<tr>
<td><strong>Total Direct Health costs (million)</strong></td>
<td><strong>R 669</strong></td>
<td><strong>R 35</strong></td>
</tr>
</tbody>
</table>
Pollution Prevention is cheaper than Treatment

Providing people with >RDP level water is better than the cost of Diarrhoea
Final Conclusion

A person is a person no matter how small!
Thank You....