OECD/WHO Response
Prepared for Mediclinic
30 August 2016
Outline

- Overview of the OECD report
- Critique of the OECD central thesis
- Critique of the OECD analyses
  - Study design and technical review (PriceMetrics)
  - Additional critique of analyses (Econex)
- Analysis of HASA and Mediclinic data
- Policy discussion
Overview of the OECD report
Aim/motivation of the OECD report

• Comparison of prices and affordability aims to inform the discussions about options to increase access to health services under the NHI (response par. 3.5, 4.1)

• High private hospital prices impact on the public sector’s ability to increase access
Main findings of the OECD report

1. Private health sector prices are unaffordable and expensive when considering: (a) GDP per capita (b) General price level of goods and services (c) The same procedures in OECD countries

2. Price increases are above inflation

3. Main component of private hospital prices are: (a) Hospital costs (b) Specialist fees

4. High and increasing prices cannot be explained by membership increases, but price drivers rather include: (a) High admissions rates (b) Short length of stay
Policy argument of the OECD report

• Private sector sets benchmarks for how much the public sector has to pay to attract specialists to work in the public sector
• Efforts to control prices while ensuring accessibility and quality are needed (NHI)
Critique of the OECD central thesis
Critique of the OECD central thesis

- The OECD incorrectly assumes that market interactions between medical schemes and private providers spill over onto the rest of the health system.
- There is only a spillover effect from private to public sector prices in respect of doctors (specifically specialist services in this context).
- These prices may impact on the cost of specialist services in the public sector but are not determined or influenced by the private hospitals.
- The price of specialist services is determined by the shortage of specialists (demand and supply).
- This shortage is not the result of private hospitals’ prices, but mainly due to lack of training capacity.
Critique of the OECD central thesis

There is no link between the title and aim of the analysis and the conclusions

The price comparisons of procedures in the OECD report have no relation to their policy argument

Prices for these procedures in the public sector are determined via a separate price mechanism (government tender, imports, exchange rate etc)
Critique of the OECD central thesis

The OECD starts its ‘analysis’ with many incorrect assumptions

- The OECD is incorrect in its assumption that only insured people access the private health sector for care
- The OECD is incorrect in its assumption of the distribution of human resources between the public and private sectors
- The OECD proposal of a price control mechanism is flawed. Private hospital prices do not influence public hospital prices as there is no competition between them (mainly due to quality differences)
  - Where the private hospitals do compete for human resources with the state, prices are at times determined by the state (e.g. for nurses), as the general shortage affects everyone equally
  - The correct policy response would be to train more doctors (and nurses), not to artificially control prices

The correct policy response is to provide for competition and doctor training - not artificially set prices
Critique of the OECD analyses
Assessment of methodologies and conclusions

• The objective of the PriceMetrics report was to assess the methodologies used in the OECD report in the context of the report’s conclusions and recommendations.

• The PriceMetrics report concludes:
  – “Our assessment of the authors’ methodologies and data used to reach and justify these claims is that there are a number of flaws and weaknesses in their data and analysis that preclude a valid comparison of the prices charged by hospitals and specialists in South Africa to the price calculations in their sample of OECD countries.”
  – “Their policy recommendations based on their methodologies are consequently invalid.”
General observations on the OECD paper

• Lack of an economic model to explain the policy conclusions:
  – No demand and supply analytical framework
  – No cost analysis
  – No competition analysis
  – No profitability analysis
  – No institutional analysis

• Not recognising the differences between tradable and non-tradable goods in an economy
  – Tradable goods: products traded internationally such as manufactured goods, raw materials and agricultural commodities
  – Non-tradable goods: services, including medical services
Price determination in non-tradable markets

- Differences in price determination between tradable goods and non-tradable goods
- Prices of tradable goods in an economy are influenced mainly by international prices
- Prices in non-tradable goods are determined by domestic demand and supply factors
- Consequently, international price comparisons have limited relevance
Summary of our findings: prices are not comparable

- The calculations of OECD “prices” data used in the report are not comparable to South African market prices:
  - Quasi-prices are not market prices making any comparison invalid
  - The quasi-prices in the OECD sample of countries do not cover the full costs of production such as the cost of capital
  - Prices will be higher in South Africa than OECD countries because of the country’s higher cost of capital
  - Quasi-prices used in the report do not account for informal and sometimes formal co-payments
  - Hospital deficits are not included in quasi-prices leading to under-valuation of quasi-prices
  - Arbitrary and questionable rates of fixed capital consumption in quasi-prices
  - Heterogeneity in product reduces validity of results
Summary of our findings: prices are not comparable

• Possible biases in the survey responses
• Different accounting systems, and measurement problems for quasi-prices reduce the reliability of the price indices
• The wide range of quasi-prices in OECD countries reduces the reliability of the average price level indices used in the comparison with South Africa
• The quasi-prices were not adjusted for quality differences in case type treatments
• The report’s methodology does not account for waiting times for diagnosis and treatment
• Koechlin et al (OECD Health Working Paper No. 75) acknowledge the reliability of the current Eurostat survey results for quasi-prices needs further refinement and accuracy. Not brought out sufficiently in the report
Lack of comparability of SA with OECD countries

% of total expenditure on health:

- South Africa
- Global excluding European Region
- Global
- Western Pacific Region
- Eastern Mediterranean Region
- South-East Asia Region
- Region of the Americas
- African Region
- European Region
- Average OECD countries not in report
- Average OECD countries in report
- Average OECD countries

<table>
<thead>
<tr>
<th>Region</th>
<th>Public sector</th>
<th>Private sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Africa</td>
<td>48,4%</td>
<td>51,6%</td>
</tr>
<tr>
<td>Global excluding European Region</td>
<td>50,3%</td>
<td>49,7%</td>
</tr>
<tr>
<td>Global</td>
<td>42,3%</td>
<td>57,6%</td>
</tr>
<tr>
<td>Western Pacific Region</td>
<td>36,5%</td>
<td>63,5%</td>
</tr>
<tr>
<td>Eastern Mediterranean Region</td>
<td>37,9%</td>
<td>49,3%</td>
</tr>
<tr>
<td>South-East Asia Region</td>
<td>37,9%</td>
<td>62,1%</td>
</tr>
<tr>
<td>Region of the Americas</td>
<td>49,0%</td>
<td>51,0%</td>
</tr>
<tr>
<td>African Region</td>
<td>50,8%</td>
<td>49,2%</td>
</tr>
<tr>
<td>European Region</td>
<td>26,8%</td>
<td>72,9%</td>
</tr>
<tr>
<td>Average OECD countries not in report</td>
<td>33,0%</td>
<td>67,0%</td>
</tr>
<tr>
<td>Average OECD countries in report</td>
<td>24,1%</td>
<td>75,9%</td>
</tr>
<tr>
<td>Average OECD countries</td>
<td>27,8%</td>
<td>72,2%</td>
</tr>
</tbody>
</table>
Lack of comparability of SA with OECD countries

Ratio of Public and Private Expenditure on Health by Income Group (2012):

- **South Africa**: Public 48.4%, Private 51.6%
- **Global**: Public 42.3%, Private 57.6%
- **High Income**: Public 39.3%, Private 60.7%
- **Average Middle Income**: Public 46.3%, Private 53.7%
- **Upper Middle Income**: Public 43.8%, Private 56.2%
- **Low Middle Income**: Public 36.4%, Private 63.6%
- **Low Income**: Public 38.9%, Private 61.1%
Why South Africa is different

- GDP PPP per capita is a misleading indicator of affordability of private hospital prices
- High inequality of income and wealth:
  - One of the highest Gini coefficients in the world
  - A sizeable minority in the country who earn salaries similar or close to European levels and these correspond to those who are customers of private healthcare services
  - “South Africa can be thought of – even after apartheid – as a small rich country embedded in a much larger, poor country” (Angus Deaton, *The Great Escape*, 2013)
- High unemployment: one of the highest in the world
- Different demographics: high proportion of children in the total population compared to OECD countries
- More appropriate macroeconomic measures: GDP PPP per labour force?
Summary: assessment of methodologies of OECD report

• Incomparability of data: “Primary weakness of the authors’ report is that they use a data set of non-market prices to compare to actual market prices of private hospitals in South Africa.”

• “The methodologies to calculate these non-market or quasi-prices are unreliable and under-estimate their true values, preventing any meaningful comparison to the market prices in South Africa”

• Comparing the health systems of European OECD countries to not only South Africa but also other middle income per capita countries lacks validity

• The report underestimates the affordability of private medical care in South Africa by using inappropriate macroeconomic data rather than a microeconomic demand and supply analysis
# Summary of sample differences/ controls required

<table>
<thead>
<tr>
<th>Comparability check</th>
<th>South African sample</th>
<th>OECD sample</th>
<th>Comparable?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is treatment at public or private facilities in question?</td>
<td>Private hospitals</td>
<td>Public/private hospitals</td>
<td>✗</td>
</tr>
<tr>
<td>Which type of private coverage is considered?</td>
<td>Supplementary, duplicative (Response par. 5.1, 5.2)</td>
<td>Supplementary, duplicative, complementary, with varying combinations (in addition to, as mentioned above, public healthcare)</td>
<td>✗</td>
</tr>
<tr>
<td>How representative are the samples of the respective private healthcare populations?</td>
<td>60% or less of private beneficiaries; one or two administrators' profiles. Response par. 3.1: ‘it is not necessary to collect a representative sample..’</td>
<td>Participating countries conduct their own surveys, each with a different sample size; Eurostat and the OECD verify the methodologies used</td>
<td>✗</td>
</tr>
<tr>
<td>What is the service delivery model of the respective healthcare systems?</td>
<td>Catastrophic based hospital care combined with step down facilities</td>
<td>This is not considered by the OECD/WHO</td>
<td>✗</td>
</tr>
<tr>
<td>What do the demographics of each respective population look like?</td>
<td>Aging medical scheme population, burden of disease (consider regulatory landscape and resultant anti-selection)</td>
<td>This is not considered by the OECD/WHO</td>
<td>✗</td>
</tr>
<tr>
<td>Which prices are being compared?</td>
<td>Actual prices or reimbursement rates (It is not clear which is used by the OECD/WHO in analyzing South Africa) Privately determined/negotiated prices</td>
<td>‘Quasi prices’ – Pricemetrics Publicly and privately determined prices (influenced significantly more by non-market forces)</td>
<td>✗</td>
</tr>
</tbody>
</table>
OECD price comparison ‘analysis’ and increases over time

Health inflation is a global phenomenon

• General inflation not a suitable measure
  – Response par. 2.1: ‘outside of the scope of this study...’
  – Health comprises only 1.39% of total CPI basket
  – Of this “health” component, private hospitals comprise only 3%
  – International literature indicates that medical inflation is expected to be higher than general inflation
  – Private hospital tariff inflation is driven by input costs increasing at rates higher than inflation, as well as exchange rate exposure

• Beneficiary numbers and profiles minimally controlled for
  – Age controlled in only 2/28 cases
  – At best control needed for age, gender, burden of disease, severity of treatment, relevant demand and supply factors.
  – Response par. 4.2.3: “Any demographic change would be relatively minor during the 2-year time frame.” BUT Report par. 39: ”We observe important changes in admission rates by case type which may be partly explained by changes in demographic characteristics of beneficiaries over time...”
The OECD again provides **no economic model/analysis** to arrive at the said conclusions

- Cost component analysis is descriptive only
- Comments/questions on ALOS - removal of outliers, removal of complex cases, no control for patient profiles, no control for structural differences, etc.
- The data & analyses do not allow for any inferences about supply-induced demand, medical scheme management, case complexity or efficiency
- The specific conclusions and policy recommendations are not justified
Analysis of HASA and Mediclinic data
Our research on price drivers

• Our research has shown that the South African private healthcare sector is characterised by:
  – An ageing medical scheme population, and
  – Worsening burden of disease

• This impacts on expenditure (E) via both utilisation (Q) and price (P)
Admission rate (Life, Mediclinic, Netcare; 2006-2014)

Growth in admissions, 2006-2014 (right axis)
Number of admissions, 2014 (left axis)
Patient days (Life, Mediclinic, Netcare; 2006-2014)

- Growth in patient days, 2006-2014 (right axis)
- Number of patient days, 2014 (left axis)

% of total patient days, 2006

% of total patient days, 2014
Indexed average expenditure (Life, Mediclinic, Netcare; 2014)

Expenditure per admission, indexed to the average

Expenditure per patient day, indexed to the average
### Mediclinic admissions indexed for each case type (2011-2014)

<table>
<thead>
<tr>
<th>Case Type</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>M01 Acute Myocardial Infarction</td>
<td>1.00</td>
<td>1.02</td>
<td>1.11</td>
<td>1.03</td>
</tr>
<tr>
<td>M02 Angina Pectoris</td>
<td>1.00</td>
<td>0.90</td>
<td>0.90</td>
<td>0.84</td>
</tr>
<tr>
<td>M03 Cholelithias</td>
<td>1.00</td>
<td>0.99</td>
<td>1.22</td>
<td>1.30</td>
</tr>
<tr>
<td>M04 Heart Failure</td>
<td>1.00</td>
<td>0.94</td>
<td>0.98</td>
<td>1.07</td>
</tr>
<tr>
<td>M05 Malignant Neoplasm</td>
<td>1.00</td>
<td>1.18</td>
<td>1.28</td>
<td>1.28</td>
</tr>
<tr>
<td>M06 Normal delivery</td>
<td>1.00</td>
<td>0.91</td>
<td>0.95</td>
<td>0.89</td>
</tr>
<tr>
<td>M07 Pneumonia</td>
<td>1.00</td>
<td>0.97</td>
<td>1.01</td>
<td>0.99</td>
</tr>
<tr>
<td>S01 Appendectomy</td>
<td>1.00</td>
<td>1.01</td>
<td>1.01</td>
<td>1.02</td>
</tr>
<tr>
<td>S02 Caesarean Section</td>
<td>1.00</td>
<td>1.04</td>
<td>1.05</td>
<td>0.87</td>
</tr>
<tr>
<td>S03 Cholecystectomy</td>
<td>1.00</td>
<td>1.08</td>
<td>1.14</td>
<td>1.15</td>
</tr>
<tr>
<td>S04 Colorectal Resection</td>
<td>1.00</td>
<td>1.00</td>
<td>1.08</td>
<td>1.08</td>
</tr>
<tr>
<td>S05 Coronary Artery Bypass Graft</td>
<td>1.00</td>
<td>0.98</td>
<td>1.55</td>
<td>1.50</td>
</tr>
<tr>
<td>S06 Discectomy</td>
<td>1.00</td>
<td>0.73</td>
<td>1.03</td>
<td>0.75</td>
</tr>
<tr>
<td>S07 Endarterectomy</td>
<td>1.00</td>
<td>0.91</td>
<td>0.84</td>
<td>1.14</td>
</tr>
<tr>
<td>S08 Hip Replacement</td>
<td>1.00</td>
<td>1.05</td>
<td>1.00</td>
<td>1.09</td>
</tr>
<tr>
<td>S09 Hysterectomy</td>
<td>1.00</td>
<td>1.07</td>
<td>1.07</td>
<td>1.01</td>
</tr>
<tr>
<td>S10 Knee Replacement</td>
<td>1.00</td>
<td>1.11</td>
<td>1.24</td>
<td>1.28</td>
</tr>
<tr>
<td>S11 Mastectomy</td>
<td>1.00</td>
<td>1.05</td>
<td>0.95</td>
<td>1.05</td>
</tr>
<tr>
<td>S12 Open Prostatectomy</td>
<td>1.00</td>
<td>1.24</td>
<td>1.31</td>
<td>1.47</td>
</tr>
<tr>
<td>S13 Percutaneous Transluminal Coronary Angioplasty</td>
<td>1.00</td>
<td>2.08</td>
<td>2.33</td>
<td>0.00</td>
</tr>
<tr>
<td>S14 Peripheral Vascular Bypass</td>
<td>1.00</td>
<td>0.93</td>
<td>0.74</td>
<td>0.72</td>
</tr>
<tr>
<td>S15 Inguinal Hernia Repair</td>
<td>1.00</td>
<td>1.08</td>
<td>1.05</td>
<td>1.10</td>
</tr>
<tr>
<td>S16 Thyroidectomy</td>
<td>1.00</td>
<td>1.00</td>
<td>1.22</td>
<td>1.14</td>
</tr>
<tr>
<td>S17 Transurethral Resection of Prostate</td>
<td>1.00</td>
<td>0.79</td>
<td>1.32</td>
<td>1.62</td>
</tr>
<tr>
<td>S18 Arthroscopic Excision of Meniscus of Knee</td>
<td>1.00</td>
<td>0.74</td>
<td>1.21</td>
<td>2.10</td>
</tr>
<tr>
<td>S19 Lens and Cataract Procedures</td>
<td>1.00</td>
<td>1.15</td>
<td>1.08</td>
<td>1.06</td>
</tr>
<tr>
<td>S20 Ligation and Stripping of Varicose Veins</td>
<td>1.00</td>
<td>1.03</td>
<td>0.99</td>
<td>1.00</td>
</tr>
<tr>
<td>S21 Tonsillectomy and/or adenoidectomy</td>
<td>1.00</td>
<td>1.01</td>
<td>1.06</td>
<td>0.99</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>1.00</strong></td>
<td><strong>1.02</strong></td>
<td><strong>1.11</strong></td>
<td><strong>1.03</strong></td>
</tr>
</tbody>
</table>
Mediclinic admissions by age for each case type (2015)
Mediclinic ALOS by age for each case type (2015)
Our findings on price drivers

• No clear trend for admission rates – conclusions therefore highly dependent on the sample and specific examples chosen
• Find the same aggregate ALOS
• Case type and age influence ALOS significantly
• SA private sector service delivery and financing model also drives ALOS
Policy conclusion and discussion
## OECD conclusions and discussion

<table>
<thead>
<tr>
<th>OECD/WHO presentation to the HMI</th>
<th>Our findings</th>
<th>Validated?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prices are high &amp; increasing (relative to what could be predicted)</td>
<td>• There is no empirical model&lt;br&gt;• Response par. 2.1 and 4.1.4: ‘this is not a model or a theory’; but: ‘prices are... predicted...’&lt;br&gt;• Health inflation is a global phenomenon (additionally recognise medical services as non-tradable goods)&lt;br&gt;• No competition analysis presented</td>
<td>✗</td>
</tr>
<tr>
<td>2. Prices are not affordable for most South Africans</td>
<td>• The correct focus is on the relation between costs and prices&lt;br&gt;• The study analyses ‘private voluntary health insurance’</td>
<td>✗</td>
</tr>
<tr>
<td>3. Unusually low LOS <strong>probably</strong> result from cost control efforts</td>
<td>• The data &amp; analyses do not allow for any inferences about supply-induced demand, medical scheme management, case complexity or efficiency</td>
<td>✗</td>
</tr>
<tr>
<td>4. Large increase in high volume surgical procedures cannot be fully explained by changes in membership</td>
<td>• Again, there is no model. No control for demand and supply factors or demographics (age is controlled in 2/28 cases, SA is in the middle of the distribution in both cases)</td>
<td>✗</td>
</tr>
<tr>
<td>5. Hospital share is the main component of the price, but specialist fees are driving the increase</td>
<td>• The descriptive analysis provides no insight&lt;br&gt;• Hospitals have no control over specialist prices</td>
<td>✗</td>
</tr>
<tr>
<td>6. The high prices in private health sector spill over to the health system and economy as a whole</td>
<td>• The only ‘spill over’ effect is the cost of specialists. This is not determined (or known) by the hospitals. While the cost of specialist services might impact pricing in the public sector, the price is determined mainly by the shortage of specialists</td>
<td>✗</td>
</tr>
<tr>
<td>7. The current ways in which the private sector controls prices are not effective</td>
<td>• Hospitals prices are the result of strong and robust negotiations with funders. Hospitals do not determine doctors’ prices</td>
<td>✗</td>
</tr>
</tbody>
</table>
In this inquiry, price control could only follow on from an investigation of how the market is functioning – in terms of competition – something which the OECD has not touched upon