Assessing equity in the distribution of community pharmacies in South Africa in preparation for the National Health Insurance scheme

Ward KL, Sanders D, Leng HMJ and Pollock, A
INTRODUCTION (I)

- South Africa’s health and healthcare inequities are well documented.\(^1\text{-}^4\)

- Historically, pharmaceutical services were concentrated in urban areas.\(^5\)

- Private community pharmacies are classified as **corporates** or **independently-owned**
  - Corporates (owned by large public or private companies)
  - Independently-owned (owned and managed by one or more pharmacists)

- Post-1994 regulatory reform in South Africa (SA) aimed to reverse these inequities through *inter alia*:
  - Section 22 A (15) permits for rural pharmacies (suspended since 1998)
  - Lay-ownership of community pharmacies allowing corporates to enter market
  - Licencing regulations restricting location of new community pharmacies \(^6\text{-}^8\)
Table 1: National Department of Health (NDOH) criteria for establishing need for pharmaceutical services

<table>
<thead>
<tr>
<th>Item</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacies per 10,000 residents</td>
<td>2:10,000 with exceptions (e.g. shopping malls, rural areas)</td>
</tr>
<tr>
<td>Proximity to other pharmacies</td>
<td>500m with exceptions (e.g. deep rural areas)</td>
</tr>
<tr>
<td>Proximity to other medical services</td>
<td>Consider doctors in area; 500m (±40 patients/ day) with exceptions (e.g. deep rural areas)</td>
</tr>
</tbody>
</table>
The Green Paper for a National Health Insurance (NHI) identifies private community pharmacies as additional access points for medicines in combination with public clinics.\textsuperscript{9}

Will the inclusion of community pharmacies as additional medicine collection points under the NHI promote equitable distribution of pharmaceutical services?
INTRODUCTION (IV)

AIM

- To examine the changes in ownership and geographical distribution of CPs relative to regulatory reform from the perspective of equity.

OBJECTIVES

- Assess number of community pharmacies per 10,000 residents at provincial and selected district level

- Interview key informants about their perceptions surrounding the impact of regulatory reform on the distribution of community pharmacies

- We summed community pharmacies and public clinics to assess their combined provincial distribution patterns against a SA benchmark
METHODS

Data sources

- CP licence data: NDOH, licencing unit
- CP registration data: current SAPC register, literature for 1994 data\textsuperscript{10}
- Public clinic data: National audit of health facilities\textsuperscript{11}
- Population data: Statistics, SA and NDOH/HISP\textsuperscript{12,13}
METHODS II

Data analysis

- Density: Number of facilities per 10,000 residents

- Comparison of numbers, ownership and densities of community pharmacies at provincial level

- Community pharmacies mapped and counted for 15 districts (five districts each from lowest, highest and middle quintile deprivation indices according to District Health Barometer) and densities for CPs plotted against deprivation index
Data analysis cont.

- Summed public clinics and community pharmacies to assess combined densities against benchmark of 1 clinic per 10,000 residents
Pharmacy expert interviews

- 9 experts on pharmacy regulation were purposively selected

- Unstructured interviews to elicit participant views on the impact of regulatory reform on access to medicines & equity in such access.

- Data coded in MAXQDA and themes identified from data by research team

<table>
<thead>
<tr>
<th>Section 22(15) licence holders</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Also represent pharmacy at provincial and national levels)</td>
</tr>
<tr>
<td>(N=2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supermarket Chains</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Directors of professional services for major)</td>
</tr>
<tr>
<td>(N=2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent Community Pharmacy Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Chairperson)</td>
</tr>
<tr>
<td>(N=1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pharmaceutical Society of South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Branch directors, past presidents)</td>
</tr>
<tr>
<td>(N=4)</td>
</tr>
</tbody>
</table>
RESULTS I

Data limitations (i)

NDOH licence database

May 2003 – December 2012

Discrepancies between licences issued and new CP registrations

Limited to using licence application data (2008-2011) for ownership trend analysis

http://www.amasa-project.eu/
RESULTS II

Data limitations (ii)

SAPC Register

Jan 1994 – December 2012

Lack historical disaggregated data

No ownership information

Limited to using current registration data for district mapping (November 2012)
RESULTS III

Fig. 1: Annual numbers of CP license applications made to the NDOH between 2008 and 2011 - by ownership category (N=1124)
### Table 2: Provincial variation in CP registrations, growth and ratios per 10,000 residents against population growth in 1994 and 2012

<table>
<thead>
<tr>
<th>Province (ranked from most to least rural)</th>
<th>Number of registered community pharmacies</th>
<th>% CP growth</th>
<th>% population growth</th>
<th>CPs per 10,000 residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limpopo</td>
<td>76</td>
<td>143</td>
<td>88</td>
<td>1</td>
</tr>
<tr>
<td>Eastern Cape</td>
<td>267</td>
<td>228</td>
<td>-15</td>
<td>4</td>
</tr>
<tr>
<td>Mpumalanga</td>
<td>149</td>
<td>227</td>
<td>52</td>
<td>26</td>
</tr>
<tr>
<td>North West</td>
<td>153</td>
<td>204</td>
<td>33</td>
<td>6</td>
</tr>
<tr>
<td>Kwazulunatal</td>
<td>453</td>
<td>522</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>Free State</td>
<td>167</td>
<td>148</td>
<td>-11</td>
<td>7</td>
</tr>
<tr>
<td>Northern Cape</td>
<td>46</td>
<td>59</td>
<td>28</td>
<td>58</td>
</tr>
<tr>
<td>Western Cape</td>
<td>444</td>
<td>479</td>
<td>8</td>
<td>55</td>
</tr>
<tr>
<td>Gauteng</td>
<td>1005</td>
<td>1099</td>
<td>9</td>
<td>61</td>
</tr>
<tr>
<td>Country</td>
<td>2760</td>
<td>3113</td>
<td>13</td>
<td>25</td>
</tr>
</tbody>
</table>
RESULTS V

Fig. 2: Ratios of CPs per population relative to deprivation index in 15 selected districts for 2012

Number of CPs per 10,000 population

Deprivation index (1=least deprived; 5=most deprived)
RESULTS VI

Fig. 3: Ratios of CPs, public clinics and pooled facilities per 10,000 residents in SA provinces against SA benchmark for public clinics in 2012
Diagram 1: Key informant perceptions surrounding regulation

Inappropriate Licencing Criteria

Poor Enforcement Of Licencing Regulations

Regulation has failed to improve the distribution of community pharmacies

Lack Of Rural Incentives

Closing down of many independently owned pharmacies
Diagram 2: Key informant perceptions surrounding threats to growth in community pharmacy sector

- Lack of financing
- Pricing regulations
- Human Resource Shortages
Monitoring ownership and distribution trends of community pharmacies is possible when combining key variables from NDOH and SAPC databases.

Distribution remains inequitable (favouring urban provinces) in 2012 despite regulatory changes and empirical data is supported by perceptions of key members of pharmacy sector.

At district level, these disparities are even greater and illustrate the Inverse Care Law, i.e. least deprived districts have greater access to community pharmacies.
Combining public clinics and CPs improved densities, although services might still be insufficient, especially in public sector (poor capacity and medicine availability in many public rural clinics). Pharmacy workforce shortages presents another challenge to both sectors.

Community pharmacies offer expertise and efficiencies in drug supply management and could potentially offer expanded primary health care services under the NHI through reinstatement of section 22 A(15) permits.
CONCLUSION & RECOMMENDATIONS

- To reduce inequity in the distribution of pharmaceutical services, new policies and legislation are needed to increase staffing and the presence of pharmacies.

- NDOH needs to urgently review licencing criteria and rural incentives.

- Lift suspension of section 22 A(15) licences to expand service availability.

- Strategies needed to increase number of pharmacy and pharmacy technician students at universities.

- Indicators (e.g. density of pharmaceutical services) should be monitored at district level.

http://www.amasa-project.eu/
References


This paper results from research funded by the European Union Seventh Framework Programme Theme: Health-2009-4.3.2-2 (Grant no. 242262) under the title 'Access to Medicines in Africa and South Asia [AMASA]'. The project team includes partners at the Swiss Tropical and Public Health Institute at the University of Basel (Switzerland), University of Edinburgh (UK), University of Ghent (Belgium), Queen Mary University of London, Makerere University (Uganda) Mbarara University of Science and Technology (Uganda), University of the Western Cape (South Africa), and the Foundation for Research in Community Health (India).