INTRODUCTION

Ophthalmology is the specialty that deals with disorders of the eye. Common disorders include refractive errors, cataract, glaucoma, age-related macular degeneration, diabetic retinopathy, drooping eyelids, retinal detachment and childhood eye diseases.

This paper presents the attendance volumes in 2006, and waiting times for new appointments made by subsidised patients at ophthalmology Specialist Outpatient Clinics of restructured hospitals for the period of April to June 2007.

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2 MOH collects statistics on waiting times experienced by patients making new appointments at SOC, as a measure of the SOC’s capacity to attend to new patients. MOH defines the waiting time for a new SOC appointment as the number of calendar days from the date when the patient first requested for an appointment, to the appointment date allocated for doctor consultation. For this purpose, the waiting time statistics exclude waiting times of patients who rejected the earliest / first available appointment date offered to them; walk-in patients; and those referred from the Emergency Department who receive medical consultation within the same day. Waiting times for follow-up appointments are also excluded.

3 SOC patients are accorded subsidy if they are referred from polyclinics.

4 Specialist Outpatient Clinics (SOC) cater to patients who require specialist care but who do not need to be admitted as inpatients for clinical attention. SOC patients at restructured hospitals may either be self-referred or referred from general practitioners, polyclinic doctors or specialists in the private and public sectors. Consultations are by appointment only, and patients are charged subsidised or private rates, depending on the source of referrals.
ATTENDANCES AT SPECIALIST OUTPATIENT CLINICS

Market Share

In 2006, there were 318,275 subsidised attendances for ophthalmology at the Singapore National Eye Centre (SNEC), Tan Tock Seng Hospital (TTSH), National University Hospital (NUH), Changi General Hospital (CGH) and Alexandra Hospital (AH). Ophthalmology saw the highest volume of attendances among all outpatient specialities in 2006. 81% were repeat attendances. See Table 1.

<table>
<thead>
<tr>
<th>Institution</th>
<th>New</th>
<th>Repeat</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNEC</td>
<td>24,057</td>
<td>108,286</td>
<td>132,343</td>
</tr>
<tr>
<td>TTSH</td>
<td>16,178</td>
<td>68,468</td>
<td>84,646</td>
</tr>
<tr>
<td>NUH</td>
<td>7,999</td>
<td>35,626</td>
<td>43,625</td>
</tr>
<tr>
<td>CGH</td>
<td>7,471</td>
<td>25,251</td>
<td>32,722</td>
</tr>
<tr>
<td>AH</td>
<td>4,872</td>
<td>20,067</td>
<td>24,939</td>
</tr>
<tr>
<td>Overall</td>
<td>60,577</td>
<td>257,698</td>
<td>318,275</td>
</tr>
</tbody>
</table>

SNEC saw the largest share (42%) of attendances, followed by TTSH (27%), NUH (14%), CGH (10%), and AH (8%). Please see Chart 1.

Chart 1: SOC Attendances (Subsidised) for Ophthalmology by Institutions, Year 2006

New Attendances as

- % of all new attendances in public sector hospitals

There were 60,577 new subsidised attendances in 2006. SNEC saw the largest share of new attendances (40%), followed by TTSH (27%), while other institutions saw between 8% to 13% of new attendances. (See Chart 2.)
% of all attendances in each hospital

New attendances make up 23% of all subsidised attendances seen at CGH – the highest proportion among all institutions. The proportion of new attendances was 20% at AH, and 18%-19% at NUH, TTSH and SNEC.

Rising Attendances

From 2002 to 2006, subsidised ophthalmology attendances rose by 39.1%. This represents a compounded annual growth rate of 8.6% per year. Attendances rose by 15.3% in 2002, and there after slowed down to 10.4% in 2005 and 7.5% in 2006 respectively. See Chart 3. Over this period (2002-06), the growth in attendances were driven largely by repeat attendances (43.8% increase) while new attendances grew at only about half the rate (22.5%).
Overall, total attendances grew fastest at AH, driven by high growth in repeat attendances (328.1%, from 2002 to 2006). SNEC’s total attendances grew the lowest at 3.5% CAGR, but it continued to see more new attendances while keeping a lid on repeat attendances. Although CGH has negative growth in new attendances, some 23% of its subsidised attendances are new attendances, which is highest among the institutions (please see Chart 4).

Chart 4: Annual SOC Attendances (Subsidised) for Ophthalmology by Institutions, Year 2002-06

- new attendances grew fastest at AH (25% CAGR), whereas TTSH’s and SNEC’s grew at 4.6% and 4.5% respectively. New attendances at CGH and NUH fell into negative growth. See Table 2.

- repeat attendances also grew fastest at AH (51.3% CAGR), followed by NUH (9.1% CAGR), TTSH (8.4% CAGR) and CGH (6.7%). SNEC’s repeat attendances grew the slowest (3.3% CAGR).

Table 2: CAGR (%) Growth of New and Repeat SOC Attendances (Subsidised) for Ophthalmology by Institutions, 2002-06

<table>
<thead>
<tr>
<th>Institution</th>
<th>New</th>
<th>Repeat</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNEC</td>
<td>4.5%</td>
<td>3.3%</td>
<td>3.5%</td>
</tr>
<tr>
<td>TTSH</td>
<td>4.6%</td>
<td>8.4%</td>
<td>7.6%</td>
</tr>
<tr>
<td>NUH</td>
<td>-5.5%</td>
<td>9.1%</td>
<td>5.5%</td>
</tr>
<tr>
<td>CGH</td>
<td>-0.9%</td>
<td>6.7%</td>
<td>4.7%</td>
</tr>
<tr>
<td>AH</td>
<td>25.0%</td>
<td>51.3%</td>
<td>43.8%</td>
</tr>
</tbody>
</table>

Aging Population

In a study of subsidised attendances at SNEC, it was found that patients aged 65 and above made up 49% or almost half of all attendances in 2006. See Table 3. The volume of subsidised attendances generated by patients aged more than 65 is increasing at a faster
rate i.e. 6.3% (CAGR) compared to their increase in the general population i.e. 5.1% (CAGR) from 2002 to 2006.

Table 3: Age Composition of SNEC’s (subsidised) Total Attendances, 2002-06

<table>
<thead>
<tr>
<th>Age Group</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 ~ 64</td>
<td>53.1%</td>
<td>54.9%</td>
<td>53.9%</td>
<td>53.3%</td>
<td>51.0%</td>
</tr>
<tr>
<td></td>
<td>(57,448)</td>
<td>(56,563)</td>
<td>(68,336)</td>
<td>(69,357)</td>
<td>(67,485)</td>
</tr>
<tr>
<td>65 +</td>
<td>46.9%</td>
<td>45.1%</td>
<td>46.1%</td>
<td>46.7%</td>
<td>49.0%</td>
</tr>
<tr>
<td></td>
<td>(50,781)</td>
<td>(46,415)</td>
<td>(58,383)</td>
<td>(60,655)</td>
<td>(64,858)</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>(108,229)</td>
<td>(102,978)</td>
<td>(126,719)</td>
<td>(130,012)</td>
<td>(132,343)</td>
</tr>
</tbody>
</table>

Note: numbers in brackets indicate volume of attendances

Elderly patients account for a larger proportion of repeat attendances at SNEC compared to new attendances. Patients of age 65 and above account for 36.4% of new attendances, whereas for repeat attendances, they account for 51.8%. See Chart 5. A possible explanation is that elderly patients are more likely to have chronic eye conditions e.g. glaucoma and diabetic retina conditions.

Chart 5: Profile of New and Repeat of Attendances (subsidised) at SNEC, 2006

Other institutions have similar patient profile; patients of age 65 and above account for 46.0% of the total attendances at TTSH, 38.9% at CGH, 38.8% at AH and 32.5% at NUH.

WAITING TIMES FOR NEW SOC APPOINTMENTS

The median\(^5\) and 90\(^{th}\) percentile waiting times experienced by subsidised ophthalmology patients for the period Apr – Jun 2007 are plotted in Chart 6 below; with institutions ranked in descending order of their median waiting times. The median waiting times ranged from 2 days at AH to 55 days at CGH, while 90\(^{th}\) percentile waiting times ranged from 8 days at AH

\(^5\) Median = 50\(^{th}\) Percentile
to 62 days at CGH. AH, TTSH, and NUH had relatively shorter median waiting times at 2
days, 7 days and 8 days respectively.

Chart 6: Median and 90th Percentile Waiting Times for New SOC Appointments
at Ophthalmology Specialty by Institutions, Apr – Jun 2007

OPHTHALMOLOGISTS

Over the last 4 years, the number of ophthalmologists registered in Singapore increased by
35% from 96 at end 2002 to 130 at end 2006. In the public sector, the number of
ophthalmologists grew even more - by 55%, from 56 at end 2002 to 87 at end 2006.
See Chart 7. At present, 56 doctors are undergoing training to be ophthalmologists.

Chart 7: No. of Ophthalmologists (Public & Private) registered with Singapore Medical Council, Year 2002-06
CONCLUDING REMARKS

Subsidised attendances at ophthalmology SOCs have been rising over the past 5 years, particularly so for repeat attendances, which grew faster than new attendances.

Elderly patients above 65 years old generate up to half of all SOC attendances in some institutions, and account for a larger share of repeat attendances compared to new attendances.

Waiting times varied across healthcare institutions with the majority of patients being seen within one month at AH, TTSH and NUH.

Feedback to MOH

If you have any comments or questions on the information paper, you can either email us directly at moh_info@moh.gov.sg. Alternatively, you can also fax or write to us at:

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