

### 3. Project Service Demand - Based on Rapid Population Growth

If a projected demand for service is based upon rapid population growth in the applicant facility's existing market area (as experienced annually within the latest 24-month period), the projected service demand must be determined, as specified in the Criterion titled "Project Service Demand - Based on Rapid Population Growth".

Justification for the non-hospital based ambulatory surgery category of service is based on physician referral letters. The physician letters provide a very conservative surgery volume because they are based on one year of surgical activity; they account for neither the growth and aging of the senior population in the SCSC geographic service area (GSA) nor any other factors such as improved access based on the National Health Reform legislation, or the addition of new physicians to the Hospital's medical staff.

#### Effect of Population Growth and Aging

Population growth and aging, especially of the senior age cohorts (45 to 64 and 65+) are important considerations in understanding future volume at the Swedish Covenant Surgery Center and at SCH. As shown in the following analysis, 2,040 more hours of surgery can be expected at SCH and SCSC in 2019 than in 2009.

The following simple analysis shows that the growth and aging of the senior population in the GSA will increase surgical volume by 16.6 percent between 2009 and 2019. As a result of this strong growth and aging, the Hospital and SCSC together will experience a

16.6 percent growth over the next 10 years.

The analysis assumes that the surgical use rates from 2006 (the most recent data that are available) remain constant. The methodology applies the 2006 rates to the two senior population cohorts, 45 to 64 and 65+. The outcome of this methodology is that the senior population in the GSA will generate will generate 39,879 additional surgical procedures by 2019.

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## Future Surgery Increase Based on Growth and Aging of the Senior Population

Age Cohort	2006	2009	2009	2014	2014	2019	2019
Use	Population	Surgeries	Population	Surgeries	Population	Surgeries	Population
45 to 65	167.84	631,266	105,952	660,281	112,332	709,585	119,097
65+	435.79	306,680	133,648	335,922	146,406	368,025	160,382
	239,600	258,738	279,479				

Rate\*

45 to 65 167.84 631,266 105,952 660,281 112,332 709,585 119,097  
 65+ 435.79 306,680 133,648 335,922 146,406 368,025 160,382  
 239,600 258,738 279,479

279,479 hours – 239,600 hours = 39,879 hours or by 16.6 percent

\* Surgeries per 1,000 population

Source: National Center for Health Statistics

If Swedish Covenant Hospital’s market share remains constant, outpatient and inpatient utilization will increase by 16.6 percent between 2009 and 2019, based on just the growth and aging of the population.

3,209 hours of OP surgery to SCSC x 1.166 =

3,742 hours of OP surgery ÷ 1,500 hours per room = 2.5 or 3 allowable operating rooms

9,106 hours of IP surgery at SCH x 1.166 =

10,618 hours of IP surgery ÷ 1,500 hours per room = 7.1 or 8 allowable operating rooms

Based on this methodology, Swedish Covenant Hospital and SCSC together would experience 14,360 hours of surgery by 2019 or enough to justify 9.6 or 10 rooms.

3,742 OP hours + 10,618 IP hours = 14,360 total hours

14,360 total hours ÷ 1,500 hours per room = 9.6 or 10 rooms

This is a conservative estimation of future need because it does not consider the impact of the 2010 National Health Reform legislation.

The expected growth and aging of the seniors in the SCH service area will increase demand for surgical capacity at both the Hospital and the Surgery Center and require at least 10 rooms by 2019.

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## National Health Reform

The National Health Reform legislation focuses on improved access for people below the poverty level; these individuals and families are typically uninsured or underinsured.

Swedish Covenant Hospital's service area has a higher percentage of families below the poverty level than do either Illinois or the United States, or 12.6 percent. These families will have access to insurance under the National Health Reform legislation. Assuming that, in the future, the uninsured population uses surgical services at the same rate as the total population today and that Swedish Covenant Hospital's market share remains unchanged, the impact on surgery volume could be an increase of 12.6 percent.

2009 surgery volume x 1.126 = future hours of surgery  
Hours of surgery ÷ 1,500 hours per room = needed rooms

12,315 hours x 1.126 = 13,867 hours of surgery  
13,867 hours of surgery ÷ 1,500 hour per room = 9.2 or 10 rooms

Using the distribution of patient hours as indicated by the physician letters (26 percent outpatient and 74 percent inpatient), the implementation of the National Health Reform legislation required the following capacity.

Projected hours of surgery x percent either inpatient or outpatient =  
future inpatient and outpatient hours  
Hours ÷ 1,500 hours per rooms = allowable rooms

13,867 total hours x 74 percent inpatient = 10,262 inpatient hours

Projected hours ÷ available hours = percent occupancy

10,262 inpatient hours ÷ 1,500 hours per room = 6.7 or 7 rooms  
10,262 inpatient hours ÷ 10,500 available hours = 97.7 percent occupancy

13,867 total hours x 26 percent outpatient = 3,605 outpatient hours  
3,605 outpatient hours ÷ 4,500 hours = 80.1 percent occupancy

Based on this methodology, Swedish Covenant Hospital and SCSC would experience 13,867

hours of surgery by 2019 or enough to justify 9.2 rooms or 10 rooms. Overall, these rooms would be 92.4 percent utilized.

13,867 total hours ÷ 1,500 hours per room = 9.2 or 10 rooms

13,867 total hours ÷ 15,000 hours per room = 92.4 percent occupancy

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Based on this simple analysis, the implementation of the National Health Reform legislation will result in 92.4 percent occupancy of 10 operating rooms at SCH and SCSC. This is also a conservative estimation of future need because it does not account for the growth and aging of the population.

### Physician Recruitment

Based on past experience, the net addition of surgeons to the Swedish Covenant Hospital Medical Staff will increase surgical volume. The purpose of this application is to enable physician recruitment. The Hospital's plans include the recruitment of at least 35 physicians, a portion of which will be surgeons. At this time it is unknown the numbers and specialties of the surgeons that will commit to join the Swedish Covenant Medical Staff; hence it is not possible to accurately determine the impact of these physicians.

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