

Policy Advisory Panel:

The "Facility Selection Criteria and Other Considerations" document that follows describes selection criteria and other considerations that the Project Team is taking into account as it recruits facilities for the study. You will not find these discussed in great detail in the study's Research Plan because we have had to make adjustments as we go along in the face of data limitations, new information, and shifting practice patterns.

Recall that this study does not call for a national probability sample of SNFs and IRFs, nor can it be, given the criteria outlined below. We do, however, want to capture the diversity of practice patterns across the two industries. This is best captured by making sure that participating facilities come from diverse geographic areas since we know that there are marked differences in practice patterns from one region of the country to another.

Also recall that we are conducting a clinical practice improvement (CPI) study that could also be coined a "practice-based evidence (PBE) study" in which we are attempting to determine which practice patterns (e.g., therapies, interventions) are associated with the best outcomes for which patients and identifying where (i.e., what type of facility) these practice patterns are found or more likely to be found.

Clearly, the facility selection criteria outlined in the next few pages will result in "selection bias" where larger facilities and better-breed facilities of **both types** are more likely to be represented in the study and broad generalizations to all facilities of both types may be limited. But this bias is both deliberate and unavoidable. We want to capture facilities that have higher volumes of joint replacement patients and that are both willing and able to commit to the study.

Determining best practice in both settings requires this kind of volume and commitment. Our observations to date suggest that, where biases may exist, they apply to both types of facilities, not between facilities. In short, the same biases that apply to one type of facility are also likely to apply to the other.

To facilitate the recruitment process, the Project Team would prefer to have a master list of all SNFs and IRFs and their respective volumes of joint replacement patients. Facilities could be rank-ordered by joint replacement volumes within pre-defined geographic areas. The best data source for such a ranking is Medicare claims data for both SNFs and IRFs. Other data sources (e.g., OSCAR, MDS) appear to have intrinsic limitations. The Project Team has been working with Brown University and HealthSouth that already have the Medicare claims data needed. In both instances, however, there is an issue of whether the organization's data use agreement (DUA) can also be used for purposes of this study. The Project Team is working with both organizations to determine whether the DUA can apply to this study or request that the DUA be amended to meet the needs of this study. Another challenge is that Medicare claims data may be somewhat dated (2 or more years old) and may not reflect most recent practice patterns. The following is an internal Project Team summary regarding facility selection issues. Any insights or alternatives would be welcome.

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Facility Selection Criteria & Other Considerations

IRF Selection Criteria/Considerations:

1. **Admit/discharge a minimum of 200 hip and knee replacement patients per year.** To limit the number of IRFs to 8 facilities and be able to complete the study in a relatively short period of time, we need to recruit facilities with high volumes of joint replacement patients. Recruiting more facilities (with lower volumes) would increase our costs as each facility brings certain fixed costs to the study (e.g., recruitment, signing agreements, training, institutional review board clearances, participation on Clinical Practice Team).

Challenge: Originally we projected enrolling facilities with 300 or more joint replacement patients per year. We based this figure on the volumes we were seeing in 2004. We lowered this criterion from 300 to 200 patients because fewer joint replacement patients are coming to IRFs due to the gradual implementation of the 75% rule.

This change significantly affects our projected enrollment windows. If we have 8 IRFs, we will need an average of 175 patients from each IRF. And, if we assume a 2:1 ratio knee-to-hip replacement ratio and, if we assume a minimum of 200 joint replacement patients/IRF, then the patient enrollment windows for hip and knee replacement patients respectively will be:

Number of knee replacement patients seen: 133/year or 11.1/month
Number of hip replacement patients seen: 67/year or 05.6/month

Number of knee replacement patients per facility needed for study: 87.5
Number of hip replacement patients per facility needed for study: 87.5

Number of months needed to enroll knee replacement patients: $87.5/11.1 = 7.8$ months
Number of months needed to enroll hip replacement patients: $87.5/05.6 = 15.6$ months

The 15.6-month window is too long. There are two solutions: (1) revise the sample size or (2) increase the number of IRFs, which as described above, increases project costs.

Proposed solution:

Since fewer joint replacement patients are going to IRFs and more are going to SNFs, we are now anticipating that SNFs could meet the same 200-patient volume criterion per year.¹

¹ Recent communication (September 16, 2005) with Reg Warren, PhD of Seniorsmetrics raises a question about whether the Team will be able to locate SNFs with this volume in the western part of the country. Dr. Warren's database consists of 180 SNFs that participate in the Medicare+Choice, now Medicare Advantage program. In short, this database includes SNFs that participate in Medicare's managed care product. Dr. Warren originally estimated that approximately 30% of patients would be orthopedic patients and that 10-12% would be joint replacement patients. He has since been surprised to find that only 2 SNFs had 100 or more joint replacement patients in a given year and that only 9 SNFs had 50 or more joint replacement patients in a given year. This argues

If we expect IRFs and SNFs to produce similar volumes of patients for the study, then we should lower the proposed number of SNFs in the study from 12 to 10 SNFs and increase the proposed number of IRFs from 8 to 10 IRFs.

Now consider the numbers again:

Number of knee replacement patients seen: 133/year or 11.1/month
Number of hip replacement patients seen: 67/year or 05.6/month

Number of knee replacement patients per facility needed: 70
Number of hip replacement patients per facility needed: 70

Number of months needed to enroll knee replacement patients: $70/11.1 = 6.3$ months
Number of months needed to enroll hip replacement patients: $70/05.6 = 12.5$ months

This timeline is more reasonable. We propose to recruit 10 IRFs and 10 SNFs, if we find that SNFs are able to provide this volume.

2. **Designated as an IRF for Medicare payment purposes.** Some well-known rehabilitation hospitals are actually LTCHs for Medicare payment purposes. We will limit study facilities to IRFs.
3. **At least 2 IRFs from each Census Region and preferably 1 from each Census Division.** There are 4 Census Regions and 9 Census Divisions. If we enlist 10 IRFs, all Census Divisions should be represented.
4. **Mix of free-standing IRFs and hospital unit IRFs.** Among the nation's 1,200 IRFs, approximately 20% are free-standing ($N = 212+$) and 80% are units. Ideally, we would want both free-standings and units but free-standings are more likely to have the volumes we are looking for. Free-standing IRFs account for nearly half of all IRF beds in the nation (need to double-check this). Facility size may not necessarily be related to joint replacement volume. Some units do more replacement rehabilitation than free-standings.
5. **Mix of for-profit and non-profit IRFs.** About 2/3 of the free-standing IRFs are for-profit and the vast majority of the units are non-profit. Higher volume, free-standing IRFs are typically for-profit IRFs.
6. **Mix of IRFs from managed and non-managed care markets.** Patient referral and clinical practice patterns may be different in managed and non-managed care markets even for FFS Medicare patients because of the presumed "managed care spill-over" effect. If we select well on Census Divisions, we should meet this consideration, especially in Census Division 9—the Pacific states, e.g., California.

strongly for the Team's strategy of reaching out to some of the chains and other multi-site SNF systems that can deliver the volumes of patients needed.

SNF Selection Criteria/Considerations :

- 1. Admit/discharge a minimum of 200 hip and knee replacement patients per year.** To limit the number of SNFs participating in the study and to complete the study in a relatively short period of time, we need to recruit facilities with high volumes of joint replacement patients.
- 2. Designated as a Medicare SNF for Medicare payment purposes.** There may be some SNFs that are not Medicare certified.
- 3. There should be 2 SNFs from each Census Region and preferably 1 from each Census Division.** There are 4 Census Regions and 9 Census Divisions. If we enlist 10 SNFs, all Census Divisions could be represented.
- 4. Mix of free-standing SNFs and hospital-based SNFs.** Among the approximately 15,000 SNFs in this country, about 11% are hospital-based. At one time, there were many more hospital-based SNFs but with the advent of the SNF-PPS, many hospital-based SNFs experienced large negative margins and exited the market.² We will strive for at least 1 or 2 hospital-based facilities in our final SNF sample.
- 5. Mix of for-profit and non-profit SNFs.** Among all nursing homes, including SNFs,³ 65% are for-profit, 27% are nonprofit, and 8% are government-operated. Government-operated SNFs are probably VA, county-based facilities, and others. We do not know about the Medicare participation among these SNFs. Our goal is to enlist a mix of SNFs commensurate with their for-profit/non-profit status.
- 6. Mix from managed and non-managed care markets.** Patient referral and clinical practice patterns may be different in managed and non-managed care markets even for FFS Medicare patients because of the presumed “managed care spill-over” effect. If we select well on Census Regions/Divisions, we should meet this criterion, especially in Census Division 9—the Pacific states, e.g., California. SNF LOS and costs are quite different in the West than in other parts of the nation.⁴

² From 1998 to 2002, the number of hospital-based facilities declined 25.9%, from 2,350 to 1,742. Many hospitals lost money on their SNF products under the SNF-PPS because of their higher cost structure relative to free-standing SNFs and got out of the SNF business.

³ Today, the vast majority of nursing homes also have SNF beds.

⁴ Per communication with Reg Warren, PhD of Seniormetrics.

Other IRF and SNF selection issues:

1. **Payer mix.** About 2/3 of patients seen in IRFs are Medicare fee-for-service (FFS) patients.⁵ SNFs have proportionately more Medicare managed care patients than IRFs. Moreover, managed care plans, whether Medicare or not, tend to send their rehabilitation patients to SNFs rather than IRFs. From the standpoint of patient selection criteria, we will enroll both Medicare and non-Medicare patients because of the large spill-over influence that Medicare policy has on the practice patterns for all patients in Medicare-dominated facilities.

Should we seek a certain percentage of SNF patients to be Medicare FFS? Or do we take them all? Our inclination remains to take them all. We want to look at IRF and SNF practice broadly. Moreover, if we select facilities based on payer mix, we may run into recruitment problems and patient selection issues once facilities are enrolled. We will examine the influence of payer mix during analysis.

2. **Best-of-breed vs. others.** The Project Team does not want only IRFs and SNFs that are perceived to be the best of breed. Ideally, the Team wants a good range. However, facilities that have the patient volumes needed are also more likely to have the economies of scale and capacities to serve a broader range of patients than smaller facilities. Moreover, facilities that are both willing and able to participate in the study are more likely to be somewhat different and perhaps a better breed of facility. However, this propensity exists with both SNFs and IRFs and if better-breed facilities from both SNFs and IRFs come forward to participate in the study we are more likely to uncover best practices in both.
3. **Urban vs. rural.** The Project Team has decided that it would not select explicitly for urban-rural differences. The Team will, however, consider urban-rural differences if there are multiple willing providers within a given geographic area. If there is a sufficient number of facilities from rural areas, we will take urban-rural differences into consideration in the data analysis phase of the study.

⁵ While we may know what the payer mix is at the facility level, we do not know at this time what the payer mix is for joint patients in particular although one suspects that it is comparable to the payer mix for the facility as a whole.