Use of Medicare Data to Monitor Physician Access

Final Report

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1 Overview of Report

1.1 Concerns About Beneficiary Access to Physician Services

Changes to payment for physicians' services through the years, from the implementation of the Medicare Fee Schedule to increases in Evaluation and Management services with concurrent decreases in some surgical procedures, raise questions about the potential impact on Medicare beneficiaries' access to care. An article, published in *USA Today* in February 2001, reported that beneficiaries were experiencing difficulty finding physicians who would accept Medicare in several areas of the country. This information came from two surveys conducted in Colorado, as well as anecdotes from Atlanta, Austin, Spokane and "other urban areas" (Appleby, 2001). The results from one of the surveys conducted in Colorado by a patient-advocacy group indicated that only 15 percent of physicians were accepting new Medicare patients (Appleby, 2001). Although the Centers for Medicare & Medicaid Services (CMS) reported that physicians limiting services to Medicare beneficiaries was not a national problem, CMS became concerned about its ability to determine whether Medicare beneficiaries have difficulty accessing physician services using data with minimal processing lag time.

Although there is no formal definition, areas like Denver, Atlanta, Austin and Spokane are considered "hot spots" with purported access problems for Medicare

beneficiaries. The problem is identified through anecdotal reports and cannot be quickly verified. Causes of "hot spots" also vary. Low Medicare fees are often cited. Hot spots may also be 'created' when Medicare+Choice plans withdraw from an area leaving Medicare beneficiaries without sources of care.

1.2 Scope and Goals of the Study

CMS contracted with Health Economics Research, Inc. (HER) to recommend how the agency could better monitor physician access on a more timely basis; in essence, how CMS could respond quickly to anecdotal evidence that Medicare beneficiaries were having difficulty finding physicians to see them. As discussed in more detail below, HER first reviewed the access literature and CMS' data and physician access reports. Staff then convened a Technical Expert Panel (TEP) to provide the agency with recommendations.

The scope of the project was limited to analyzing beneficiary access to physician Medicare Part B services. However, it was acknowledged during the TEP that to gain a broader picture of access, limited license practitioner and nonphysician providers should be included at a later time.

The goal of this project was to provide CMS with domains and indicators that were considered important by TEP panelists as well as being timely, valid measures of access. CMS is limited to utilizing data and reports that they currently have available, although the formats of the reports can be revised. CMS staff are also considering the

possibility of conducting "small area" physician and beneficiary surveys to supplement information that is derived from claims and administrative data. Physician surveys had already been developed by HER in a separate project to examine physicians' willingness to participate in Medicare.

1.3 Study Tasks and Deliverables

There were four deliverables for this project.

Task One: Literature Review. The first task was a review of the literature to determine critical issues in measuring Medicare beneficiary access to physician services. HER conducted a targeted review of the literature to examine how published studies and reports. The report discussed several frameworks to measure access, focusing primarily on the Aday and Andersen model (1984), a model accepted for use by CMS to monitor beneficiary access to physicians after the RBRVS was implemented. Literature on access from the physician perspective using mostly physician-level data and literature regarding beneficiary access using beneficiary-level data was also reviewed. A copy of the literature review is in Appendix A.

Task Two: Review of Data and Reports Available at CMS. HER reviewed six data sets and reports created by CMS that might be useful in assessing access to physician services by Medicare beneficiaries. They included: the National Claims History File, the Sample Beneficiary Standard Analytic File, the UPIN Registry, the

Physician Access Report, the Part B Extract and Summary System, and the Carrier Workload Report. A copy of this report can be found in Appendix B.

Task Three: Organize and Conduct a Technical Expert Panel. The third task of this project was coordinating all activities related to the organization and conduct of the TEP, which was held at CMS' Baltimore offices on November 14, 2001. HER staff, in consultation with the CMS Project Officer and other CMS staff, selected the members of the TEP. HER then forwarded invitations to all, developed an agenda and forwarded to all TEP participants background materials consisting of the literature and data reviews.

Task Four: Final Report. The last task of this project is this final report. The purpose of this report is to summarize principal findings from the TEP, which will provide CMS with recommendations as to which access domains are important to focus on (based on TEP recommendations) and which indicators can be produced in a timely and accurate manner. The report also discusses refinements that can be made to available CMS data and reports to provide these indicators in a timely manner.

1.4 Five Challenges to Developing Timely Access Indicators for Small Areas

Five challenges face CMS staff in constructing and presenting access indicators to policy makers and the general public.

Challenge #1: In selecting each access indicator, a clear interpretation of its policy significance should be established.

Access is a multi-dimensional concept that means different things to different people. This suggests a two-stage process wherein "domains of access," or dimensions,

are decided upon first followed by the selection of "best" indicators capturing the essence of each domain. The strengths and weaknesses of each indicator should be known before including them in public documents. Particularly challenging are the utilization indicators of access, e.g., primary care visits per 1,000 beneficiaries. Low values may be indicative of an unwillingness of physicians to treat Medicare beneficiaries, but they may also be due to the shortage of physicians, generally, in the market, or to a healthy population requiring less care.

Challenge #2: Establishing a minimum threshold for each indicator below which access is deemed a problem.

Markets differ widely in their ease of access to medical services. Any numerical measure of access will have a distribution of high and low performing markets around a central average level. Because most of this variation is due to factors other than the Medicare program (e.g., physician shortage areas), *changes* in access within each market, we argue, are more meaningful. But when does a decline in local access become problematical?

Challenge #3: How to properly account for disruptions (both expansion and contraction) caused by the M+C program.

Complaints about access may come from beneficiaries enrolled in M+C plans, but the scope of most complaints concerns the Medicare fee-for-service sector. Many access indicators, in turn, rely heavily on submitted claims in the fee-for-service sector; a database that excludes services provided to M+C enrollees. Spillover effects of growth

or decline in M+C enrollment seriously impacts CMS' ability to track access in the fee-for-service sector.

Challenge #4: How to define small market areas that accurately reflect patient travel and waiting times to care.

All access indicators must be based on a geographic area. CMS does not currently have an established, comprehensive set of market areas for physician services. Neither national, regional, nor carrier localities address the access problems that possibly exist in local areas. This is because travel distances and times are far too great in larger areas. Indeed, all access problems "disappear" as the market size grows larger because it implicitly assumes effortless travel and search costs for care. On the contrary, overly small markets ignore the ease in which beneficiaries can access care in nearby markets.

Challenge #5: Determining the most cost-effective time period for reporting access indicators.

All access indicators have a time dimension as well as a geographic dimension. The call for more current measures is frustrated by the extremely high costs of providing high quality access indicators for any small area of the country at a moment's notice. Moreover, random variation in every indicator over short periods of time can produce misleading indications of access problems and overstate the number of problem areas. Thus, trade-offs must be made between the desirability of having current data and the costs and limitations inherent in processing and interpreting any indicator.

1.5 Key Findings and Recommendations

Based on input from the expert panelists and other CMS staff, and on our review of the access literature and the current status of CMS administrative data and reports, we provide the following observations and recommendations.

Finding #1: Of the numerous domains and indicators that the Institute of Medicine (1993) proposed in studying access, only a select number are of critical value to CMS in monitoring and responding to potential beneficiary access problems. Relevant access domains include:

- Structural Barriers and Utilization Rates of Particular Services;
- Financial Barriers to Care; and
- Consumer Satisfaction with Care.

Finding #2: Rates of high-tech procedures, efficacy and quality of treatment, quality of care, and patient adherence to treatment protocols are deemed too difficult to track and interpret accurately for small areas in a timely manner. These, along with stratifications of indicators by race and diagnosis, should be considered part of a longer term research agenda.

Recommendation #1: We recommend that Structural & Utilization Access Indicators include:

- Physician Availability to Beneficiaries;

- Beneficiary Choice of New Physicians;
- Beneficiary Choice of Medicare PAR Physicians;
- Unique Beneficiaries seeing Physicians;
- Services per Beneficiary seeing a Physician;
- Physician Willingness to see Beneficiaries;
- Physician Medicare Caseloads & Workloads;
- Physician PAR & Assignment Rates.

Each of these indicators would be stratified by broad type of service (e.g., office visits), patient age, or physician specialty (e.g., primary care). Several of these indicators are tracked currently in one of CMS' access monitoring reports. Of those listed, only beneficiary choice of new physicians is unsupported by administrative data; counts of physicians offering to take new Medicare patients would have to be collected through local surveys or a physician postcard census survey.

Recommendation #2: Medicare fees relative to private insurance fees, considered an indirect driver of beneficiary access to physicians, is highly recommended as a financial indicator of the program's competitiveness in the local market. This indicator is only available through a short turnaround local survey of physicians and their office managers.

Finding #3: Enrollment and disenrollment from M+C plans in a local market are believed to be creating substantial short-run disruptions in patient access to physicians. Moreover, enrollment changes have substantial effects on beneficiary fee-for-service utilization and physician Medicare caseloads.

Recommendation #3: Local enrollments in M+C plans should be tracked on all small markets several times a year and systematically included in the early warning access system.

Finding #4: Current market definitions used by CMS in the agency's access reports need refinement. Localities, MSAs, and counties are either too large or too small to reflect reasonable travel distances and times for care.

Recommendation #4: We recommend constructing a new set of markets specifically for tracking access problems and building on HSAs, HPSAs, MCCAs, and CAHPS® research efforts.

Finding #5: An irreducible time lag exists between the period in which access problems might develop and when robust access indicators can be made available to the policy makers.

- Data lags are due to: delays in submission of claims; delays in verifying and enhancing claims; and delays in constructing indicators and interpreting them.
- Month-to-month, quarter-to-quarter random variation in utilization can be substantial in small markets. This can lead to misinterpretation of access trends—particularly over short periods of time.

Recommendation #5: We recommend tailoring the reporting period to the particular access indicator in light of the barriers to timely reporting. Indicators such as PAR rates would only have to be reported annually.

Finding #6: Beneficiary access to physician and other medical services varies substantially across the country both in terms of travel distances and times. Over time, beneficiaries living in less populated areas have accommodated to the scarcity of practitioners.

Recommendation #6: Consequently, an early warning system should concentrate on recent deterioration in access within markets. Long-term research should focus on cross-area access differences.

Recommendation #7: Access problems should be market-specific and reported, in the first instance, as changes from a previous comparable time period and only secondarily in relation to access in other markets at a comparable point in time. With sufficient quarters of data, statistical testing of time trends will be possible.

Finding #7: None of the current CMS access monitoring systems fully satisfies all of the criteria for a successful system. Some reports have markets that are too large or too small; others involve major recurring drains on the CMS Data Center. None report all of

the recommended access indicators--even those that can be developed from administrative data.

Recommendation #8: Hence, we recommend a new Early Warning Access Monitoring System (EWAMS).

- This system would pull claims that have undergone Tier I and II edit verifications but prior to their uploading to the National Claims History File through the use of a Prospective TAP.
- New subroutines and files would be created that update some data monthly into quarters at the market-BTOS level. Other information, such as unique beneficiary counts, would be created quarterly from auxiliary files (beneficiaries from the EDB; physicians from the UPIN file).
- Quarterly updates would be done with a one-quarter lag to assure 95% completion of data files.

Finding #8: Administrative data are not sufficient to respond to all of the concerns and complaints that emanate from small market areas. Beneficiary difficulties seeing physicians and provider discontent with Medicare fees are not captured through claims. Nor, most importantly, can claims fully capture short-run access problems arising from M+C disruptions.

Recommendation #9: Therefore, we recommend a set of mailed and telephone surveys of beneficiaries, office managers and physicians in targeted local markets. Crucial aspects of the surveys include:

- Obtaining OMB clearance for both surveys in anticipation of having to conduct one or both surveys in small market areas. None, one, or several surveys may actually be fielded annually under an OMB clearance umbrella.
- Developing small targeted survey questionnaires with a predetermined sample plan.
    - Asking beneficiaries in a screener about any difficulties accessing care with follow up questions on the nature and source of difficulties.
    - Asking physicians (or their office managers) in a screener if they are accepting all/some new Medicare beneficiaries and, if not, reasons for restricting their Medicare caseloads.
- Census survey of physicians for early warning of potential changes in level of participation.

1.6 Organization of Report

This report contains five additional chapters. Chapter two summarizes the literature on access and discusses the development of key access indicators. This chapter also provides recommendations about which indicators are ideal, timely and accurate. The importance of defining the market area and relative strengths of weaknesses of various approaches are discussed in chapter three, while the importance and methods to produce timely access indicators are discussed in chapter four. A review of the available CMS reporting systems are provided in chapter five together with recommendations on improving the existing reporting systems. Chapter six discusses the important role that both beneficiary and physician surveys play in informing access. Five appendices are also included in the report: the literature review, the data review, complete tallies of

domains and access indicators, a copy of the physician telephone survey developed by HER in a separate study, and a copy of HER's physician postcard survey.

2 Development of Key Access Indicators

The purpose of this chapter is to discuss domains and indicators of access that CMS can use to monitor Medicare beneficiary access to physicians. The chapter first provides some background to defining access and various frameworks for measuring it. It then describes various types of measures and, based on comment from the TEP, which domains of access are most important and which indicators are most timely and accurate to produce.

2.1 Summary of the Literature

Definitions of access vary. For example, some researchers focus on groupings of *potential* and *realized* access when defining access that describe the "entry of a given population group to the health care delivery system" (Aday and Andersen, 1981). Other definitions incorporate health outcomes to describe access as "the timely use of personal health services to achieve the best possible outcomes" (Docteur, *et al.,* 1996) or "the extent to which the health care delivery system meets health care needs" (Lee and Gillis, 1994).

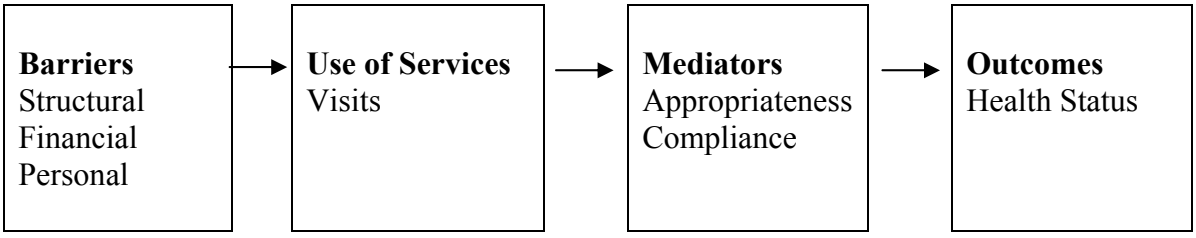
One of the most oft-cited frameworks to measure access to health care was developed by Aday and Andersen. Their framework attempted to integrate both demand and supply-side aspects as well as health outcomes when measuring access. To them,

access was comprised of two distinct parts: potential and realized. Potential access was considered to be characteristics of the delivery system, and examples of potential access included number of providers in an area, number of specialists in an area and the size of a physician's caseload. These characteristics described the environment from which consumers could access care. Realized access pertained to the utilization of health care services and the consumer's perspective of health care. It included not only utilization rates but also elements of consumer satisfaction of care, descriptions of the type of care received as well as consumer perceptions of the care received.

To guide the TEP discussion, HER introduced the definition and model of access developed by the Institute of Medicine (IOM). The IOM defines access as the "timely use of personal health care services to achieve the best possible outcomes" (IOM, 1993). The IOM used access as a shorthand term for describing a dynamic process for achieving good health outcomes. Thus, it moved beyond the traditional use of the term "access" to mean the actual effective use of health care services.

The IOM developed a *four-part dynamic access model* that linked use of services to health outcomes (Figure 2-1).

Figure 2-1



This model, an adaptation of the Aday and Andersen model, recognized that the presence of structural, financial or personal barriers affect the timely use of services. The model called particular attention to mediators, such as patient compliance and clinical appropriateness, that stand between the use of services and desired outcomes.

Models also have been developed that incorporate elements of managed care. Docteur, *et al.* (1996) modified the IOM framework to account for managed care. New elements were included that reflected plan selection, enrollment and disenrollment as well as beneficiary understanding of managed care. In addition, utilization was deemphasized in the managed care model due to the assumption that utilization would decline while beneficiary satisfaction took on greater importance due to beneficiaries' ability to switch plans and health care delivery systems. Gold (1998) also expanded the access framework to better reflect the advent of managed care, including elements representing the structure of the health care delivery system, financial arrangements of these systems and individual choice. She also described the need for models of access to remain flexible and dynamic because access measures would continue to change as the market place and health care delivery systems evolved.

It was decided during the TEP that the primary concern of Medicare beneficiaries was access for those in the fee-for-service (FFS) sector. This is because only FFS claims data are available while managed care encounter data are not. However, it would be interesting to compare access indicators in the FFS and managed care sectors for

Medicare beneficiaries. Further, it would be interesting to quantify the effect that beneficiary churning in an out of the managed care system has on access.

2.2 Indicators from the Technical Expert Panel

HER e-mailed TEP members four domains and associated indicators taken from the literature. Participants were asked to rank the four domains in terms of importance (1 = very important, 2 = somewhat important, 3 = not important) in measuring beneficiary access. Each domain-specific indicator was then ranked first by timeliness (1 = very timely, 2 = somewhat timely, 3 = not timely) and then by accuracy (1 = very accurate, 2 = somewhat accurate, 3 = not likely to be accurate). Timeliness and accuracy (in measuring access) were two themes oft repeated during the TEP meeting. Participants wanted to know quickly whether there were access problems in a market, and they wanted to know which indicators could be measured accurately.[1]

Responses were received from eight participants, and tallies for each domain and indicator were calculated. The complete set of tallies is contained in Appendix C. The following section discusses the rankings.

[1] There may have been some confusion over the ambiguity of the word "accuracy." An indicator could be quantified precisely but not be a particularly accurate measure of true access problems and vice-versa.

2.2.1 Important Versus Less Important Access Domains

According to the tally, barriers and use of services were the two most important domains to respondents (Table 2-1). The tally also indicated that they were equal in their importance. Barriers were decomposed into the structural, financial, and personal barriers beneficiaries might face. Utilization of services included primary and preventive services as well as rates of various special procedures.

Table 2-1

Average Ranking of the Importance of Each Domain

DOMAINS	
Barriers	1.3
Use of Services	1.3
Mediators	2.1
Health Outcomes	2.4

The third most important domain was Mediators followed lastly by Health Outcomes. Examples of access indicators under the mediators domain included appropriateness of care, quality of providers and patient adherence. Health outcomes involved measures of well being, mortality rates, health status, functional status, use rates of 'high-tech' procedures and rates of hospitalizations for ambulatory care sensitive conditions.

2.2.2 TEP Recommended Access Indicators by Domain

This section presents results from the TEP's rankings of individual indicators. For each domain, the indicators considered among the most timely and the most accurate are described. Table 2-2 contains the average rankings of each indicator (see Appendix C for variation in panelist rankings).

Barriers. As stated above, TEP members believed that structural, financial and personal barriers were among the most important domains for measuring access. According to the rankings, the ratio of eligible physicians to beneficiaries was the timeliest indicator that could be used. It also ranked as one of the most accurate as well. The Medicare assignment rate and the ratio of billing physicians to beneficiaries were also considered very timely and accurate indicators. Note that the panel ranked the proportion of physicians accepting new Medicare patients low on both timelines and accuracy; yet, this is a major complaint of beneficiaries.

On average, many of the financial barrier indicators could only be described as somewhat timely and somewhat accurate. Average balance bill per Medicare beneficiary was ranked as somewhat timely and somewhat accurate, as were the indexes of relative prices and level of managed care penetration.

Table 2-2

Average Rankings of Access Indicators

	Timeliness	Accuracy
BARRIERS		
Structural Barriers		
#new physicians entering Medicare program	1.7	1.7
#physicians opting out	1.4	1.6
Ratio of eligible physicians to beneficiaries	1.2	1.8
Ratio of billing physicians to beneficiaries	1.3	1.5
Size of physician's Medicare caseload	2.3	1.6
Medicare participating rate	1.7	1.6
Medicare assignment rate	1.4	1.3
Proportion of physicians accepting all/no new patients	2.5	2.4
Proportion of physicians not performing special services	2.3	2.1
Financial Barriers		
Index of Relative Prices	2.1	2.1
Proportion of Medicare beneficiaries with supplemental insurance	2.7	2.0
Level of managed care penetration	2.3	1.9
Average balance bill per Medicare beneficiary	1.9	1.9
Personal Barriers		
Average education and income level	2.9	2.5
Disability Status	1.4	1.4
Proportion of minority Medicare beneficiaries	1.4	1.6
Measures of health seeking behavior	2.7	2.2
Consumer satisfaction measures	2.6	2.4
Health Status Measures	2.4	2.1
USE OF SERVICES		
Primary/Preventive		
% of Medicare beneficiaries with a physician visit	2.4	1.9
% of Medicare beneficiaries with a primary care visit	2.4	1.9
Rate of usage per 1,000 beneficiaries	2.1	1.6
Number of services per user	2.3	1.6
Rate of time-sensitive ambulatory visits for benes w/chronic conditions	2.4	1.9
Procedures		
Rates of "HEDIS" type of preventive types of services	2.3	1.9
Rates of "high tech" procedures for specific clinical conditions	2.3	2.1
Rates of hospitalization	2.1	1.9
MEDIATORS		
Appropriateness of Care: Efficacy of Treatment		
Glycemic Control for Diabetics	2.6	1.9
Rates of progression of disease for benes w/specific chronic conditions	2.4	2.0
Rates of ambulatory visits for beneficiaries with chronic conditions	2.3	2.0
Quality of Providers		
Rate of board certified providers	1.9	2.1
Average number of claims in National Practitioner DataBank	2.3	2.2
Proportion of physicians with Medicare sanctions	1.9	2.1
Patient Adherence		
Rates of timely follow-up visits following discharge from hospital	2.5	2.5
Rates of hospitalizations for acute events	2.2	2.2
Self-reported rates of adherence	2.4	2.4
OUTCOMES		
Well-being		
Mortality Rates	2.0	2.1
Rates of Chronic Conditions	2.4	2.3
Claims-based measures of health status	2.0	2.3
Self-reported limitations of ADLs	2.4	2.3
Rates of Nursing Home usage	2.2	2.6
Equity of Services		
Patient reported satisfaction	2.7	2.4
Use rates of "high tech" procedures	2.5	2.4
Rates of hospitalization for ACSCs	2.0	2.0

Two personal barrier indicators were believed to be measured in a very accurate and very timely manner: disability status and proportion of minority Medicare beneficiaries. Health status measures were also thought to be measured somewhat accurately but a little less timely. Note again, that consumer satisfaction is ranked very low, although it is a highly valued access indicator.

Use of Services. Use rates and number of services per user were considered the most accurate of indicators by the respondents but only "somewhat" timely to produce. Procedure rates were also considered more accurate than timely indicators of access. Rates for preventive services, "high tech" procedures and hospitalizations were all considered somewhat accurate and somewhat timely to produce by respondents. It should be noted that in some instances the more detailed clinical subcategory was ranked. This indicates that alone, the categories can be vague and should be specific to the Medicare population and their conditions.

Mediators. As stated above, mediators were ranked as a less important domain compared to barriers and utilization. In terms of accuracy, glycemic control for diabetics, rates of progress of disease for beneficiaries with specific chronic conditions and rates of ambulatory visits for beneficiaries with chronic conditions were all considered somewhat accurate but quite "untimely."

Each indicator found under "quality of providers" was considered a measure that could be produced somewhat accurately. Proportions of physicians that are board certified or with Medicare sanctions were both ranked the timeliest to produce. In terms

of patient adherence, rates of hospitalizations and follow-up care for acute events were ranked fairly low on accuracy and timeliness.

Health Outcomes. Respondents did not feel overall that health outcomes were an especially important domain--at least for an access "hot spot" monitoring system. Mortality rates were ranked as the most accurate indicator to measure relative to the other indicators listed. It was also considered somewhat timely, as were claims-based measures of health status. In terms of equity of services, rates of hospitalization for ambulatory care sensitive conditions were ranked as somewhat timely and somewhat accurate.

2.3 Direct Structural & Utilization Access Indicators

Based on the literature and TEP responses, it is clear that no single ideal indicator captures the entire picture of access. To verify complaints about restricted access, we need to know, first, the availability of health care locally, and second, whether beneficiaries are availing themselves of needed services. Recommendations are made from only two of the of the four domains: *barriers* and *utilization*. No recommendations are made concerning mediators or health outcomes domains. We felt that indicators in these two domains could not be an integral part of an early warning access monitoring system because they are difficult to collect in a timely, accurate fashion. In addition, the indicators were subject to very specific conditions or diseases, thereby limiting the size of the sample in small markets and consequently, the statistical accuracy of the measures.

Table 2-3 lists in the far right column the structural and utilization access indicators that appear most important in tracking beneficiary access to physician services. The table also lists in the far left column the corollary indicators describing physician willingness to provide services to Medicare beneficiaries. Arrows signify the presumed causal direction from physician willingness to serve beneficiaries to beneficiary access through a "linking" analytic variable (discussed below).[2] It is common in access analyses to track indicators from all three columns of the table, and we recommend that all indicators be quantified.

It is crucial to a proper understanding of systematic changes in access that links between the beneficiary and physician indicators be understood. As shown in the table, a dual provider indicator exists for each indicator directly relevant to beneficiaries. Intervening, linking indicators can drive a wedge between what physicians appear to be doing on the supply side and what beneficiaries are experiencing on the demand side in the market. This point is reinforced in the discussion below.

[2] It is a simplification to assume that only supply-side factors affect beneficiary access. However, where Medicare fees are less than private fees, it is reasonable to assume that beneficiary utilization and access are "supply bound" and "excess demand" exists.

Table 2-3

Indicators Recommended For Monitoring
Changes In Medicare Beneficiary Access To Health Services

MD Willingness	Linking Indicator	Beneficiary Access
WILLINGNESS	→ MD per BENEFICIARY	→ MD AVAILABILITY
CASELOAD	→ MD AVAILABILITY	→ USER RATE
ACCEPTANCE	→ MD AVAILABILITY	→ MD CHOICE
PAR RATE (modified)	→ MD AVAILABILITY	→ PAR CHOICE
WORKLOAD	→ CASELOAD (inverse)	→ USE RATE
ASSIGNMENT RATE	→ USE RATE	→ USE RATE (assigned)

Indicator Definitions:
WILLINGNESS: Proportion of all physicians seeing beneficiaries of all physicians
MD per BENEFICIARY: All physicians per 1,000 beneficiaries
MD AVAILABILITY: All physicians seeing beneficiaries per 1,000 beneficiaries
CASELOAD: Unique beneficiaries seeing a physician per 1,000 physicians seeing beneficiaries
USER RATE: Unique beneficiaries seeing a physician per 1,000 beneficiaries
ACCEPTANCE: Proportion of all physicians accepting all/some new Medicare beneficiaries
MD CHOICE: All physicians accepting all/some new Medicare beneficiaries per 1,000 beneficiaries
PAR RATE (modified): Proportion of participating physicians of all physicians seeing beneficiaries
PAR CHOICE: Participating physicians per 1,000 beneficiaries
WORKLOAD: Medicare services per physician seeing beneficiaries
USE RATE: Services per beneficiary seen by a physician
ASSIGNMENT RATE: Proportion of Medicare services taken on assignment
USE RATE (assigned): Medicare assigned services per 1,000 beneficiaries seeing a physician

Table 2-3 provides a skeleton for the ultimate set of indicator tables that might be produced. Many of the access indicators in the table are predicated upon utilization which could be measured either in terms of service counts or payments deflated for differences in practice costs across areas and over time.[3] Services can also be stratified by type of service (e.g., primary care visits, specialist consults) or BTOS group. Provider counts can be stratified by specialty (e.g., primary care physicians versus surgeons); in which case the adjective, all, is replaced with a specialty group. Indicators can also be compared by beneficiary age, disability status, or other patient characteristic. Detailed stratifications need to be established (see Chapter 5 for examples).

Six beneficiary oriented access indicators are recommended.

MD AVAILABILITY. The first beneficiary access indicator is physician AVAILABILITY, defined as the number of physicians actually seeing Medicare patients per 1,000 beneficiaries. Declines in physician availability to Medicare patients[4] indicates a likely reduction in access to physicians for beneficiaries who were already part of a practitioner's caseload.

This indicator is directly linked to physician WILLINGNESS to see Medicare patients, defined as the proportion of all physicians seeing Medicare beneficiaries during

[3] The current CMS access reporting system tracks Medicare FFS payments over time across areas. Payments are the preferred measure when tracking revenue flows to practitioners and can reflect utilization trends as well if they are adjusted for annual updates in Medicare fees.

[4] The CMS Physician Access Report refers to physician availability as the physician-to-population ratio. Normally, the latter is measured as the ratio of absolute counts of physicians and beneficiaries regardless of whether all physicians have seen at least one patient. We prefer to use the term, availability, to distinguish the general supply of physicians from the subset actually seeing Medicare patients.

the period. A reduced willingness of physicians to see Medicare patients should translate into less availability (and access) if the overall supply of physicians, MD's per beneficiary, remains unchanged. It is important to note that reduced willingness on physicians' part to see Medicare patients does not automatically translate into less physician availability if the relative supply of physicians is growing in an area. Conversely, availability of physicians to beneficiaries may be shrinking even if the remaining providers are equally willing to see patients if the relative supply of physicians has declined--possibly due to retirement.

USER RATE. The second beneficiary indicator, called the USER RATE, would report the proportion of all beneficiaries in an area seen by a physician during the reporting period. Declines in this rate could indicate access problems. As with all the indicators, the USER RATE will vary across areas for reasons unrelated to the Medicare program; thus, changes in this rate *within* markets is more important to track.

This rate is directly linked to the physician's Medicare CASELOAD through physician availability. CASELOAD is defined (as in the Physician Access Report) as the number of unique beneficiaries served per 1,000 physicians seeing Medicare patients during the period. The USER RATE will decline if CASELOADs decline and physician availability remains unchanged. Instead of dropping out of the Medicare program, physicians may continue to see beneficiaries but in reduced numbers as they shift their time to other insured patients. Of course, the number of physicians seeing any beneficiaries may decline, resulting in constrained availability, as discussed below.

MD CHOICE. The third indicator, called beneficiary CHOICE of physicians, would report the number of physicians accepting all/some new Medicare patients adjusted by the number of beneficiaries in the market. Declines in this ratio certainly indicate less choice beneficiaries have in finding another physician if they wish (or have) to change. This indicator may be even more precise if it included only those physicians accepting *some* new Medicare patients; otherwise, physicians accepting all new patients could absorb all influxes of beneficiaries into the market.

This indicator is directly linked to physician ACCEPTANCE of Medicare patients again through physician availability. The ACCEPTANCE rate is defined as the proportion of all physicians accepting all/some new Medicare beneficiaries into their practice. They may, or may not, see new patients during the reporting period; hence, this indicator, unlike all the rest, cannot be captured using claims data. Beneficiary choice of a new physician will be constrained if fewer practitioners accept new patients and there is no change in their availability to their current Medicare patients.

PAR CHOICE. The fourth beneficiary access indicator is called PAR CHOICE and is defined as number of physicians participating in the Medicare program adjusted for the overall number of beneficiaries in the market. Declines in this indicator imply that beneficiaries have less choice in finding a physician that accepts Medicare fees as payment in full without any balance billing. It differs from the choice in finding any new physician by focusing on only PAR practitioners.

This indicator is directly linked to the physician's (modified) PAR RATE, which is slightly different than the program's standard PAR rate in that the modified rate uses only physicians seeing Medicare patients as a denominator. This denominator more precisely reflects the decision to participate just of those practitioners actually seeing Medicare patients; non-Medicare providers would be excluded. Beneficiary choice of a PAR physician will be constrained if the number of PAR physicians declines among those actually seeing Medicare patients, assuming no change in physician availability to Medicare patients. If general availability increases, however, due to an expanding supply of physicians, beneficiary choice of a PAR physician would not necessarily narrow.

USE RATE. The fifth beneficiary access indicator is called the USE RATE and is defined as the number of services (or payments) per beneficiary seen by a physician during the reporting period. This rate is conditional upon a patient actually seeing a physician; therefore, it can also be interpreted as a rate of service intensity. Declines in this indicator imply that patients are receiving less intensive care--possibly due to provider constraints on the time spent with Medicare patients (e.g., fewer follow-up visits).

This indicator is directly linked to the physician's average WORKLOAD, defined as the number of Medicare services per physician. Declines in the physician's workload would reduce the Medicare patient's intensity and use of services for an unchanged physician caseload. If physicians also reduced their Medicare caseloads, then the use rates of patients still receiving care would not necessarily fall. More likely, physicians

would simultaneously reduce both service intensity and their Medicare caseloads, resulting in a sharp decline in use rates.

ASSIGNED USE RATE. The sixth beneficiary indicator is called the ASSIGNED USE RATE and is limited to just Medicare assigned services for beneficiaries seeing a physician during the period. It is a subset of the use rate. Declines in this indicator suggest greater out-of-pocket obligations of beneficiaries seeing a physician.

This indicator is directly linked to the physician ASSIGNMENT RATE, defined as the proportion of services taken on assignment. Declines in the assignment rate translate into less assigned services for beneficiaries seeing physicians for an unchanged use rate. Again, however, it is reasonable to expect that physicians taking fewer claims on assignment might also limit the total number of services provided a patient. While closely related, the use rate and assigned use rate reflect slightly different dimensions of access. The overall USE RATE captures changes in intensity of care over an episode of illness and is clinical in nature. The ASSIGNED USE RATE is more financial, although it certainly can fall with declining intensity of care.

FUNDAMENTAL INDICATORS. Of all of the indicators listed in Table 2-3, three are fundamental to all the rest:

(1) the number of physicians per 1,000 beneficiaries (MD per Beneficiary);
(2) the willingness of physicians to see Medicare patients (Willingness); and
(3) the physicians' average Medicare caseload (Caseload).

Physician willingness to see beneficiaries, coupled with the relative supply of physicians, determines provider availability to beneficiaries. Availability and caseloads together determine the beneficiary user rate. They also play a major role in the choices beneficiaries have of physicians in their market and how intensive their care will be. Consequently, declines in any of these three indicators not only signal access problems by themselves, they have ripple effects on other key access indicators. Declines in two or all three indicators in a market likely have very serious access consequences.

Another point concerns the relation between general physician supply per beneficiary and the other two "behavioral" indicators that reflect provider willingness to see Medicare patients. In areas either with rapidly growing Medicare populations or experiencing M+C disenrollments, any coincident declines in FFS physician Medicare caseloads or willingness to see beneficiaries are particularly worrisome.

2.4 Indirect Indicators of Access

Index of Relative Prices. One reason why physicians may limit services to Medicare beneficiaries, or not see them at all, is low reimbursement. However, it is important to know what the level of reimbursement for Medicare is compared with other types of insurances physicians accept. If beneficiaries are having difficulty accessing services to physicians and rates are comparable, physician fees may not be the real reason for limiting services.

The Medicare claims are excellent at quantifying the amounts charged and paid by the program. No data base exists, however, on fees paid by other insurers in all physician markets in the country. Only physician survey data would fill this gap. (See Chapter 6.)

Level of Managed Care. Access problems can be caused when Medicare+Choice (M+C) plans leave a market area. When this occurs, Medicare beneficiaries are left without primary care providers and must find new ones. This situation may be temporary if only the plan is leaving the area and not physicians. However, the problem can be exacerbated when physicians do not accept new Medicare beneficiaries recently disenrolled from M+C plans. Consequently, tracking the level of M+C coverage is critical in interpreting whether disruptions in access to care are due to plans entering or exiting the market. This can presumably be done using CMS administrative data bases.

Personal Barriers. Knowledge of personal barriers can enrich the context in the access problem which is evaluated. Are beneficiaries having difficulty accessing services, not because there is a lack of physicians in the area, but because they have difficulty getting to the physician (transportation problems)? Or are they unsatisfied with the care they receive? Answers to these questions cannot be quantified using claims; beneficiary surveys are necessary. Moreover, it is important to examine what is happening to non-Medicare beneficiaries in the same market in order to place Medicare beneficiaries' access problems in context. Limited access may not be a problem

exclusive to Medicare beneficiaries. Many privately insured patients may also be suffering from a physician shortage or unwillingness to see them. Survey-dependent indicators are discussed further in Chapter 6.

3 Definition of Access Market Areas

3.1 Need to Refine Markets for Physician Care

Complaints about reduced access to physicians' services are invariably local and are often referred to as "hot spots." The USA TODAY report cites Denver, Boulder, Atlanta, Austin, and Spokane as potential problem areas where beneficiaries are having trouble finding a physician to treat them (J. Appleby, *Rejections rise for Medicare Patients*, USA TODAY, August 13, 2001). Practitioners are also claimed to be withdrawing from the program—usually by not accepting any new Medicare patients. The same newspaper article admits that the "participation rate [of physicians] in Medicare has increased and stands at about 91% of doctors [nationally]." It also notes that a MedPAC study "found that 95% of doctors said they would accept new Medicare patients, about the same percentage as in 1997." These national statistics, however, are unpersuasive when considering possible access problems in localized "hot spots."

Despite that fact that the overall willingness of physicians to see new Medicare patients is very high across the nation, CMS takes seriously complaints like the following from a Boulder, Colorado senior advocate:

"I started going down the list and calling doctors, and just about everyone is saying no."

Like most politics, access to health care is local. Yet, at the present time, CMS reports on access difficulties do not share a common definition of local health care markets. The Physician Access Report displays access information for 5 increasingly narrow market definitions: USA, Colorado, Denver Area, Denver MSA, and individual Denver area counties. Other reports such as BESS use the carrier locality as a market area. None of these areas is entirely satisfactory for reasons discussed below.

3.2 Medicare's Access "Obligation" to Beneficiaries

In defining markets for beneficiary services, CMS needs to consider what the Medicare program's obligation is to beneficiaries regarding access. Clearly, the program's obligation, expressed in many ways by beneficiaries,[1] is to assure that patients have adequate access to physicians within a *reasonable* travel distance. More specifically, the market area needs to be defined such that a *sufficient number of physicians are willing to treat beneficiaries within a reasonable travel time*. This would seem to exclude whole states or even most carrier localities as market areas; *reasonable* travel times suggest much smaller areas. By contrast, it would be unreasonable to presume that the program should pay competitive fees in order to assure that beneficiaries can always see the "doctor around the corner." What, then, is the usual way markets are defined and what are the strengths and weaknesses of some of the popular definitions used by CMS and other groups?

[1] "I've been paying taxes since I was 17 years old," says Margaret Grinnell, 65. "Now all of the sudden, these doctors are saying, 'You're old now. We really don't want to take care of you.' That's terrible." (J. Appleby, p. 2)

3.3 Standard Definition of Markets

Economists define market areas along two dimensions:

1. *Geographic;*
2. *Type of Service.*

In most market analyses, the number of local suppliers is used to determine competitiveness. Few suppliers and longer travel times usually "expands" the market. It would be inappropriate to define the market for physician services based on actual beneficiary travel patterns, however. Because many rural patients actually travel long distances to see a specialist, for example, does not justify defining the “rural” market broadly to include an adjacent urban area. For purposes of measuring access, we believe the geographic definition of a market should be based on *reasonable* travel times (which are positively correlated with distance) of patients to providers for a particular type of service. Ours is normative, not a positive, definition of markets. If the market was defined to include the greatest distance traveled for care, then very few markets likely would be deemed shortage areas because, after all, most beneficiaries did eventually receive care.

This does not mean that all physician markets are of equal size, on the other hand. Much depends upon the time involved in traveling to the physician’s office in the local area. In denser markets, travel times per mile are greater, implying smaller geographic markets than elsewhere in order to equate average travel times across markets. For example, the market area for primary care services might be defined as being within a 10-

mile radius, on average, of a beneficiary's zip code. (For New York City, the radius might be 2 miles while for Wyoming the radius might be 25 miles.) The task is then to determine how many willing providers exist within a 10-mile (2 mile, 25 mile) radius. For hospital care, excluding ER visits, the radius might be twice as large centered on the beneficiary's zip code of residence.

In general, the physical radius of the market varies inversely with the urgency of the need. Emergency room care at midnight has a smaller market than diagnostic imaging for occluded arteries. Thus, in order to determine whether sufficient numbers of willing providers are available, the type of service first needs to be decided upon then travel times and converted into miles for each market specified.

We do not recommend that travel times be adjusted by waiting times to appointments in defining markets. Longer waiting times are one possible indicator of restricted access in a predetermined market, not an element in defining the market in the first instance. If long waiting times forced patients to travel excessively long distances to receive more timely care, we would not want to expand the market based on such an "involuntary" response.

Market sizes do vary, however, by the type of service being demanded by beneficiaries.

3.4 Strengths & Weaknesses of Popular Market Definitions

The list of possible markets is extensive:

1. National;

2. *States;*
3. *Carrier localities;*
4. *Metropolitan Statistical Areas (MSAs);*
5. *City Areas;*
6. *Primary Sampling Units (PSUs);*
7. *Counties;*
8. *Zip codes.*

In addition, CMS has used other governmentally determined market areas for survey and other analytic research, including:

9. *Health Service Areas (HSAs);*
10. *Managed Care Contract Areas (MCCAs);*
11. *CAHPS® Areas;*
12. *National Health Shortage Areas (HPSAs).*

None of these definitions is perfect. **National** markets beg the question of local pockets of constrained access. The same argument, as least for physician care, is true for all **states**, including small ones like Rhode Island and Delaware. Rarely, too, are carrier **localities** good markets for capturing patient travel times to care. Indeed, the majority of localities are now statewide.

MSAs and **City Areas** begin to approximate true market areas for some smaller cities and towns. They are far too large for all large and mid-sized cities, however.

Primary sampling units are the anchors for the Medicare Current Beneficiary Survey (MCBS). The Denver area formed one of the survey's PSUs, and data on several hundred beneficiaries (494 in FFS) were used by CMS to comment on access in the MSA. This was fortuitous; in most cases, the MCBS will not be able to provide current

information on access in local markets. This is because the PSUs are chosen to be nationally and regionally, not locally, representative. They support valid estimates of changes in access for large geographic areas but have little to do with the challenge of responding to complaints about local access constraints.

Counties are both too small to capture the extent of patient travel in many rural parts of the country and too large in most urban areas. San Bernadino County in California, for instance, is roughly the size of Massachusetts. Counties could be reasonable approximations in certain markets, but again this would only be fortuitous.

Zip codes, on the other hand, are almost always too small in describing market areas for practically all kinds of physician services, although they may be much better than counties in dense urban areas like New York City.

Health Service Areas (HSAs) are aggregations of counties based on commuting patterns between place of residence and location of hospital admission (Elliott *et al*., 2000). There are roughly 800 HSAs in the U.S. averaging about four counties each. While HSAs may be helpful in defining market areas outside cities (Elliott *et al*., 2000, p. 3), they are likely too large for "workable" physician markets in urban areas.[2] The LA HSA, for example, includes both LA and Orange Counties that together include Santa

[2] Travel patterns to hospitals involve larger markets than to physicians' offices. Increasingly, though, physicians locate their practices near hospitals resulting in overlapping markets for the two complementary services. It appears that HSAs, in focusing on hospital-oriented travel patterns, put together contiguous, overlapping hospital markets into a single, much larger HSA. This has the effect of overstating markets for physician services based on reasonable travel patterns in many instances.

Monica north of LA and San Clemente, 70 miles away, to the south. HSAs, however, could be a reasonable starting point for a second level of disaggregation in larger areas.

Managed Care Contract Areas, roughly 233 in 1996, are also aggregations of counties based on proposals submitted to CMS by private managed care plans. One advantage of this market definition is that M+C plans must build a credible network of physicians and hospitals to adequately serve patients in the counties included in their contract. Consequently, they may be a reasonable basis for dividing up large urban markets. HER staff have mapped the counties into smaller, more accurate market areas. Because few plans contract for rural counties, other definitions for these areas would be needed.

CAHPS® Areas. An elegant sample strategy was devised in defining the 275 sampling units for the CAHPS® fee-for-service survey. First, budgetary constraints limited the overall sample to 168,000 surveys. Second, all 3,100 counties in the U.S. were allocated surveys proportionate to their FFS population. Third, the total number of allocated surveys in each state were divided by 600, the number of mailed surveys deemed necessary to produce a representative sample in each market. This produced the number of sample markets in each state--with a few exceptions. Fourth, counties were aggregated around anchor counties with the largest number of allocated surveys to produce the final number of markets in each state. As a result, 8 states had so few allocated surveys that only a single statewide market was produced (including states like Alaska, Idaho, Montana, and Vermont).

It is unlikely that these CAHPS® geographic units, as they were called, accurately reflect physician markets in most states. Certainly, the entire states of Alaska, Idaho, and Montana are not a single market for physician services. Hawaii was assigned 2 markets; yet, there are more than 2 islands that make up the state. Oregon was divided into 3 markets while Massachusetts has 6 markets despite the fact that Oregon is 12 times larger, geographically, than Massachusetts. Almost certainly, many of the rural CAHPS® markets have severe shortages of physicians, but within such large areas, small towns may well be more than adequately supplied.

Health Professions Shortage Areas (HPSAs) were suggested by our panel of experts. They are defined as areas with relatively low numbers of primary care, mental, or dental professionals per capita. The majority tend to be in rural areas but some inner city areas are designated as well. They may be a positive starting point for identifying potential rural and inner city hot spots, but they do not exhaust all the potential markets in the country. Rural shortage areas may not be of particular value in some states as practically all rural counties are considered to be short of primary care providers. HPSAs may be more valuable in defining urban shortage "markets" in some states. [3]

[3] HPSAs may not have been useful in responding to complaints about access in the Denver area. Very few Census Tracts considered shortage primary care shortage areas even exist in the greater Denver area and none in Boulder County.

3.5 Steps in Constructing Small Area Physician Markets

The current CMS market definitions need to be refined. MSAs and Counties, the two most commonly reported geographic units are either too large or too small in most cases. We recommend that CMS establish a new set of market areas for all parts of the U.S. building upon HSAs, HPSAs, MCCAs and CAHPS® definitions. Each state would be studied and mapped and zip codes grouped into new market areas. In areas where HPSAs isolate only parts of a city, a special determination would be needed to group the remaining zip codes into markets based roughly on travel times possibly using MCCAs.

4 Optimal Timeliness of Access Indicators

4.1 Need for Timely Indicators

Both Congress and CMS desire the most current, accurate indicators of any change in Medicare beneficiary access to services in local markets. Complaints about declining access cannot be satisfactorily addressed either by information that is several years old or that is produced only after many months of data processing. It must be recognized, however, that being able to generate accurate measures of beneficiary access on any local health care market in the country is a daunting task--made feasible at all only by the comprehensive, nationwide claims data base maintained by CMS. Furthermore, even with refinements in CMS' computerized access monitoring system, some key indicators can only be collected through beneficiary and provider surveys. How survey-based indicators might be collected in a timely manner is discussed later in Chapter 6.

In this chapter, we first lay out the statistical and processing limitations to providing very current access information using administrative data. We next consider the optimal reporting time period by type of indicator given the limitations. Most access indicators are expressed as rates. How current a rate can be developed and presented is limited by the currency of data used to generate the numerator or denominator of the rate. Beneficiary counts in small areas, for example, may be more readily available than

complete counts of specialist visits for congestive heart failure patients. Section 4.3 presents examples of access indicators with different numerators and denominators and their optimal reporting time periods. In section 4.4 we weigh the advantages and disadvantages of fixed versus moving average measures of access and the kinds of descriptive and causal time trend reporting that would be desirable.

4.2 Processing & Statistical Limitations to Timely Reporting

Two trade-offs exist in making indicators more current while at the same time maintaining accuracy.

> *First, the data required to construct indicators are only available after some time lag due to data collection and processing.*

Data for some indicators can be available earlier than for others, but all suffer from some irreducible lag in timeliness.

> *Second, random, month-to-month, quarter-to-quarter variation exists in the underlying data for all access indicators.*

Indicators must be specified over some time period (e.g., the last quarter). Improvements or declines in access over short periods may be misleading and not predictive of access in future months or quarters because of natural variation in local supply or demand for care.

In this section of the report, we concentrate on the second challenge to timely access information; namely, the optimal reporting time period given occasional "blips" in the indicators over short periods. Reducing the time lags due to data collection and processing is taken up in the next section.

Most access indicators are expressed in terms of rates such as primary care physicians or office visits per 1,000 beneficiaries. Even if the CMS data system had perfect counts of physicians, beneficiaries, and all the claims for office visits for a quarter, the rates would vary from period to period due to natural variation in factors underlying medical care supply and demand. Physicians and beneficiaries leave and enter markets; flu and other health-related conditions come and go. This so-called random variation is not indicative of any secular trend in access. A quarter's decline in, say, office visits per 1,000 beneficiaries over the previous quarter should not be interpreted as an indicator of reduced access.

The longer the time period over which data are gathered and compared, the less important becomes short-run random variation. Comparing two quarters' rates will be a more robust indicator of changes in access than between two months. Semi-annual comparisons will be even more statistically reliable. Seasonal effects on health care demand add to the randomness of utilization-oriented access indicators. Thus, comparing the spring and summer quarters may lead to incorrect inferences of a decline in access if beneficiaries naturally use health care services less in the summer. Comparisons of identical quarters across two years (e.g., Summer or Winter quarters) addresses the seasonality issue but fails to capture within-year reversals in access. An indicator series that compares equivalent time periods across two years would solve both the seasonality and currency problems.

The optimal reporting period has direct implications for how contemporary CMS access indicators can be. Data on utilization in July can be theoretically produced in August, but data on the summer quarter can only be produced in October. Semi-annual data can only be produced after acquiring six months of data. A complaint about access raised in January, therefore, can only be addressed in July at the earliest, assuming no routine aggregation of information over prior 6-month periods. (How this challenge is overcome is discussed later in this chapter.)

In determining the optimal reporting period, CMS must answer the following questions:

How large a change in an access indicator is deemed clinically important?

The final access monitoring system will report indicator rates for selected periods of time. When those rates show differences, how large a difference at CMS will trigger either (a) a conclusion that access has declined, and/or (b) warrant more in-depth investigation of the market area--possibly through a special beneficiary survey? For example, according to CMS' study of access in the Denver area, the physician's average Medicare FFS caseload fell from 240 to 224 patients over the 1995-98 period, a 7% decline (CMS, *Denver Results*, Table 1, Denver Area). Is this a large enough decline to warrant a conclusion of restricted access or further in-depth investigation?[1] Once the set of access indicators is finalized, the agency should establish percent changes in each of

[1] Likely, this reduction is due to the rapid conversion of beneficiaries to M+C eligibility thereby removing them from FFS. Over the 1995-98 period, the FFS Medicare population in the Denver Area fell from 243 to 202 thousand.

them to guide interpretation and follow-up efforts. Likely, the 7% reduction in physician caseloads, if unexplained by M+C growth, would exceed the threshold.

How certain must CMS be that a decline in access has occurred?

For many access indicators, CMS will use claims data reflecting a census of all utilization by all eligible beneficiaries. Because samples within period are generally not involved, statistical sampling error is not a problem. However, small area variation occurs period-by-period, and each period's data should be considered against a random draw of utilization information over several periods. Comparison of change across two time periods must be evaluated against the change that "naturally occurs" across quarters. Statistical tests of the change in access can be conducted using pairwise t-tests of matched periods (e.g., first quarters of the current and previous year) or by fitting a regression time line to all quarters of available data. Time-trend regression is recommended as it is less sensitive to the periods chosen for comparison. Moreover, it can pick up reversals in the trend. For instance, an access indicator may have been rising slowly over a few quarters before turning negative for a few quarters. Note that in order to test for any significant change that exceeds simple random variation, a sufficient number of periods of data are required on the market area in question. If quarters are selected, then at least 8 quarters of data would be desirable. Access indicators gathered by surveys present special problems because they cannot be replicated in all markets on a periodic basis. See Chapter 6 for an elaboration of the problems and possible solutions.

Any statistical test will require CMS to establish a level of significance. We recommend a 5% level for a one-tailed test of a decline in access. This is equivalent to a two-tailed test at a 10% level of significance. In choosing the level, CMS should take into consideration the "costs" to policy makers and beneficiaries of rejecting a difference when, in fact, access has declined (technically, committing a Type II error). Care should be taken not to reject all declines in the access indicators because the level of statistical significance is set too high. Also, because CMS will be searching for consistent patterns of significant effects over many access measures, the agency probably should apply a somewhat less restrictive statistical test to each indicator. If 5 of 7 indicators indicate declining access, the fact that some (or all) of the 5 negative trends might only be significant at the 10% level does not detract from the overall concern raised by the results.

What baseline period is to be used for comparison purposes?

Based on the above discussion, we do not recommend the comparison of a single preselected baseline and current time period. Time trend analysis is recommended.

4.3 Optimal Reporting Time Period by Access Domain

Not all access indicators suffer from the same degree of random variation. Nor are all indicators likely to change during the same time interval. Table 4-1 suggests appropriate time intervals for monitoring selected access indicators in each of 5 major access domains. The table cells indicate the minimal time interval over which both

numerator and denominator of an access indicator would be meaningful for tracking changes in access. For example, one indicator of access is the average number of primary care visits per 1,000 beneficiaries. This indicator could be reported with confidence on a quarterly basis because visit and beneficiary counts would be large enough for a valid estimate of such a rate. Moreover, the indicator should be reported quarterly because substantial changes in the number of FFS beneficiaries can occur from one quarter to the next, thereby reducing utilization per beneficiary. We would recommend reporting visit rates for particular conditions such as Congestive Heart Failure (CHF) on a semi-annual basis, if at all, due to much smaller sample sizes--especially in small market areas.

Physician PAR rates and comparisons of Medicare to private fees are less variable within a year; this suggests only annual comparisons. Physician willingness to accept new Medicare patients and consumer search efforts for care would have to be gathered through local surveys. As baseline rates would not be available for any given small market, the questionnaire would have to collect baseline rates as well for comparison (see Chapter 6 for examples).

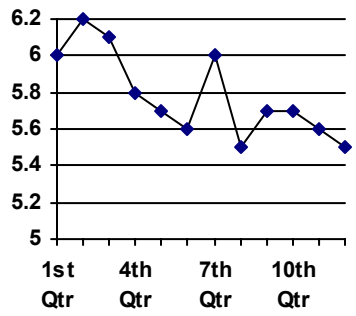
Once a final set of access indicators is determined, CMS needs to establish the appropriate time period for reporting each indicator. They will vary, as just described, even though the data set for many indicators is updated at the same time every month or quarter. For example, all FFS utilization files would be updated at the same time each

period, but rates would be calculated and presented on different time periods for all versus CHF-only primary visit rates.

4.4 Time Trend Methods

4.4.1 Fixed versus Moving Averages

CMS can conduct time series analysis using either the actual data from several periods or after "smoothing" the data by calculating moving averages. Consider the following hypothetical set of quarterly visit rates (annualized) over a three-year period (12 quarters).



The trend appears to be downwards with one "up-tick" early on and another substantial increase halfway through the study period. There are several ways of testing whether a decline in this indicator has occurred. First, one can compare the 1st and 12th quarters' values: 6.0 versus 5.5 visits per beneficiary. This is roughly an 8% decline. Second, one can compare the data averaged for the first year (quarters 1-4) with those averaged for the third year (quarters 9-12): 6.0 versus 5.625. This is roughly a 6% decline. Identical results would obtain based on a quarterly moving average with years' 1

and 3 as baseline and end periods. Third, one can compare the average of the first half of the first year (quarters 1-2) with the last 2 quarters of data: 6.1 versus 5.55. This is roughly a 9% decline. Fourth, one can compare the semi-annual moving average of the first 2 quarters of the first year with the first 2 quarters of the third year (quarters 9-10): 6.1 versus 5.65. This is roughly a 7% decline. And fifth, one can estimate a regression slope on all 12 quarters. This likely would produce a statistically significant decline similar in magnitude to comparing the first and third year averages.

In lieu of estimating regression lines, CMS can continue to update the data file periodically for a given access indicator for each small area. The agency can then compare baseline with current period values. But as the data series lengthens, the resources and computer time involved in maintaining the data set increase while comparisons using initial values become less and less meaningful. After some point, CMS may wish to begin deleting baseline values as it adds current values (possibly after 5 years of data has been added to the file).

Warning! If CMS uses any other than a fiscal or calendar year period of aggregation, baseline and current period comparisons may be subject to seasonality bias. This occurs, for example, if the second half of 2001 is compared with the first half of 1997. If the agency decides to update the data sets periodically (e.g., quarterly), then create a 4-quarter moving average each time, then care should be taken to compare the same corresponding 4-quarter moving average from the baseline period. For example, if CMS has just added the months 7-9 to the data file and calculated a semi-annual average

utilization rate for months 4-9, then it should compare the resulting rate with the same months 4-9 from a previous year.

4.4.2 Descriptive Time Trend Reporting/Analysis

Reporting access indicators is descriptive in the first instance. We recommend that CMS report both numerators and denominators of rates separately for several periods along with the final rate (as in Table 1 of CMS, *Denver Results*, Denver Area). Examples of numerators and denominators are shown above in Table 4-1. If changes in the number of primary care physicians and beneficiaries are shown separately, to cite one example, a decline in the overall available physician supply per beneficiary can be explained as:

1. *a decline in the absolute number of primary care physicians in the area;*
2. *an increase in the number of beneficiaries with no change in physicians; and/or*
3. *a relatively greater change in beneficiaries versus physicians.*

Armed with this information, CMS might draw different conclusions depending upon the three scenarios. In the first possibility (1), physicians are retiring or leaving the area; in (2), beneficiaries are rapidly migrating into the area (or aging into Medicare) and "overwhelming" physician supply; while in (3) physicians may be entering a growing market at simply a slower rate than beneficiaries. In the latter two instances, a short-run disequilibrium has arisen that may take care of itself over time. In the first instance, which may be common in rural areas, a chronic undersupply and reduced access is likely occurring that could require more active policy intervention.

Appropriate Time Intervals for Numerators and Denominators of Selected Access Indicators by 5 Major Domains

Numerators	**Denominators**			
	Beneficiaries	Physicians	Claims	Private Fees
Utilization				
· Primary Visits	QTR			
· CHF Visits	SEMI			
· Surgical Operations	Annual			
PAR/Assignment				
· PAR MDS	Annual	Annual		
· Assigned Payments		QTR	QTR	
· Assigned Claims	QTR	QTR	QTR	
Physician Supply*				
· Primary Care MDs	QTR			
· Specialist MDs	SEMI			
· Accepting New Benes	QTR	QTR		
Medicare Fees				
· Primary Care Fees				Annual
· Specialist Consult Fees				Annual
Consumer Satisfaction				
· MD Search Effort	QTR			

NOTES: *Medicare enrolled physicians

4.4.3 Causal Time Trend Reporting/Analysis

Besides tracking access indicators, it is also valuable to track factors possibly leading to declines in particular indicators. At the very least, the causal link between access indicators should be expressed and shown ideally in the same table. For example, consider a decline in primary care visits per 1,000 beneficiaries. This rate can be decomposed as follows:

(4.1) Visits per Beneficiary = Physicians per beneficiary
× Rate of physicians seeing beneficiaries
× Beneficiary visits per physician seeing beneficiaries
× Proportion of beneficiary visits provided in FFS sector.

In words, the per beneficiary primary care visit rate is written as the product of the number of primary care physicians per beneficiary in the market, times the number of primary care physicians treating Medicare beneficiaries out of all primary care physicians, times the rate of primary care visits provided by physicians seeing Medicare patients, times the share of all primary care visits that are provided in the FFS sector. Each of these ratios captures a different element of the overall trend in FFS primary care visits. The rate could be falling because:

- the overall number of primary care physicians is declining in the market relative to the number of Medicare beneficiaries;
- fewer primary care physicians are seeing Medicare beneficiaries;
- primary care physicians are providing fewer primary visits in general; and/or

- fewer of their primary care visits are being provided in the FFS versus the M+C sector.

Such a model allows CMS to systematically attribute any declines in primary care visits per eligible beneficiary to rapid M+C enrollment as well as other factors.[2]

Four other factors may contribute to declines in access indicators:

1. *Low Medicare fees relative to private fees;*
2. *Rising Medigap premiums resulting in less supplemental coverage and greater beneficiary out-of-pocket outlays;*
3. *Medicare billing hassles;*
4. *Disruptions in Medicare coverage due to M+C plan disenrollment.*

It likely will not be enough to report that access is declining in a particular market. Why it is declining is important in forming a policy response. If physicians in parts of Colorado are unwilling to see new Medicare patients because of low fees, the solution may be to abandon the statewide locality and replace it with a few localities with differing geographic practice cost adjustments. However, if it is due to withdrawal of M+C plans, then assistance may be required in helping disenrollees locate a FFS physician.

If Medicare billing hassles are most often cited as the reason for not seeing new Medicare patients, the policy response is less obvious. Medicare billing rules under the fee schedule are fairly uniform nationwide, and many physicians complain about the requirement to document their records to justify billing for a higher code. Why this

[2] In CMS' Physician Monitoring Report, volumes and payments are reported on a per FFS Medicare population thereby making numerator and denominator directly comparable.

might be a special problem in a particular market is not obvious. If physicians are choosing to withdraw services more in, say, the Boulder area, then this might be due to their greater market power and strength of the private commercial market.

5 Refinements of Current CMS Access Reporting Systems

5.1 Overview of Chapter

5.1.1 Implications of Previous Chapters

The range and types of indicators suggested in Chapter 2, the optimal way markets might be defined in Chapter 3, and the strategy for improving timeliness of reporting all have immediate implications for CMS data systems monitoring access to care. Several of the indicators require aggregation of services into beneficiary use rates and physician workload rates. Others require tracking unique counts of beneficiaries accessing the health system and of physicians seeing these patients. Indicators must be constructed within pre-specified geographic and service markets. They must also be tracked over time as changes in access, rather than absolute market rates, are more indicative of growing access problems.

Several system challenges must be overcome in refining the current access monitoring system. Counting unique beneficiaries in a real time basis month-by-month requires purging those with multiple physician visits and multiple beneficiary identifiers. This is fairly easy within months but to eliminate duplications across months requires a continuing record of past users. The same is true in tracking unique physicians. All the access indicators must be kept separately for hundreds, if not a few thousand markets. This stratification, coupled with the need to keep many quarters worth of data, is very

resource intensive. Moreover, it requires accessing a few supplemental files to enhance the basic claims files used to create some of the indicators.

Finally, the trade-offs between the breadth and preciseness of the indicators, on the one hand, and the timeliness of the reporting on the other should be understood. Many ways exist to decompose and present the indicators. The greater the number of stratifications, the greater the resources required, the more data that needs to be checked and the more tables that need to be reported and interpreted. We recommend that CMS staff make a clear distinction between a short-run, Early Warning Access Monitoring System that can deftly respond to anecdotal complaints and Congressional inquiries and a longer run, more in-depth study of access problems--especially in vulnerable populations. Racial comparisons of changes in access indicators is an example of a stratification we recommend *not* tracking in this new system. Whether and why racial and ethnic groups experience lower utilization of health services underlies an on-going research agenda in several CMS groups. The answers are complex and vary by area of the country. Short-run differences in trends will also be subject to very small sample sizes and volatile quarter-to-quarter variation. Current reports produced by CMS may be more appropriate for studying these types of issues.

5.1.2 Goals of Chapter

The principal goal of this chapter is to describe the CMS data system needed to support an Early Warning Access Monitoring System. The focus is on refinements to CMS' tracking efforts using administrative data; it does not include the use of survey

information (discussed in Chapter 6). We also critique the existing reports and why a new set of reports is needed.

5.1.3 Organization of Chapter

The rest of the chapter is in three sections. Section 5.2 summarizes the current flow of claims and other administrative data that support the agency's monitoring of beneficiary access. Section 5.3 then briefly summarizes and critiques the limitations to the major access reporting systems currently in use in the agency. Finally, Section 5.4 describes our proposal for a new Early Warning Access Monitoring System. It begins with an overview of the general approach and construction of access "numerators & denominators." Following subsections lay out our proposed monthly and quarterly summary records of indicator information, how the on-going small area data files would be stratified, and what a typical access table might look like.

5.2 Summary of Current Claims Flows Supporting Access Monitoring

Medicare claims submitted by physicians are maintained at the CMS Data Center in the 100% NCH (Part B) Nearline Claims file.[1] Prior to inclusion in the Nearline file, a Medicare claim submitted by a physician goes through several steps. First, claims are submitted by physicians to carriers. Carriers then put claims into their processing system

[1] The 100% NCH Nearline file also contains supplier claims.

where consistency and utilization edits are performed on the claim (Exhibit 5-1). After calculating a payment amount, a carrier submits the claim to one of the nine Common Working File (CWF) Hosts.

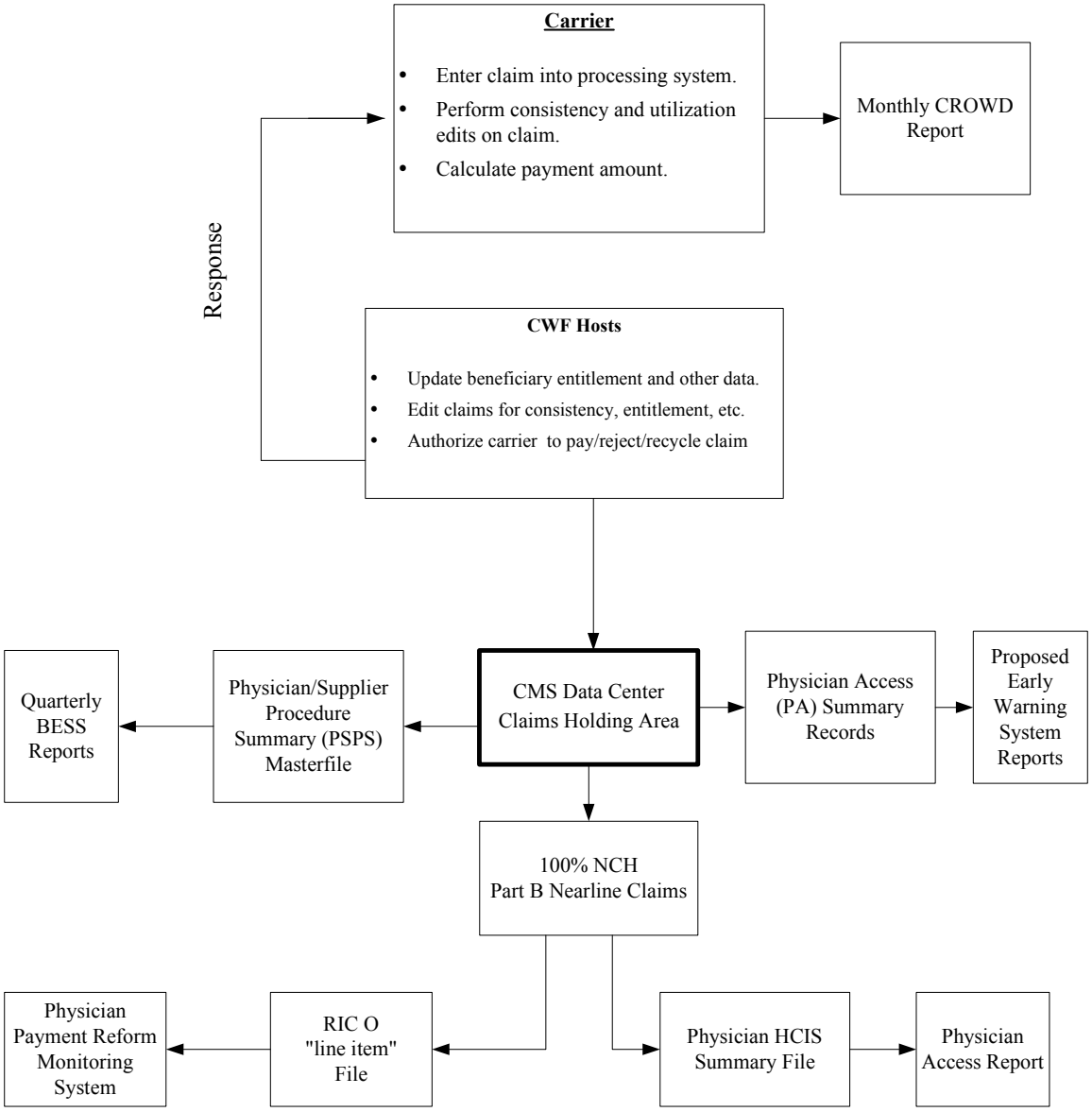
Upon receipt of a claim, the CWF updates beneficiary entitlement data in the host claims database and performs additional consistency and utilization edits (Exhibit 5-1). The CWF then authorizes the carrier to pay, deny, or recycle the claim through the system until more information is obtained. The CWF forwards adjudicated claims on a daily basis to a temporary holding area at the CMS Data Center.

The National Claims History (NCH) system places the "dailies" into a temporary holding area that we have labeled the "claims holding area." The dailies are then consolidated at the end of each week and the resulting "file" is also held in the claims holding area in what is known as the "MQA record format." During this period the claims are subjected to "Tier 2" edits, which consist of performing for a second time the CWF edits and removing any remaining duplicate claims. Finally, on the last Friday of the month, the NCH master file of physician and other Part B claims is updated. This is done by adding the new claims to the existing dataset by state. Claims are assigned to states on the basis of beneficiary (not provider) residence. (Note that even though the NCH master file is updated at the end of the month, the MQA-formatted claims are not flushed until they have been resident for 60 days in the claims holding area.)

The current claims processing system also spins off several databases that are used to support four CMS reports. On the basis of their workload, carriers submit

Exhibit 5-1

CMS Data and Reports Derived from Medicare Claims



SOURCE: CMS Data Users Reference Guide and interviews with CMS staff.

monthly Contractor Reporting of Operational Workload Data (CROWD) reports to CMS (Exhibit 5-1).

In a process parallel to the movement of claims into the NCH from the CMS Data Center's claims holding area, claims are summarized into a stripped down version of a line item record. This parallel process is known as a "prospective tap" and is shown in Exhibit 5-1 as two boxes to the left of the claims holding box. The line item record is then used as input to create the Physician/Supplier Procedure Summary (PSPS) masterfile. The PSPS file is the primary file utilized by the Part B Extract and Summary System (BESS) that produces summary utilization reports.

Two files are derived directly from the 100% Nearline file, the informally-named *Physician HCIS Summary File* and the *RIC O "line item"* file.[2] The *Physician HCIS Summary File* is created semi-annually and is one of the files used to create the Physician Access Reports. The *RIC O "line item"* file is created quarterly and is used in the Physician Payment Reform Monitoring System (PPRMS).

The Early Warning Access Monitoring System that we propose in Section 5.4 relies on data obtained via a prospective tap of claims from the claims holding area. It is shown in Exhibit 5-1 as two boxes to the right of the claims holding area box. The first box shows the *Physician Access (PA) Summary Records* and the *Ancillary HICNO and UPIN* files that will be created during the prospective tap. The second box represents the proposed monitoring systems reports. (Exhibit 5-1 does not show other files [e.g., EDB] that will be used to create the proposed monitoring system's reports.)

[2] The *RIC O line item* file should not be confused with the RIC O NCH variable-length Part B physician claims file.

5.3 Summary and Critique of Current Access Monitoring Systems

This section summarizes and critiques the CROWD, BESS, Physician Access Reports, and PPRMS. The first three of these reports and systems are described in greater detail in the TEP *Data Report* briefing document reproduced in Appendix B.

5.3.1 Physician Access Report (PAR) and BESS Report

The Physician Access Report is produced annually and shows, by year, the number of FFS physicians serving Medicare FFS beneficiaries, the total Medicare FFS population (beneficiaries), the number of FFS physicians per 1,000 beneficiaries, case load (number of unique beneficiaries served per physician), total Medicare FFS payments, FFS payments per physician, and FFS payments per FFS beneficiary (Table 5-1). These reports are produced at several levels of geographic detail, including county and MSA as well as state and national levels. BESS is a menu-driven query system that provides multiple-path access to non-beneficiary specific physician/supplier claims data that have been summarized at the procedure code level (Table 5-2). BESS reports include total volumes and expenditures of selected procedures, or types of procedures, at the carrier or carrier (payment) locality, the smallest reporting units.

Either separately or in tandem, the Physician Access Report and the BESS reports do not provide enough of the capabilities that we believe are important components of an early warning system. The chief weaknesses of the Physician Access Report are its timeliness (due to reliance on data obtained via MANRLINE-type runs), lack of

Table 5-1

Physician Access Report

Name of Data:	Physician HCIS Summary File Utilized by the Physician Access Report
Source of Data:	100% NCH Physician Part B Nearline records, Active & inactive UPIN files, the denominator files, miscellaneous crosswalk files
Flow of Data:	Claims are summarized every six months while the report is usually produced once a year.
Unit of Analysis:	Claims summarized by the key elements (stratifiers) UPIN-Specialty-Carrier-Carrier locality
File Content:	The above *key* elements (stratifiers), number of visits, and total Medicare payments.
Timeline for Processing Data:	Except for special requests, report is produced once a year
How Data Could Monitor Access:	The following measures can be calculated: the number of FFS physicians per 1,000 FFS beneficiaries, case load, FFS payments per physician, and FFS payments per FFS beneficiary.
Strengths:	• Several well-known access measures are currently produced at several levels of geographic detail, including county, MSA, state, regional, and national.
Limitations:	• Requires considerable computer resources to create claims' summary records. To provide a complete picture of beneficiary access, local Medicare+Choice enrollment and encounter data is necessary. • Available only annually except for special requests. • Restricted to fee-for-service beneficiaries.

Table 5-2

Part B Extract and Summary System (BESS)

Name of Data:	Physician/Supplier Procedure Summary (PSPS) Masterfile Utilized by the Part B Extract and Summary System (BESS)
Source of Data:	CMS Data Center Claims Holding Area
Flow of Data:	Created via a prospective tap on the temporary holding area.
Unit of Analysis:	A record for each *key* (stratifier) combination of Carrier Number, locality, HCPCS, Modifier 1, Modifier 2, HCFA specialty, HCFA TOS, and HCFA POS
File Content:	Data elements include *key* elements (stratifier), total submitted charges, total allowed charges, total payment, total units of service, total allowed units of service, total denied units of service, and total denied submitted charges.
Timeline for Processing Data:	Monthly; available after 1st quarter and updated monthly until a full year of final action claims data are compiled (18 months after start of the pertinent calendar year)
How Data Could Monitor Access:	Can show which services beneficiaries are receiving and the specialty of the physician providing the services. Service utilization can be produced at the procedure level (HCPCS), by CMS type of service, and by the Berenson-Eggers type of service. Can produce allowed charges as a percentage of submitted charges.
Strengths:	• BESS can produce a wide range of timely reports. Has the capability to produce customized reports. • Provides utilization detailed at the individual HCPCS level. • Groups service volumes into clinically meaningful categories. • Provides indicator of generosity of Medicare payment versus physician's charge for individual procedures.
Limitations:	• Limited geographic detail – carrier (payment) locality is the smallest geographic entity.

specificity on types of physician services provided, and the use of counties and MSAs as market proxies. The main strengths of BESS are its reliance on a prospective tap to obtain claims data on a timely basis and its capability to characterize service volume by stratifiers such as the Berenson-Eggers type of service (BETOS) and physician specialty. The BESS reports are limited to payment locality reporting units, areas that are inadequate proxies for markets. The main *Descriptive Statistics* module of BESS also does not contain information on physician counts, beneficiary counts, or assignment rates.

5.3.2 Recommended Modifications in the Physician Access Report (PAR)

The Physician Access Report (PAR) currently has 7 analytic variables (see top panel of Exhibit 5-2). We recommend replacing most of these with more precise access measures. We emphasize that, with one exception, the new access measures are simply the current measures recast in a different form. The following describes the recommended changes, variable by variable.

Area and Year. Remain unchanged.

Number of Physicians. In the current PAR, the number of physicians is a somewhat imprecise heading. It would normally be interpreted as the total supply of physicians in the local market. However, it is the number of *unique* physicians (based on UPINs) that actually billed FFS Medicare during the year. Thus, it can rise or fall due to

Exhibit 5-2

Recommended Modifications to Physician Access Report

Current PAR Column Headings

Area	Year	# Physicians	Medicare FFS Population	Rate Per 1,000	Caseload	Medicare Payments	Payments Per MD	Payments per FFS Bene

Recommended PAR Column Headings

Area	Year	Proportion of all MDs Seeing Benes (MD Willingness)	MDs Seeing FFS Benes per 1,000 FFS Benes (MD Availability)	Proportion of All FFS Beneficiaries Seeing an MD (User Rate)	MD FFS Caseload	MD FFS Workload	Deflated FFS Payments Per MD Seeing FFS Benes	Deflated FFS Payments Per Bene (Use Rate)

NOTES: 1. For variable definitions, see text.

SOURCE: Recommendations of HER, 2002.

the growth in M+C enrollments independent of changes in the overall physician supply. We recommend changing the variable to

Proportion of All MDs Seeing FFS Benes.

Instead of an absolute count of unique FFS physicians, it would be a ratio of unique FFS physicians seeing beneficiaries to the total active number of patient care physicians. In Table 2-3 we have called this variable, MD Willingness.

CMS currently does not include a measure of total physician supply in its PAR claims-based data base. Such a measure would form the denominator of the proportion. Total Active Patient Care Physicians would have to be merged onto the final PAR analytic file from the ARF, which gets its MD counts from the AMA. Admittedly, these counts would be lagged a year or two, but so are the PAR data.

Medicare FFS population. This PAR variable means little by itself. We recommend it be used strictly as a denominator. We recommend replacing it in the table with

MD's Seeing Benes per 1,000 FFS Benes.

We have called this variable MD Availability, which is identical to the current table heading, Rate per 1,000; hence, we recommend moving the rate-per-1,000 variable over one column under the new heading. It is calculated as the ratio of unique FFS billing physicians divided by the Medicare FFS population.

Rate per 1,000.[3] We recommend this variable be replaced in the table with

FFS User Rate.

It is calculated as the ratio of unique beneficiaries seen during a year divided by all FFS enrolled beneficiaries. It is easily derived by multiplying two variables on the current table, Caseload x Rate/1,000, then dividing by 1,000.[4]

Caseload. We recommend keeping this variable and simply retitling it

MD FFS Caseload.

Medicare Payments. Total payments rise and fall for many reasons and, therefore, does not say much about access. We recommend that this variable be replaced by

MD FFS Workload.

This variable is calculated as the sum total of CPT Work RVUs divided by the number of unique physicians seeing FFS beneficiaries.

CMS currently does not include RVUs on its PAR data set. It would require merging on Work RVUs from the Medicare Fee Schedule system to the PAR claims at the CPT line item prior to aggregation across lines.

Payments per MD. This variable is valuable in the sense that it tracks how much each FFS physician seeing beneficiaries receives from the program. Its trend often is negative, however, because of the shift of beneficiaries to M+C. Nevertheless, we

[3] In CMS' report of "Denver Results," this variable is referred to (under physician supply, p.1) as the "physician-to-population ratio." This is not strictly correct given that the numerator includes only physicians billing Medicare FFS during the year.

[4] In CMS' Table 1 summarizing trends in Denver Physicians and FFS beneficiaries, caseload times rate per 1,000 results in numbers exceeding 1.0, which is illogical as a user rate.

recommend that this variable be retained with one adjustment and a new column heading

Deflated FFS Payments per MD Seeing FFS Benes.

We recommend deflating payments by the overall annual update in the conversion factor using, say, 1995, as a baseline (=1.0). This would remove payment increases simply due to updates and make it more similar to a workload measure.

Payments per FFS Bene. This variable is valuable in showing that Medicare is spending more on each beneficiary remaining in FFS. It appears to grow rapidly in the Denver area--probably due to positive selection into M+C that leaves sicker beneficiaries in FFS. We recommend that this variable be retained with a new column heading

Deflated FFS Payments per Bene (Use Rate).

Again, payments would be deflated by the overall update in the MFS. As such, the variable becomes an overall FFS beneficiary use rate when tracked over time. It indicates, more accurately, the increasing intensity of care provided beneficiaries remaining in FFS.

5.3.3 Further Comments on Current PAR Report

Besides the fact that the PAR (a) does not break out services in terms of BETOS groups, (b) is somewhat dated in its reports, and (c) is not as precise as one would like in its market definition, some of the analytic variables also are open to multiple interpretations in terms of access. Consider the following drawbacks to the PAR.

Lack of M+C Adjustment. Most of the variables are subject to shifts in beneficiaries and physician services in and out of M+C. FFS caseloads may be declining,

for example, either because physicians are truly dissatisfied with the program or because they are seeing more of their patients under M+C contracts. None of our recommended changes address this problem, which is why we recommend tracking M+C enrollment changes closely in a companion report.

Lack of PAR or Assignment Indicators. These variables are valuable in describing both physician willingness to forego balance billing of beneficiaries and changes in beneficiary out-of-pocket burdens.

Lack of "Accepting New Patient" Indicators. Claims may be limited in their ability to capture widespread physician dissatisfaction with the program. CMS' PAR report doesn't reflect "new patients seen."

Multiple Interpretations of Annual Payment Trends. FFS payments can rise or fall, even per physician and per beneficiary, for a few reasons that have very different policy implications. Negative conversion factor updates could lower payments without indicating any adverse willingness-to-treat on physicians' part. M+C growth could result in declining FFS payments; yet, total Medicare payments to providers could be rising. Rising payments per FFS beneficiary may signal much more generous payments to providers on a patient basis, but they may also be due to M+C positive selection and sicker FFS patients that require many more physician services.

5.3.4 CROWD Report

Medicare claims processors (contractors) are required to submit monthly CROWD reports to CMS. All reports (tables) are produced at the carrier level, which for

most states is at the state level, a geographic entity that is not a good proxy for a market. In our earlier Data Report, we identified three potentially useful measures can be created from the monthly CROWD reports: (1) assignment rate of physician claims; (2) total claims processed; and (3) carrier timeliness in settling claims. As suggested by a couple of TEP members, CROWD data could be used to provide a measure of claims denied and a measure of initial versus final denials. (Note that denials may simply be due to missing diagnosis rather than the lack of E&M documentation.) Because monthly data are highly sensitive to both seasonal and random variation in denials and total volume, the main value of using CROWD data is that it could provide very early warning signals. Indeed, the noisiness of the CROWD data may preclude its use even as a very early warning signal.

5.3.5 Physician Payment Reform Monitory System (PPRMS)

The Physician Payment Reform Monitoring System (PPRMS) was developed to supply information about expenditures on physician services in CMS' annual Report to Congress. Physician services are (can be) classified several ways including the CMS type of service, BETOS, physician specialty, beneficiary race and gender, and by the basic geographic reporting units (counties and MSAs) used in the Physician Access Report. Physician services are reported on an annual basis and several recent quarters for which a complete set of claims are still in development.

PPRMS mainly relies on claims data (the *RIC O "line item"* file) obtained via a MANRLINE-type run on a quarterly basis. The PPRMS also obtains denominators (i.e.,

physician and beneficiary counts) from the UPIN Registry and the EDB. The computer resources required to work with the RIC O line item data constitute one of the major limitations using the RIC O data for our proposed early warning system. There are about 375 million line items that need to be processed in a short period of time.

5.4 Proposed Early Warning Access Monitoring System

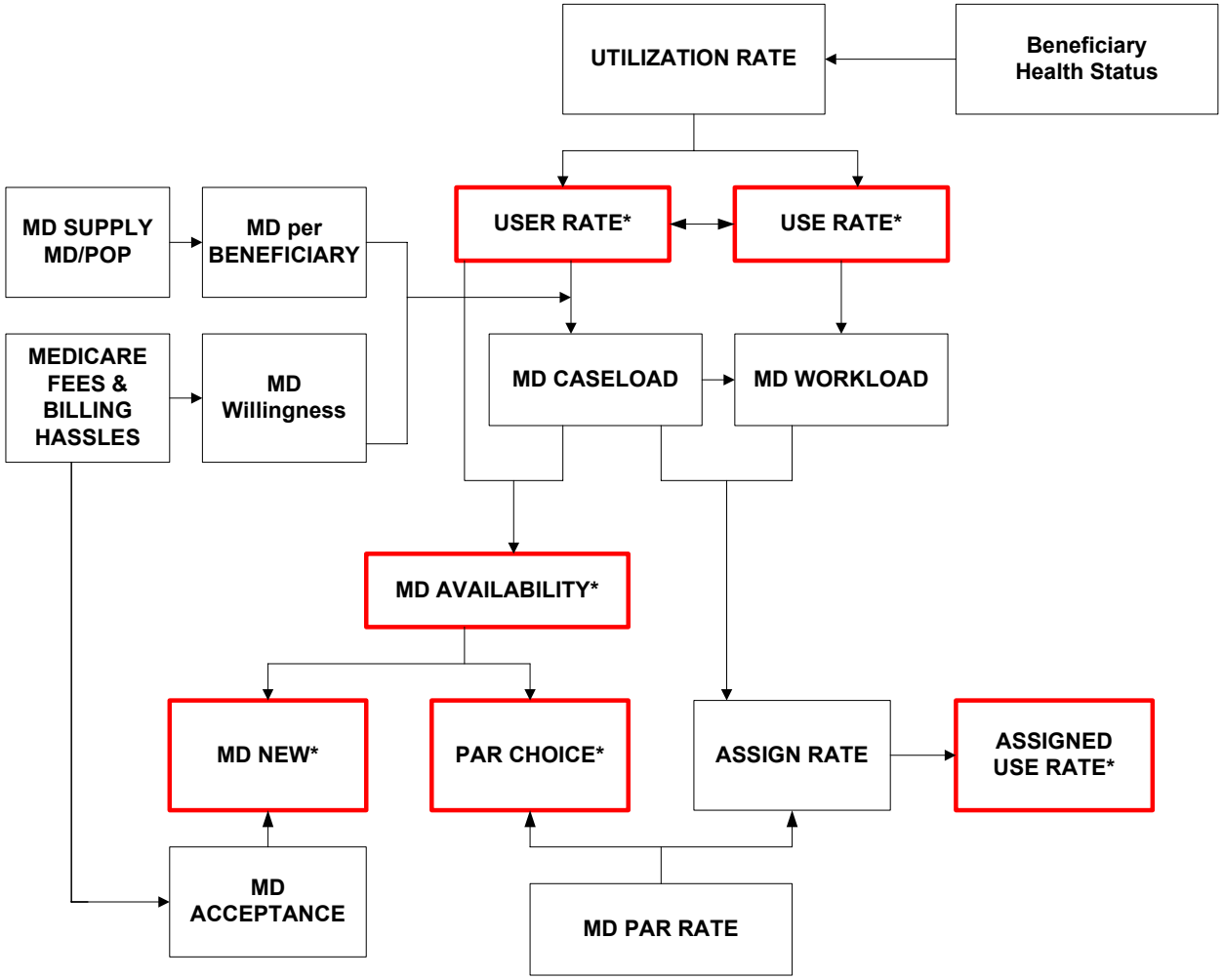
5.4.1 General Approach

The set of access indicators we have recommended that CMS include in their early warning monitoring system are schematically represented in Exhibit 5-3 below. A primary purpose of the figure is to highlight the interconnectedness of the indicators. No one indicator stands alone as an access measure; each must be presented and interpreted in the presence of other indicators on an integrated set of tables. This is true for two reasons. First, access is a multi-dimensional concept requiring several indicators and not just one or two. Second, changes in any single indicator drive and, in turn, are driven by changes in other indicators. The six most significant indicators linked explicitly to beneficiaries are bolded. Other indicators are valuable adjuncts to the primary set. Let us quickly explain how the interrelationships work.

The access modeling begins with the overall utilization rate of Medicare beneficiaries. Utilization is affected by the general health status of beneficiaries in local markets as well as by physician supply and willingness-to-treat beneficiaries. The **utilization rate** is decomposed into two elements:

Exhibit 5-3

Schematic Relationships Among Recommended Medicare Beneficiary Access Indicators



- **Use Rate**

This decomposition is grounded in the research literature on access that distinguishes between (a) the likelihood of patients being seen at all by a health professional, and (b) how intensively they are treated once they have made contact with the health system. Both rates are important access indicators in their own right.

Concentrating, first, on those indicators closely related to the user rate, the physician's **caseload** is based on the user rate times both the number of physicians per beneficiary (**MD per Beneficiary**) and the proportion of physicians willing to see Medicare beneficiaries (**MD Willingness**) in a given time period. We consider provider Medicare caseloads to be primarily driven by the general supply of physicians and their inclination to treat beneficiaries, both of which are dependent, in turn, on local MD supply, Medicare fees, and program billing/collection hassles (considered secondary, indirect access factors).

How available physicians are to beneficiaries (**MD Availability**) is based upon the beneficiaries' user rate times the average caseload of practitioners seeing Medicare patients. The user rate, of course, reflects physician supply and willingness to see beneficiaries as well as their general health status. Greater availability implies more physicians seeing a fixed number of area beneficiaries--a positive access indication.

Given the availability of physicians to beneficiaries, two additional key access indicators follow. First, the number of current physicians willing to see new beneficiaries in their practices relative to all beneficiaries (**MD NEW**) is a vital measure of future

access. It depends on physician availability times the proportion of physicians currently seeing beneficiaries that are willing to take on new Medicare patients (**MD ACCEPTANCE**). The physician acceptance rate is dependent, again, on how competitive Medicare fees are, locally, and any billing hassles.

A second indicator derived from physician availability is beneficiary choice of participating physicians (**PAR Choice**). The higher the number, the lower the expected out-of-pocket balance billing facing beneficiaries--a positive access indication. Beneficiary choice of PAR physicians will crucially depend upon the rate at which practitioners are willing to sign the annual PAR agreement and accept assignment on all their patients (**MD PAR Rate**).

Turning to the "use side" of the diagram, physician Medicare workloads (**MD WORKLOAD)** are determined by the use rate times the average physician Medicare caseload. Workloads in this instance include only Medicare patients and are calculated by CMS in the PAR report only for physicians actually seeing (billing) beneficiaries in a given time period. Workloads are only of interest to the extent they adjust caseloads for the intensity of care physicians provide.

Of more interest is the use rate adjusted for non-assignment of services (**ASSIGNED USE RATE**). The assigned use rate measures the proportion of all services provided beneficiaries taken on assignment. It is driven by the overall use rate times the assignment rate (**ASSIGN RATE**) that, in turn, is driven by the PAR rate and provider Medicare case- and workloads. A higher number of services per beneficiary taken on assignment implies improved access to care due to lower out-of-pocket

payments. Conversely, a high overall FFS use rate means less if the assigned rate is far below 1.0.

Exhibit 5-4 summarizes the primary and secondary indicators HER staff have recommended for monitoring beneficiary access to care. The primary indicators have been discussed in the previous paragraphs. HER is also recommending that three domains of secondary indicators also be tracked. First, with regard to market structure, the overall physician per capita supply is valuable to track. Although physicians per FFS beneficiary is more specific to Medicare access, trends in overall supply obviously affect beneficiary access indirectly. We have emphasized the importance of tracking M+C enrollment rates, but the overall growth in HMO managed care penetration in local areas is also important.

Second, with regard to Medicare fees, we have recommended that both primary office and surgical allowable fees be tracked. Not only are providers vitally concerned about fee trends, beneficiary access is indirectly affected by Medicare fees relative to those of private insurers. Unfortunately, no readily available, inexpensive database of private fees exists for small areas. HIAA charge data do not adjust for payer discounts and, therefore, are not particularly useful. We also recommend tracking the ratio of allowed to submitted charges. While this ratio is always well below 1.0, it does vary by area. Particularly low ratios may signal a potential source of access problems. CMS' PAR report currently tracks FFS payments per physician and per beneficiary. These are secondary indicators of access. They lack the precision of the primary indicators in the sense that trends in payments are subject to programmatic and external market forces

Exhibit 5-4

Recommended Primary and Secondary Access Indicator with Stratifiers

Primary Indicators

- User Rate
  - •• MD Availability
  - •• MD Caseload
  - •• MD New
  - •• PAR Choice
  - •• MDs per Beneficiary
  - •• MDs Willingness
  - •• MDs Acceptance
  - •• MDs PAR Rate
- Use Rate
  - •• MD Workload
  - •• Assignment Rate
  - •• Assigned Use Rate

Secondary Indicators

- Market Structure
  - •• MDs per Capita
  - •• M+ C Enrollee Rate
  - •• HMO Penetration Rates
- Medicare Fees
  - •• Primary Medicare Visit Fees
  - •• Medicare Surgical Procedure Fees
  - •• Allowed-to-Submitted Charge Ratio
- Medicare FFS Payments
  - •• FFS Payments per Medicare MD
  - •• FFS Payments per FFS Beneficiary
  - •• Charge Denial Rate

Stratifiers

- Access Indicators
  - •• Modified BETOS
  - •• Beneficiary Age Groups
  - •• Disabled
  - •• MD Specialty
- Markets
  - •• Counties
  - •• HSAs, CAHPs, MPSAs, MCCAs
  - •• Zip Code Grous
- Reporting Periods
  - •• Quarters
  - •• Semi-annual
  - •• Annual

affecting fees as well as real utilization of, and access to, services. Charge denial rates are another secondary indicator of possible physician payment problems with local carriers that can discourage participation.

Third, we summarize the stratifiers recommended for displaying the access indicators. The indicators themselves can be presented within BETOS group, within beneficiary age or disabled eligibility status, or by specialty group. PAR CHOICE or MD NEW, for example, could be decomposed into primary care versus specialists signing the PAR agreement or accepting new Medicare patients. We have recommended a new configuration of local markets for presenting access measures, but CMS could still use counties, HSAs, or one of the other readily available geographic groupings as a way of isolating "hot spots." Finally, we have recommended that some indicators be reported on a quarterly basis while others can only be reliably reported on a semi-annual or annual basis (see Table 4-1 in previous chapter). Utilization (use and user) rates, physician availability, acceptance, caseloads and workloads, and assignment rates can be presented on a quarterly basis even for small area hot spots due to the large number of claims and practitioners. Utilization by BETOS group and physician availability by specialty, however, should only be presented based on at least 6 months of data. PAR rates only need to be constructed annually. Overall physician supply figures are only meaningful on an annual basis as well.

5.4.2 Proposed Monthly and Quarterly PA Summary Records

Claims can be use for constructing several of the indicator numerators as they are now under the current systems. For example, a listing of beneficiary HICNO's are kept from the claims processing and purged of duplicates periodically to produce a unique count of beneficiaries seen in each market (a numerator). A separate, independent count of beneficiaries residing in each market is calculated over the same time period from the EDB file. (Counting beneficiaries using claims in the numerator should not be confused with beneficiary counts in the market found in the denominator.)

Claims-based access indicators would produce the numerators of all but the CHOICE indicator listed in Chapter 2. Patient service counts and beneficiaries seeing physicians, plus PAR and assigned services would come from the claims information (and possibly payments as well). Whether physicians are accepting all/some new patients (CHOICE) usually comes from survey information. This "numerator" is described in Chapter 6.

The EDB and UPIN files would be used periodically to update the market-area denominator counts of beneficiaries residing in and physicians practicing in the market.

Constructing numerators requires a monthly processing and aggregation of claims appearing in the CMS Claims Holding Area. This is necessary to minimize the volume of claims retained in analytic files so that quick turnaround queries can be performed on recent data. In the next section, we propose monthly and quarterly summary records to extract and accumulate the administrative data.

We recommend that a new record type be produced, on a monthly basis, from claims held in the CMS holding area via a prospective tap. The basic new record that we propose is the *Physician Access (PA) Summary Record* (Exhibit 5-5). In creating the PA records, two ancillary files will be created from the claims: unique *HICNO and UPIN* files, each by market area. The ancillary files would be used to track, in each market, unique beneficiaries receiving services and unique physicians providing services.

The proposed PA records contain two basic types of data elements (variables): stratifiers and summary variables. The stratifiers are used to classify physician services (access indicators). The market is one of the most obvious stratifiers for physician access. That is, the goal is to provide early warning of access problems by market area. (The next section discusses our recommended stratifiers.) The summary variables can be used as access indicators or be used to create access indicators. Important summary variables that can be obtained from claims include service counts and charges, both by claim assignment status.

Counting services needs to take into account the fact that some services are provided by more than one provider or other circumstance. We recommend that CMS count services using the same methods that they use for other reports. This includes taking into account procedure modifiers as was done by Eggers during development of the Physician Payment Reform Monitoring System (Exhibit 5-6). (The rules shown in Exhibit 5-6 have probably been since updated.)

The claims data can also be used to derive unique counts of beneficiaries using services (i.e., users) and of physicians actually providing Medicare FFS services. To

Exhibit 5-5
Physician Access (PA) Summary Record

Data Element	Description
Record Classification Variables (RCVs) - a.k.a. key elements, stratifiers	
Geographic Identifier	Code identifying market for the physician service
Modified BETOS	Limited to selected BETOS codes with the rest re-classified as "other"
Physician Specialty	Limited to selected HCFA specialty codes with rest re-classified as "other"
Analytic Variables	
Unique Benes	Count of unique beneficiaries receiving services
Distinct UPINs	
Medical Doctors	Count of distinct MDs & DOs providing services
Other Providers	Count of distinct other providers with UPINs that provided services
Total Services	
Assigned	PAR plus non-PAR accepting assignment
Not Assigned	non-PAR not accepting assignment
under age 65	services provided to benes under age 65
age 65-79	services provided to benes aged 65 to 79
age 80+	services provided to benes age 80 years and older
Denied Services	same set of data elements as there are under Total Services
Submitted Charges	
Assigned	PAR plus non-PAR accepting assignment
Not Assigned	non-PAR not accepting assignment
Allowed Charges	
Assigned	PAR plus non-PAR accepting assignment
Not Assigned	non-PAR not accepting assignment
Denied Charges	
Assigned	PAR plus non-PAR accepting assignment
Not Assigned	non-PAR not accepting assignment
Incurred Date	Year and month service provided

Exhibit 5-6

Modifier Use for Counting Services

Modifier	Rule
80 - Assistant Surgeon	Do not count
81 - Assistant Surgeon	Do not count
82 - Assistant Surgeon	Do not count
55 - Postoperative Management	Do not count
56 - Preoperative Management	Do not count
47 - Anesthesia by Surgeon	Do not count?
62 - Two Surgeons	Count as one-half
66 - Surgical Team	Count as one-third
50 - Bilateral Procedure	Count as two procedures
Others	
No modifier	Count as one
20 - Microsurgery	Count as one
22 - Unusual Services	Count as one
23 - Unusual Anesthesia	Count as one
26 - Professional Component	Count as one-half
TC - Technical Component	Count as one-half
32 - Mandated Services	Count as one
51 - Multiple procedures	Count as one
52 - Reduced Services	Count as one
54 - Surgical Care only	Count as one
75 - Concurrent Care	Count as one
76 - Repeat procedure, same physician	Count as one
77 - Repear procedure, other physician	Count as one
90 - Reference (outside) laboratory	Count as one
99 - Multiple modifiers	Count as one

obtain counts of all FFS beneficiaries and all physicians in a market requires, respectively, EDB and UPIN Registry data.

Three of the variables on the PA summary records are unique counts: beneficiaries, MDs, and other providers. To avoid double counting, it will be necessary to create summary records *de novo* instead of aggregating from more detailed records. This is most critical with regard to the unique beneficiary and UPIN count variables. In particular, this problem arises when multiple levels of a classification variable such as the geographic identifier exist.

For example, Los Angeles County (LA) is often used as a reporting unit. We recommend that LA be subdivided into several markets. An LA-level "record," however, should not be derived by aggregating information contained on each of the sub-LA market records. This is because physicians might have practice locations in more than one of the sub-LA markets. If the unique UPIN counts were simply aggregated to obtain LA totals, some physicians would be double-counted.

Each quarter the monthly PA summary records can be summed up to create quarterly PA summary records. The aggregation should be done with a one-quarter lag that will assure that the claims database will be roughly 95% complete (Eggers, unpublished tables). This can be readily performed on most of the analytic variables. To avoid double counting the counts of unique beneficiaries and unique providers, it will be necessary to employ the ancillary files containing unique beneficiary HICNOs and distinct UPINs. Updated or new versions of the ancillary files would be used to obtain the counts of unique beneficiaries and unique providers.

We recommend that the ancillary records, such as that shown in Exhibit 5-7, include supplementary flags to indicate service provision to an unique beneficiary instead of creating a nested file similar to the PA summary records. For instance, if CMS uses six modified BETOS categories, there would be a flag for each. A zero value for the flag would indicate that the beneficiary has not received the specified service. A value of one for the flag would indicate that the beneficiary has received one or more units of the specified service. Each stratifier, other than the market, would have a set of flags.

Claims can be classified by posting date or incurred date of service. Classifying claims by the posting date is simple. Classifying claims by the incurred date is difficult because incurred claims arrive over a span of several months. For instance, to avoid double counting the number of unique beneficiaries, several files containing January data would have to merged together with special algorithms to handle the problem of unique counts. Even though it requires additional resources, we recommend that claims be classified by the incurred date of service.

5.4.3 Choice and Quantification of Stratifiers

Determining the Market Area Location. Two ways that the claims can be assigned to markets are (1) through zip codes on the claims and (2) by pre-assignment of beneficiaries and providers to markets. These two methods are discussed in turn.

Physician claims can be used to determine the location of service that is critical in constructing both user and use rates. Two locations are available on the claim: (1) the practice location's zip code where the service was delivered; and (2) the beneficiary's

Exhibit 5-7

Ancillary Market/HICNO File Layout

		Modified BETOS Classes						Physician Specialty Classes					
Market ID	**HICNO**	1	2	3	4	5	6	1	2	3	4	5	6
10001	547594	0	0	0	0	0	0	0	0	0	0	0	0
10001	456494	0	0	0	0	0	0	0	0	0	0	0	0
10001	798193	0	0	0	0	0	0	0	0	0	0	0	0
10001	789118	0	0	0	0	0	0	0	0	0	0	0	0
10001	126497	0	0	0	0	0	0	0	0	0	0	0	0
10002	347594	0	0	0	0	0	0	0	0	0	0	0	0
10002	956494	0	0	0	0	0	0	0	0	0	0	0	0
10002	698193	0	0	0	0	0	0	0	0	0	0	0	0
10002	738456	0	0	0	0	0	0	0	0	0	0	0	0

resident zip code. Aggregating payments, unique beneficiaries, and service counts to the market area using either of the two location codes have value, but the practice location is most relevant for measuring changes in access to care. For a predetermined market area based on “reasonable" travel times, we desire to answer the question:

> *“Has the number of visits (services) of a given type (e.g., office visits) fallen in the market relative to the number of eligible beneficiaries?”*

Our answer requires knowing the number of services provided within a given market aggregation of zip codes (or other geographic entity).

Our recommendation is to **count utilization from claims only for patients living and being served in their own market area and divide by all eligibles in the market**.[5] Operationally, claims would be aggregated and assigned to a market only where the beneficiary and practice's market area matched. The resulting utilization totals for the market would be divided by the total number of eligible beneficiaries living in the market—not by only those having visits in the area. If access in an area is declining, this should be captured by declines in the frequency and number of services that beneficiaries are receiving in their own market. If practices begin restricting access and some beneficiaries find care outside the market, the numerator will fall while the denominator remains unchanged. This approach has the advantage of not counting use of services outside the market that presumably involve excessive travel times, nor would it count services provided in the market to beneficiaries living outside the market.

The accuracy of the proposed method depends upon the accuracy of both the beneficiary and provider zip codes. For beneficiaries spending months of the year in another location, the zip code of residence may be their primary residence (e.g., New York City) and not their secondary residence (e.g., Ft. Lauderdale). The problem here is that the zip code on MQA records is the zip code for the beneficiary residence **as recorded** in the EDB. Many, if not most, "snowbirds" do not send in temporary changes of address to the Social Security Administration (the EDB's source for the zip code).

[5] Another approach sums the services for all providers in the market then dividing by the number of FFS beneficiaries living in the same market. This overstates utilization of resident beneficiaries due to in-migration for care. Yet a third approach that aggregates services by beneficiary residence overstates utilization and access within their own market. Many beneficiaries may be traveling long distances for care. To count their use of services outside the predetermined "reasonable travel" market could result in rejecting the market as having access problems when, in fact, patients are having to travel long distances.

Where beneficiaries relocate to a secondary residence for several months of the year and the EDB's zip code is that of the primary residence, using the zip code of the primary residence does overstate access problems due to non-matches with the provider's zip code.

Providers can report either their practice location or their billing location. If the latter is not in the same market area, error arises when linking the practice location of service to beneficiary residence. It will have to be determined whether the zip code location on the claim indicates the location of service or some other location not in the market area.

One way to avoid zip code reporting problems on claims is to pre-assign beneficiaries and providers to market areas. That is, using the EDB, each beneficiary (HICNO) would be assigned to a market, with or without cross referencing. Similarly, each physician would be assigned to a market based on the practice location's (business) zip code that is maintained in the UPIN Registry. **To assign a claim to a specific market, both the HICNO and the UPIN must both be in the same market.**

This method would have the same problem with snowbirds as does assigning claims on the basis of the claim's zip code. The method does avoid the problem of the provider zip code on claims. In doing so, however, it introduces a new complication: the assignment of a physician to a market. For many, if not most, providers, this should not be a problem. However, if our recommendation that Los Angeles County and similar urban areas be sub-divided into smaller markets, then the possibility arises a physician practices in more than one market. By itself, the UPIN Registry does not contain

information about practice size to assign a provider to a specific market; ancillary information (e.g., claims from a prior year) would be necessary. An alternative would be to let the provider be assigned to multiple markets. Then, as discussed in the previous section, it is necessary to devise methods to avoid double counting providers in larger geographic areas.

Classifying Claims by Type of Service. There are about 10,000 active HCPCS procedure codes, as well as modifiers, that Medicare uses to classify medical services received by beneficiaries. For the purposes of the identifying physician access problem areas, this number of codes is much too large for HCPCSs to be stratifiers. Yet, ignoring all subclasses of codes, as in the Physician Access Report, is too extreme in the opposite direction. We propose to use a system that reduces the HCPCS codes to a manageable set.

There are two such systems currently used by CMS: (1) the HCFA (CMS) type of service code that is added to claims by carriers, and (2) the Berenson-Eggers type of service code (BETOS) that is added to claims as they are moved from the CMS holding area to the NCH. The HCFA type of service categories are not sufficiently detailed for physician access reports. The BETOS categories (Exhibit 5-8) have sufficient detail for most of our purposes, but the 105 categories are too many to be employed especially as stratifiers.

We, thus, propose that a "modified" BETOS be employed. Some BETOS categories such as M1A (office visits – new patients) and M1B (office visits – established patients) can be separately tracked. Other BETOS categories that could be used,

Exhibit 5-8

Berenson-Eggers Type of Service Codes

(1) EVALUATION AND MANAGEMENT

M1A Office Visits - New
M1B Office Visits - Established
M2A Hospital Visit - Initial
M2B Hospital Visit - Subsequent
M2C Hospital Visit - Critical Care
M3 Emergency Room Visit
M4A Home Visit
M4B Nursing Home Visit
M5A Specialist - Pathology
M5B Specialist - Psychiatry
M5C Specialist - Ophthalmology
M5D Specialist - Other
M6 Consultations

(2) PROCEDURES

P0 Anesthesia

P1A Major Procedure - Breast
P1B Major Procedure - Colectomy
P1C Major Procedure - Cholecystectomy
P1D Major Procedure - TURP
P1E Major Procedure - Hysterectomy
P1F Major Procedure - Explor/Decompr/ExcisDisc
P1G Major Procedure - Other
P2A Major Procedure, Cardiovascular - CABG
P2B Major Procedure, Cardiovascular - Aneurysm Repair
P2C Major Procedure, Cardiovascular - Thromboendarterectomy
P2D Major Procedure, Cardiovascular - Coronary Angioplasty (PTCA)
P2E Major Procedure, Cardiovascular - Pacemaker Insertion
P2F Major Procedure, Cardiovascular - Other
P3A Major Procedure, Orthopedic - Hip Fracture Repair
P3B Major Procedure, Orthopedic - Hip Replacement
P3C Major Procedure, Orthopedic - Knee Replacement
P3D Major Procedure, Orthopedic - Other

P4A Eye Procedures - Corneal Transplant
P4B Eye Procedures - Cataract Removal/Lens Insertion
P4C Eye Procedures - Retinal Detachment
P4D Eye Procedures - Treatment of Retinal Lesions
P4E Eye - Other

P5A Ambulatory Procedures - Skin
P5B Ambulatory Procedures - Musculoskeletal
P5C Ambulatory Procedures - Inguinal Hernia Repair
P5D Ambulatory Procedures - Lithotripsy
P5E Ambulatory Procedures - Other
P6A Minor Procedures - Skin
P6B Minor Procedures - Musculoskeletal
P6C Minor Procedures - Other (Medicare Fee Schedule)
P6D Minor Procedures - Other (Non-Medicare Fee Schedule)

P7A Oncology - Radiation Therapy
P7B Oncology - Other

P8A Endoscopy - Arthroscopy
P8B Endoscopy - Upper Gastrointestinal
P8C Endoscopy - Sigmoidoscopy
P8D Endoscopy - Colonoscopy
P8E Endoscopy - Cystoscopy
P8F Endoscopy - Bronchoscopy
P8G Endoscopy - Lararoscopic Cholecystectomy
P8H Endoscopy - Laryngoscopy
P8I Endoscopy - Other

P9A Dialysis Services (Medicare Fee Schedule)
P9B Dialysis Services (Non-Medicare Fee Schedule)

3) IMAGING

I1A Standard Imaging - Chest
I1B Standard Imaging - Musculoskeletal
I1C Standard Imaging - Breast
I1D Standard Imaging - Contrast Gastrointestinal
I1E Standard Imaging - Nuclear Medicine
I1F Standard Imaging - Other

I2A Advanced Imaging - CAT: Head
I2B Advanced Imaging - CAT: Other
I2C Advanced Imaging - MRI: Brain
I2D Advanced Imaging - MRI: Other

I3A Echography - Eye
I3B Echography - Abdomen/Pelvis
I3C Echography - Heart
I3D Echography - Carotid Arteries
I3E Echography - Prostate, Transrectal
I3F Echography - Other

I4A Imaging/Procedure - Heart, including Cardiac Catheterization
I4B Imaging/Procedure - Other

(4) TESTS

T1A Lab Tests - Routine Venipuncture (Non-Medicare Fee Schedule)
T1B Lab Tests - Automated General Profiles
T1C Lab Tests - Urinalysis
T1D Lab Tests - Blood Counts
T1E Lab Tests - Glucose
T1F Lab Tests - Bacterial Cultures
T1G Lab Tests - Other (Medicare Fee Schedule)
T1H Lab Test, Other (Non-Medicare Fee Schedule)

T2A Other Tests - Electrocardiograms
T2B Other Tests - Cardiovascular Stress Tests
T2C Other Tests - EKG Monitoring
T2D Other Tests - Other

(5) DURABLE MEDICAL EQUIPMENT

D1A Medical/Surgical Supplies
D1B Hospital Beds
D1C Oxygen and Supplies
D1D Wheelchairs
D1E Other DME
D1F Orthotic Devices

(6) OTHER

O1A Ambulance
O1B Chiropractic
O1C Enteral and Parenteral
O1D Chemotherapy
O1E Other Drugs
O1F Vision, Hearing and Speech Services
O1G Influenza Immunization

(7) EXCEPTIONS/UNCLASSIFIED

Y1 Medicare Fee Schedule
Y2 Other - Non-Medicare Fee Schedule
Z1 Local CodesZ2 Undefined Codes

depending on CMS' interests, include M3 (emergency room visit), M6 (consultations), M5B (psychiatry), and P2 (major cardiovascular procedures lumped together). The rest of the procedures could be classified into a new "all other" category (e.g., ZZ - all other visits and services). **In any event, we recommend that six to twelve modified BETOS categories be utilized as stratifiers in order to reduce the total number of summary records and the size of the ancillary unique beneficiary and physician count files.**

Classifying Claims by Physician Specialty. Although physician specialty might be a redundant stratifier to the modified BETOS, especially for M5B and P2, we believe that it will be useful given that office visits can be provided by many specialties that rarely provide "primary care". **We recommend that a modified CMS physician specialty grouping be employed (see Exhibit 5-9) with six major categories: primary care, OB/GYN, medicine, surgery, dental, and other.** The system also includes subcategories for consideration. Surgery, for instance, has two subcategories: (1) general surgery, and (2) surgical specialties. Primary care and OB/GYN could be combined, general surgery and cardiology could each be single categories, and all other specialties could be lumped together so that there are only four specialty categories.

As mentioned earlier in Section 5.1, race is not recommended as a stratifier because of small sample sizes in many markets (e.g., rural western markets). Beneficiary age was also considered but ultimately rejected because of small sample sizes in some markets and to reduce the total number of PA summary records. To provide some information on the frail elderly (defined here as beneficiaries aged 80 years old and older) and beneficiaries with disabilities, we recommend counting total and denied services

Exhibit 5-9

Specialty Classification

Specialty Group	Specialty
Primary Care	
Family Practice	Family Practice
	General Practice
	Osteopathic General Practice
General Internal Medicine	Internal Medicine, General
	Internal Medicine, Osteopathic
Other Primary Care	Family Practice, Geriatrics
	Family Practice, Geriatrics, Osteopathic
	General Practice, Geriatrics
	Geriatric Psychiatry
	Internal Medicine, Geriatrics
	Internal Medicine, Geriatrics, Osteopathic
	Preventive Medicine, General
	Public Health & Preventive Medicine
	Public Health & Preventive Medicine, Osteopathic
General Pediatrics	Internal Medicine & Pediatrics
	Pediatrics & Emergency Medicine
	Pediatrics, General
	Pediatrics, General, Osteopathic
OB/GYN	
General OB/GYN	Obstetrics & Gynecology, General
	Obstetrics & Gynecology, General, Osteopathic
Medicine	
Medical Specialties	Allergy & Immunology, General & Subspecialties
	Cardiology (Internal Medicine & Pediatrics)
	Dermatology, General & Subspecialties
	Endocrinology (Internal Medicine & Pediatrics)
	Gastroenterology (Internal Medicine & Pediatrics)
	General Practice, Adolescent And Young Adult Medicine
	Hematology/Oncology (Internal Medicine & Pediatrics)
	Infectious Diseases (Internal Medicine & Pediatrics)
	Internal Medicine, Cardiac Electrophysiology
	Internal Medicine, Cardiovascular Disease
	Internal Medicine, Hematology
	Internal Medicine, Medical Diseases Of The Chest
	Internal Medicine, Medical Oncology
	Internal Medicine, Oncology
	Internal Medicine, Transplantation Medicine
	Nephrology (Internal Medicine & Pedicatrics)
	Pediatrics, Adolescent Medicine
	Pediatrics, Intensive Care
	Pediatrics, Neonatal-Perinatal Medicine
	Pulmonology (Internal Medicine & Pediatrics)
	Rheumatology (Internal Medicine & Pediatrics)

Exhibit 5-9 (Continued)

Specialty Classification

Specialty Group	Specialty
Surgery	
General Surgery	General Surgery
	General Vascular Surgery
	Hand Surgery
	Pediatric Surgery
Surgical Specialties	Colon And Rectal Surgery
	Neurological Surgery, General & Subspecialties
	Opthamology, General & Pediatric
	Orthopaedic Surgery, General & Subspecialties
	Otolaryngology, General & Subspecialties
	Plastic & Reconstructive Surgery, General & Hand Surgery
	Surgery, Critical Care Medicine
	Thoracic Surgery
	Urology, General & Pediatric
Dental	
Dental Specialties	Dentistry, General & Subspecialties
Other	
Miscellaneous	Aerospace Medicine
	Critical Care Medicine
	Emergency & Internal Medicine
	Emergency Medicine, General & Sports Medicine
	Family Practice & Psychiatry
	Internal Medicine & Psychiatry
	Internal/Physical Medicine & Rehab
	Medical Genetics
	Neurology, General & Child
	Nuclear Medicine, General & Radioisotopic Pathology
	Obstetrics & Gynecology, All subspecialties
	Occupational Medicine
	Pediatrics & Child Psychiatry
	Pediatrics & Physical Med & Rehabil
	Physical Medicine & Rehab/Neurology
	Physical Medicine/Rehabilitation
	Podiatry
	Proctology
	Psychiatry, General & Subspecialties
	Sports Medicine
	Transitional Year
RAPs	Anesthesiology, General & Subspecialties
	Dermatopathology
	Diagnostic Radiology, General & Subspecialties
	Interventional Radiology
	Pathology, General & Subspecialties

provided by beneficiary age (Exhibit 5-5). As with race, whether and why the frail elderly and beneficiaries with disability experience different utilization of health services underlies an on-going research agenda in several CMS groups. The answers are complex and vary by area of the country. Short-run differences in trends will also be subject to very small sample sizes and volatile quarter-to-quarter variation.

5.4.4 Example Reports

A series of reports can be developed using information from the EDB and UPIN Registry, as well as the PA summary record. A basic table similar to the Physician Access Report (Exhibit 5-10) can be developed but be more finely honed. For instance, instead of reporting Medicare payments on all physician services, just those for a specific type (e.g., office visits) can be produced. Similarly, instead of using counties and MSAs, analytic market areas could be used. And, in addition to annual data, quarterly (or four-quarter moving averages) data could be added.

The access measures that could be summarized from the PA summary records in tables such as that shown in Exhibit 5-10 include, but are not limited to:

- The number of FFS beneficiaries receiving physician services (users);
- The number of physicians providing services (active FFS provider);
- Total allowed charges (or Medicare payments);
- Total allowed charges per user;
- Total allowed charges per FFS beneficiary;
- Total users per active FFS provider (case load);
- Total allowed charges per active FFS provider; and
- Assignment rates based on paid allowed charges.

Exhibit 5-10

**Number of Physicians Billing Medicare In Fee For Service,
Number of Aged and Disabled Beneficiaries In Fee For Services
Physician To Medicare Population Ratio,
And Medicare Payments: Denver Area: 1995 To 1999**

Area	Year	Number of Physicians	Medicare FFS Population	Rate Per 1000	Case Load	Medicare Payments	Payments Per Physician	Payments Per FFS Bene
U.S. Total	1995	460,700	33,074,695	13.9	388	$30,910,461,659	$67,095	$935
U.S. Total	1996	469,915	32,484,567	14.5	387	$31,077,659,547	$66,135	$957
U.S. Total	1997	476,164	31,664,496	15	386	$31,762,766,948	$66,706	$1,003
U.S. Total	1998	478,123	31,016,508	15.4	383	$32,457,152,028	$67,885	$1,046
U.S. Total	1999	484,576	30,960,708	15.7	387	$34,134,858,418	$70,443	$1,103
Pct Chg		5.2%	-6.4%	12.9%	-0.3%	10.4%	5.0%	18.0%
Colorado	1995	6,547	324,059	20.2	253	$253,461,713	$38,714	$782
Colorado	1996	6,627	314,372	21.1	249	$255,545,580	$38,561	$813
Colorado	1997	6,673	299,152	22.3	245	$254,093,405	$38,078	$849
Colorado	1998	6,695	284,299	23.5	233	$249,046,797	$37,199	$876
Colorado	1999	6,787	281,656	24.1	227	$251,946,347	$37,122	$895
Pct Chg		3.7%	-13.1%	19.3%	-10.3%	-0.6%	-4.1%	14.5%
Denver Area	1995	5,500	243,104	22.6	240	$209,056,498	$38,010	$860
Denver Area	1996	5,517	232,887	23.7	241	$211,888,643	$38,406	$910
Denver Area	1997	5,570	217,816	25.6	236	$210,595,187	$37,809	$967
Denver Area	1998	5,573	202,248	27.6	224	$204,816,269	$36,752	$1,013
Denver Area	1999	5,676	198,910	28.5	214	$205,768,646	$36,752	$1,034
Pct Chg		3.2%	-18.2%	26.1%	-10.8%	-1.6%	-4.6%	20.2%
Denver Msa	1995	3,590	128,132	28	208	$118,572,667	$33,029	$925
Denver Msa	1996	3,554	118,692	29.9	207	$118,116,617	$33,235	$995
Denver Msa	1997	3,586	109,899	32.6	199	$114,523,032	$31,936	$1,042
Denver Msa	1998	3,604	104,123	34.6	190	$112,196,273	$31,131	$1,078
Denver Msa	1999	3,691	100,585	36.7	180	$111,000,283	$30,073	$1,104
Pct Chg		2.8%	-21.5%	31.1%	-13.5%	-0.6%	-8.9%	19.4%

From the EDB and UPIN Registry, the following access measures could be summarized:

- The total number of FFS beneficiaries;
- The total number of Medicare+Choice beneficiaries; and
- The total number of Medicare-eligible physicians.

Inclusion of the total number of Medicare+Choice beneficiaries would provide context for changes in the FFS-side of the market.

6 Development and Fielding of Beneficiary and Physician Surveys

The purpose of this chapter is to describe the importance of information derived from surveys. Although not in our scope of work, we felt it was necessary to provide a cursory review of CMS' survey options because of the gaps in administrative data. Several current beneficiary and physician surveys are described and examples of questions given in the event CMS chooses to field its own beneficiary and/or physician survey. The chapter concludes with a section describing the sample for a physician or beneficiary survey, should either be fielded.

6.1 Key Role of Survey Information

As can be seen from this report and as was heard during the Technical Expert Panel (TEP) held on November 14, 2001, not all measures of access can be derived from claims data. While claims data can inform policymakers on the numbers and types of services beneficiaries receive, information derived from claims data cannot inform them whether beneficiaries had difficulty locating physicians to treat them, or how long it took beneficiaries to find doctors to take their appointments. Claims data also do not reveal whether physicians give Medicare patients a lower priority in appointments, which is essentially delaying care. These are issues pertinent to the access that Medicare beneficiaries have to physicians, and questions that can be asked on surveys.

Surveys are one vehicle to fill this gap in information created by claims or administrative data, as they can supply information on both beneficiaries and physicians. Surveys focusing on beneficiaries can answer questions relating to the availability of physicians to them as well as their satisfaction with their health care. Additionally, surveys of beneficiaries can reach those who do not utilize health care and learn about why they do not use the health care system. Is it because they are healthy? Or do they not use the health care system because there are barriers to care that they cannot overcome?

Surveys of physicians can provide information on whether they are willing to take Medicare patients and whether they are accepting all new Medicare patients. In addition, surveys can ask questions of physicians about Medicare relative to other insurers to give an accurate portrayal of a physician's practice: if she is reducing the number of Medicare patients she is seeing, is she also reducing the number of patients she is seeing who have commercial insurance? Is she, in fact, downsizing her entire practice or just reducing the number of Medicare patients she treats?

6.2 Summary of Current Access-Related Surveys

There are a number of surveys currently conducted of beneficiaries to measure their access to care. The following section describes two of them, the Medicare Current Beneficiary Survey and the Consumer Assessment of Health Plans Survey®. Several physician surveys are also discussed, the Survey of Physicians about the Medicare

Program, the American Medical Association's Socioeconomic Monitoring System, and two surveys that HER developed for its project *Design and Strategy for Surveys on Physician Availability in Medicare* (CMS Master Order Contract No. 500-95-0058 Task Order No. 5, Linda Greenberg, Project Officer). Examples of questions asked in each survey are given in the event CMS chooses to use any of them to field its own survey, with the advantage that these questions have already been validated. It should be noted, however, that none of the surveys, as currently fielded, are adequate for analysis of hot-spot areas.

6.2.1 Beneficiary Surveys

Medicare Current Beneficiary Survey. The Medicare Current Beneficiary Survey (MCBS) is an annual survey conducted by CMS and representative of a national sample of the Medicare population. The sample is drawn from the Medicare Enrollment Data Base, and is oversampled for very old and vulnerable populations. Primary sampling units of counties are selected, and then beneficiaries are randomly sampled by age within zip codes. Due to the small numbers of beneficiaries in each PSU, it is unlikely that analysis could be done for hot spots. About 12,000 beneficiaries, including HMO enrollees, are surveyed in-person three times annually and followed for a period of four years.

The main topics on the survey include health status and functioning, access to care, satisfaction and supplementary health insurance. Detailed medical utilization,

expenditure data and payer information are collected for each respondent. Information from respondents can then be linked to Medicare claims in order to give a more complete portrait of beneficiary utilization and expenditures.

The MCBS includes questions that may be relevant to include in a survey that CMS fields to determine access problems. Examples of such questions include:

Usual Source of Care

- Is there a particular medical person or clinic you usually go to when you are sick or for advice about your health?
- Is there a particular doctor you usually see at this place?
- What is the doctor's specialty?
- How do you usually get to the doctor's office?
- About how long does it take for you to get there?

Access to Care

- Have you seen a medical doctor since (date)?
- What was the doctor's specialty?
- What was the reason you saw the doctor?
- Did you have an appointment for this visit with the doctor, or did you just walk in?
- Did someone in the doctor's office tell you when to come back during an earlier visit, or did you have to make an appointment?
- How long did you have to wait for the appointment with the medical doctor – about how many days, weeks or months?
- From the time you arrived until the time you left, about how long did the visit to the medical doctor take altogether?
- How much of that time was spent waiting before you saw a doctor or some other medical person?
- Was the doctor that you saw your first choice?

- Why didn't you see the doctor that was your first choice?

Supplemental Managed Care

- While a member of (Medicare managed care plan) have you had difficulty in obtaining referrals for the services of a specialist or other medical care provider within (Medicare managed care plan) that you thought were necessary?
- What kind of specialist or medical provider was this?
- What kind of difficulty did you have?

Health Care Needs

- In the last year, have you had any trouble getting health care that you wanted or needed?
- Why was that?
- In the last year, have you delayed seeking medical care because you were worried about the cost?

Health Status

- In general, compared to other people your age, would you say your health is excellent, very good, good, fair or poor?
- Compared to one year ago, how would you rate your health in general now?
- How much of the time during the past month has your health limited your social activities like visiting your friends or close relatives?

Satisfaction with Care.

- Overall quality of medical services received
- Availability of medical services on nights and weekends
- Ease and convenience of getting to a doctor
- Out-of-pocket costs for medical services

- Did you have any health problem or condition about which you think you should have seen a doctor or other medical person, but did not?
- Why?

Consumer Assessment of Health Plans Survey®. The Consumer Assessment of Health Plans Survey® (CAHPS®) began in 1995 by the Agency for Healthcare Research and Quality. The purpose of this survey was to standardize the reporting of consumers experiences in health plans to allow comparisons across health plans to national scores. In addition to surveying consumers in commercial plans, CAHPS® is used for beneficiaries in Medicare Fee-for-Service and in Medicare managed care plans (plans with separate risk contracts on or before 1996). CMS was a co-funder of the two Medicare surveys.

The CAHPS® Fee-for-Service Survey had a sample of 168,000 beneficiaries. All 3,100 counties in the United States were allocated surveys proportionate to their FFS population. Then, the total number of allocated surveys in each state were divided by 600, the number of mailed surveys deemed necessary to produce a representative sample in each market. This produced the number of sample markets in each state with a few exceptions. Counties were then aggregated around anchor counties with the largest number of allocated surveys to produce the final number of markets in each state. As a result, eight states had so few allocated surveys that only a single statewide market was produced.

Domains that are asked in its Medicare managed care questionnaire include: physician choice and characteristics, specialist care, health care utilization in the last six

months and questions about the health plan.[1] Examples of specific questions that might be relevant to a CMS survey include:

- In the last six months, did you or a doctor think you needed to see a specialist?
- In the last six months, how much of a problem, if any, was it to get a referral to a specialist that you needed to see?
- In the last six months, when you needed regular or routine health care, how often did you get an appointment as soon as you wanted?
- In the last six months, how much of a problem, if any, was it to get the care you or a doctor believed necessary?
- In the last six months, how much of a problem, if any, were delays in health care while you waited for approval from your health plan?
- In the last six months, how often did doctors or other health providers spend enough time with you?
- In general, compared to other people your age, would you say your health is excellent, very good, good, fair or poor?
- Compared to one year ago, how would you rate your health in general now?

Other National Surveys. There are, of course, other national surveys conducted by various agencies and organizations. CMS may want to consider, through Interagency Agreements, adding some questions to existing surveys, examples of which include:

- National Health Interview Survey (Centers for Disease Control);
- Medical Expenditure Panel Survey (Agency for Healthcare Research and Quality);

[1] The Fee-for-Service version was unavailable. Medicare will begin using this data in late 2001. CMS, "Choosing a Medicare Health Plan." Available at URL: http://www.medicare.gov/Publications/Pubs/pdf/choose_mhp.pdf, accessed on 7 Dec 2001.

- Access surveys conducted by the Robert Wood Johnson Foundation; and the
- Behavioral Risk Factor Survey (Centers for Disease Control).

These were surveys reviewed by the Institute of Medicine (IOM) in its landmark study on access (1993). The IOM believed these surveys to be major sources of data for access indicators. By adding questions to existing surveys, CMS will be able to reduce costs (instead of fielding its own survey) and get a more systematic, yet general, understanding of access problems.

6.2.2 Physician Surveys

Survey of Physicians About the Medicare Program, 1999. In 1999, the Medicare Payment Advisory Commission (MedPAC) surveyed physicians to analyze the effects of the Medicare payment policies that were implemented with the Balanced Budget Act, including the Medicare private contracting provision. The survey also served as a follow-up to two earlier Physician Payment Review Commission surveys. MedPAC sampled 1,000 physicians and oversampled an additional 600 ophthalmologists, orthopedic surgeons and cardiac surgeons (200 of each). These specialties were oversampled because they were likely to be most affected by the changes in Medicare reimbursement policies.

Domains in the survey included physicians' general attitudes and concerns about the practice of medicine and changes in their practice patterns. Many of the questions

asked physicians to answer relative to other types of insurance. For example, a question would be asked about their concern about time spent on paperwork and administration related to billing, and physicians would give answers for PPOs and other private fee-for-service plans, FFS Medicare, FFS Medicaid, HMOs and other capitated plans. Pertinent questions from this survey include:

- Concern about external review and oversight of clinical decisions;
- Concern about the time spent on paperwork and administration related to billing;
- Concern about level of reimbursement;
- Difficulty in finding suitable physicians or surgeons to whom patients can be referred;
- Spending less time answering questions over the phone;
- Referring more patients to other sources of care after hours;
- Spending less discretionary time with patients and families during visits;
- Acceptance of all, some or no new patients; and
- Change in the priority given to Medicare patients seeking an appointment.

American Medical Association's Socioeconomic Monitoring System. The American Medical Association's Socioeconomic Monitoring System (AMA SMS), developed in 1981, was an annual survey of AMA members until recently. (The AMA now plans to field this survey every other year, alternating years with a survey entitled "Patient Care Physician Survey.") The sample for the AMA SMS was selected from the AMA Masterfile, and the sample consisted of approximately 4,000 physicians. Topics included: practice characteristics, description of activities, fees, hospital utilization,

income, expenses, weeks worked, professional liability and managed care. Examples of questions pertinent to Medicare were:

- What percent of your current patients are covered by Medicare?
- Have you signed an agreement to participate in the Medicare program that is currently in effect?
- For what percentage of services for Medicare patients do you accept assignment?
- At this time, do you accept all new Medicare patients who contact you, some or none?
- During the last 12 months, have you decreased the number of certain types of procedures performed on Medicare patients that you still perform on other patients?
- Are changes in Medicare reimbursement the primary reason that you have reduced these services for Medicare patients?

In 1998, the AMA included the following questions in the SMS:

- How important were changes in Medicare payments to the decision to…
  - Reduce staff costs
  - Increase productivity in treating patients
  - Reduce amenities for patients
  - Postpone investing in new equipment
  - Join a larger group or move to another location
  - Diversify
  - Reduce personal salary or fringe benefits
  - Pursue other activities to supplement income
  - Plan an early retirement

Health Economics Research, Inc. In 1999 HER recommended to CMS several strategies to survey physicians about their willingness to participate in Medicare. The

motivation behind this study was the implementation of the Balanced Budget Act of 1997 and the provision allowing physicians to privately contract with Medicare beneficiaries. Two of the recommendations in our study were a telephone survey of physicians and a postcard survey of physicians, examples of which are in Appendices C and D, respectively.

The telephone survey was designed to sample practicing physicians in selected specialties who provide health services to Medicare beneficiaries. Physicians were asked to provide information on whether they were limiting services to Medicare beneficiaries and their reasons for doing so. In addition, they were asked to compare fees and administrative duties across several different types of insurances. This survey was pretested and, with some revision (e.g., removal of questions regarding private contracting) and clearance from the Office of Management and Budget (OMB), is ready to be fielded.

The postcard survey was intended to be included in annual participation letters sent by Medicare carriers to physicians. The goal of this survey was to act as an early warning system for CMS to learn whether physicians were limiting services to Medicare beneficiaries. Due to its length, there were a limited number of questions that could be asked. The questions included asked about physicians' intentions on limiting services, their intentions on private contracting and whether beneficiaries were having difficulty accessing services. We believe that this survey is ready to go to OMB for clearance.

6.3 Limitations to Existing Surveys for Monitoring Access

Surveys on access that currently exist are limited in their ability to monitor beneficiaries' access to physicians, particularly if CMS wants to focus on small areas where access is purportedly limited. In the beneficiary surveys, this weakness exists in both MCBS and CAHPS®. Both surveys are unable to look at problems in a small area. MCBS is a nationally representative survey with a sample size of approximately 12,000 beneficiaries It would be difficult to generalize results for a city, county and in some instances, states. The AMA SMS and MedPAC surveys have the same small area limitation, as does HER's phone survey. However, all surveys can be scaled to focus on small areas if CMS were to field its own survey on targeted areas. It should be noted that HER's proposed physician postcard survey does not suffer from this limitation, as its intent is to be a census. The sample size would be quite large, yet the questions would be limited in number and scope.

A second limitation of the MedPAC and HER physician surveys is the questions that ask physicians to compare Medicare with other insurers. As we learned during our pretests with physicians, many are unfamiliar with the administrative requirements for billing and how one insurance compares to another. To obtain this information, it would be necessary to survey the office managers.

At the TEP, representatives from both the AMA and MedPAC discussed the difficulty in surveying physicians and gaining their cooperation to participate. In its project from CMS, HER also had difficulty gaining physician participation. For the

pretesting of HER's survey instruments, NERI, HER's subcontractor, mailed 182 letters asking for participation in the pre-testing of the survey, and this included an honorarium. In total, 26 interviews were conducted, or about 14 percent of the physicians contacted.

6.4 Design and Implementation of Small Area Surveys

The following section discusses steps CMS would need to take in fielding either a beneficiary survey or a physician survey.

6.4.1 Beneficiary Survey

If CMS chose to field a beneficiary survey, consideration would have to be given to the mode of administration, sampling frame, and the types of questions to be asked. All of these issues are essentially a function of the goals of the survey. If CMS were interested in assessing the general level of access to physicians, then a nationwide, "census-type" of survey would be appropriate. In contrast, if CMS were interested in identifying where a particular geographic area was experiencing an access problem, then a more focused and detailed type of survey would be more appropriate. Alternative options for mode, sample frame, and survey design are discussed briefly below.

The first issue is the sample frame. Who would CMS want to interview for the survey? Would CMS desire in any way to limit the sample to certain types of Medicare beneficiaries? For example, only those of a certain age or a certain disability? Would CMS prefer to over-sample beneficiaries considered to be vulnerable populations, e.g.,

dual Medicare/Medicaid enrollees or disabled? If CMS were interested in determining a general level of access, then a nationwide survey allows for greater sampling diversity. Hot-spot surveying, on the other hand, limits the number of strata that are possible as the number of beneficiaries eligible for surveying is more limited.

In any event, CMS would have to take care in interpreting which beneficiaries were having difficulty finding physicians to see them. For example, the overall proportion of beneficiaries having difficulties could be 1-in-300 but the proportion having difficulties who were actually searching for a provider could have been 1-in-3, implying only 1-in-100 were actually searching. The initial survey sample frame, of course, would be all local Medicare residents, but the questionnaire to be administered would, first, determine whether the respondent had recently needed to find a new physician and, if so, whether they had difficulties finding one.

A second issue would be the survey mode. Would it be a telephone survey? A mail survey? Or a mix-mode survey (a mail survey with a telephone follow-up)? There are tradeoffs with each choice. One issue is cost. A mail survey would be less expensive than a telephone survey, but a telephone survey may have a better response rate. The compromise might be a mailed survey and after a certain time has elapsed, a telephone follow-up to increase response rates.

CMS would then have to consider the types of questions to ask on the survey. This decision would be largely influenced by the purpose of the survey. In order to determine whether beneficiaries are experiencing difficulty accessing physician services,

questions would have to include: whether a beneficiary has a usual source of care; if not, why not; whether the beneficiary is having difficulty accessing physician or specialist services; if yes, why; and whether there is unmet need. It may be decided to include questions on health status in order to analyze whether non-users are in good to excellent health and this status contributes to not utilizing the health care system.

An important point to note is that in any point-in-time survey, it is important to determine a baseline, especially when there is little previous data. It would be necessary to compare one timeframe with another to examine whether access problems are a recent phenomenon or chronic. For example, questions can be worded asking beneficiaries to compare their use or services or ability to get an appointment with their use or ability from a year or two ago. However, recall bias could become an issue.

6.4.2 Physician Surveys

The same survey issues are present for physician surveys. However, we believe that the survey goal strongly determines the survey mode. A goal of assessing general level of participation in the Medicare program begs for a postcard type of survey. In contrast, a goal of assessing detailed participation issues would require a telephone survey. Regardless of the survey goal and mode of administration, HER strongly recommends procuring endorsements from local medical societies to increase response rates. Honoraria may also want to be considered for this purpose.

Telephone Survey. If CMS chose to field a telephone survey of physicians, it could sample from either the Unique Physician Identification Number (UPIN) file or the Provider of Service File (POS). The UPIN file contains identifying information and specialty codes for nearly 800,000 active patient care providers across the country. The POS file provides information on all providers who can bill Medicare.

CMS would then have to choose which providers to sample. We would recommend excluding physicians specializing in radiology, pathology and emergency medicine because they are not office-based physicians. We would further recommend excluding pediatricians because of the small volume of Medicare patients that they see. CMS would have to further decide on other limiting factors: would physicians who do not see any Medicare patients be included in the survey? Would only those who had direct contact with Medicare patients in the past year (or other timeframe) be included? Would certain specialties be oversampled? For example, those specialties particularly affected by reimbursement changes in recent years?

Both the initial sample frame and the in-survey deletions and skip patterns would be important in correctly interpreting the results in terms of access. Consider the rate at which physicians are accepting new Medicare patients, which can be decomposed as:

$$[\text{MDACCEPT/TMDs}] = [\text{MDACCEPT/MDsSEE}] \bullet [\text{MDsSEE/TMDs}]$$

The rate at which all physicians accept new Medicare patients is seen as the product of the rate at which physicians who already see Medicare patients are accepting new

patients times the proportion of Medicare physicians to all local physicians. The overall acceptance rate may be low, not because physicians are now beginning to close their practices to Medicare patients, but because relatively few physicians see Medicare patients in the first instance. Certain specialties such as obstetrics and pediatrics have very low Medicare caseloads. In areas with disproportionate numbers of non-Medicare providers, overall acceptance rates will be lower. This, in part, explains the large discrepancy between 58% of primary care physicians seeing Medicare patients in Colorado versus only 15% of all physicians in the Denver area (Appleby, 2001). The correct sample frame for analyzing the physician acceptance rate would be the number of current Medicare physicians.

A telephone survey would have the benefit of more detail and questions compared to a mail survey. However, given the difficulty in gaining physician cooperation, phone surveys may have a negative effect on the response rate. In addition, depending upon the types of questions asked, especially when comparing various types of insurers, physicians may be unable to answer them. A survey targeting office managers may be a more appropriate and fruitful strategy.

Postcard Survey. CMS could instead choose to field a postcard survey. One suggested sample frame would be all providers receiving participation letters. In this manner the postcard survey would truly be an early warning system for CMS of any physicians limiting services to Medicare beneficiaries. The postcard survey might be able to identify 'hot spot' areas as well.

The immediate drawback of a postcard survey is its length. The questions would have to be carefully chosen as not many would be able to be asked and not much detail could be gathered. It would be effective if questions would allow physicians to put into context the extent to which services were being limited (if at all) by asking them to compare their answers with other insurers or compared to a year or two ago.

6.4.3 Tradeoffs

There will be similar tradeoffs in any survey depending on the mode of the survey. One consideration is expense. A telephone survey is necessarily more expensive than a mail or postcard survey due to costs in training surveyors, designing computer assisted telephone interviews, among others. However, the tradeoff is that one is able to ask more questions and gain more detail in phone surveys. Surveyors are also able to probe respondents to categorize answers accurately.

Another issue is length of time to field the survey and analyze results. Postcard surveys are quicker to field than lengthy telephone surveys for reasons described above. They can be developed quickly and fielded on directed areas or specialties. The turnaround time is also fast, as respondents are not burdened with a lengthy questionnaire. This may have a positive effect on response rates. Researchers can also interpret results quickly; hence, the data are more timely. However, only a limited number of topic areas covered and questions asked.

In conjunction with timeliness, the sample size would also have to be considered. If CMS desires to have a survey turned around quickly, the sample size would have to be small in order to quickly field the survey and analyze the data. However, with a small sample, it is difficult to detect significant differences.

6.4.4 OMB Package

One consideration for any type of survey where there are more than 9 respondents is the OMB Package. OMB reviews all surveys that are fielded in which there are more than 9 respondents. It checks for survey design, methodology, how respondents will be located and interviewed as well as the estimated burden on the participant. The review is a long process averaging approximately 6 months.[2] Once approved, the survey is given an OMB number and a date upon which it much come out of the field. At this time, survey content cannot change.

It was suggested at the TEP that CMS may wish to have a survey ready at all times that has OMB approval to investigate hot spot areas that have been identified through anecdotes. This would be one method by which CMS could answer the charges that beneficiaries are having difficulty finding physicians to treat them. However, CMS could not obtain this information quickly if the agency had to seek OMB approval with each survey round. It has to be determined whether the OMB would allow CMS to have

[2] There is also an expedited review process that takes about 2 months. CMS may want to consider submitting its survey under expedited review as it is a timely and policy-relevant issue. In addition, questions are coming from existing surveys, and have already been validated.

this open-ended type of clearance on a generic survey to be fielded at unspecified times in unspecified geographic areas.

6.5 HER Recommendation

HER believes that CMS should prepare to conduct three types of surveys:

- A "hot-spot" beneficiary survey;
- A "hot-spot" office manager survey; and
- A general census type of survey of physicians.

Each of these recommendations are briefly discussed below.

"Hot Spot" Beneficiary Survey

Of critical importance to CMS is its ability to respond in a short timeframe to answer questions about whether or not Medicare beneficiaries within their own medical market area are experiencing access problems. Also of importance is whether non-Medicare residents within the same medical market area are also experiencing access problems. Combined, this information would provide CMS with "real time" guidance as to whether or not there exists a Medicare program-related access problem or whether there is a more structural problem within the general health care delivery system in the medical market area, i.e., physician shortage.

To obtain the needed information, HER recommends that CMS consider the development of a survey instrument that has been approved by OMB and that would be fielded upon reports of a market area-specific access problem. To ensure a full

assessment of access problems across all insurance markets, we recommend CMS consider the fielding of a random digit dial survey (RDD), with the sample frame being all persons within the pre-specified market area with a phone number. This will allow for an assessment of Medicare beneficiary access problems from both an absolute and relative perspective.

To ensure that the survey results would be available in a short timeframe, we recommend the development of a telephone survey and a multi-component survey instrument. The first component of the survey instrument would be a screening module with two primary purposes: (1) to determine eligibility to participate in the survey; and to assess whether the respondent had sought health care during the reference period (i.e., past month, past three months) and experienced any difficulty in obtaining the necessary care. Survey eligibility and stratification criteria could be applied at this point; thereby allowing CMS to target a subset of the resident population or oversample certain subpopulations. We recommend that this component contain a few targeted questions focused on the health care seeking behavior of the respondent during a reference period and determining whether the respondent experienced any access problems during their search. Access could be defined in several ways to address both inability to get an appointment or delays in receiving recommended care. An attractive feature of this two-pronged strategy would be the relatively low cost to screen a large number of people to determine whether access problems exist.

The second component would be restricted to only those respondents who answered affirmatively that they experienced difficulty obtaining health care services. Thus, the first step would provide CMS with information on the proportions of the Medicare and non-Medicare population that were seeking health care services, and of those what proportions experienced some level of difficulty. The second step would thus provide CMS with more detailed information about the nature of the difficulty, and whether the difficulties are similar across different insured populations.

We recommend the use of access types of survey questions that have been cognitively pre-tested for validity and reliability and that are currently incorporated into Medicare beneficiary surveys. MCBS and CAHPS® would be ideal candidate surveys. After selecting the items of interest, a small pilot test should be conducted to assess any telephone mode survey administration issues.

Analyses of current responses to access questions would provide the relevant variation in response that is necessary to calculate sample sizes. A necessary requirement would be to first estimate the entire eligible population in a predetermined market area, and second, to determine the number of responses that would be necessary to achieve a level of power. As discussed earlier, market areas would be pre-defined and zip codes identified within the market areas for use in the random-digit dial survey. Census data could be mapped to the pre-defined market areas to provide estimates of the total number of all possible eligibles. Estimates of the number of Medicare beneficiaries would thus

be available from both the Census data and the estimates derived from the Medicare Enrollment Data Base (as discussed in Chapter 5).

"Hot Spot" Office Manager Survey

To determine whether physicians are limiting access to their services, HER recommends the fielding of an office manager "hot-spot" survey to parallel that being fielded to residents of the same geographic area. The primary survey goals would be to determine if services are being restricted, types of service restrictions, types of patients that are being restricted, if the restrictions are a change, and the underlying reasons for the change. We recommend office managers for the practice be the targeted respondent for two reasons. First, they are generally the first point of contact when conducting physician surveys. Thus, the survey field period should be considerably shorter than what is usually experienced when attempting to get beyond the office manager to the practicing physician. Second, we believe office managers have more accurate information regarding service restrictions or delays in providing the services than the physicians within a practice.

As with the beneficiary "hot spot" survey, we recommend the development of a survey that has received OMB approval and that is ready for "realtime" fielding; the use of telephone survey mode, and the development of a multi-component survey instrument. The first component would be a general screening component determining both eligibility to participate and whether the practice is limiting services in any manner. Those that are

not limiting services would complete only the screening module; while the remaining respondents would be asked to complete the more detailed access module.

We recommend the use of the UPIN file for developing the sampling frame and assignment of physicians to the pre-determined beneficiary market areas based upon practice location zip codes in the UPIN file. In developing the sample frame, it would be necessary to determine whether CMS was most interested in a practice-level analysis or a physician-level analysis of access. Presumably, an office manager for a group practice would be interviewed only once; however, service restrictions within the practice may be physician-specific. We believe attempting to obtain physician-specific information would be too onerous and would affect both survey cost and response rates. Thus, we would recommend focusing upon a practice-level survey and describing the composition of the practice and the degree of restrictions within the practice, if restrictions are occurring.

Census Survey of Physicians

The third type of survey that we are recommending CMS field is an annual census type of survey to all physicians participating in the Medicare program. The primary goal of the survey would be to have an early warning of potential service reductions within the pre-determined beneficiary market areas. As described above, HER developed a postcard survey to assess physicians' intentions for the upcoming year with respect to service

provision to Medicare beneficiaries. We recommend that this instrument be sent to OMB for approval and Medicare carriers for fielding.

Use of Medicare Data to Monitor Physician Access

Final Report Appendices

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Appendix A

Use of Medicare Data to Monitor Physician Access

Literature Review of Access to Care

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Introduction

Changes to payment for physicians' services through the years, from the implementation of the Medicare Fee Schedule to increases in Evaluation and Management services with concurrent decreases in some surgical procedures, raise questions about the potential impact on Medicare beneficiaries' access to care. Recently, difficulties with Medicare beneficiaries accessing care came to light in *USA Today* (2/19/01) as surveys conducted in Colorado indicated that physicians were limiting the number of new Medicare beneficiaries they treated. One of the surveys indicated that only 15 percent of physicians in Colorado were accepting new Medicare patients. Although the Centers for Medicare and Medicaid Services (CMS) reported that physicians limiting services to Medicare beneficiaries was not a national problem, CMS became concerned about its ability to determine whether Medicare beneficiaries have difficulty accessing physician services using data with minimal processing lag time.

The purpose of this report is to review the literature about how researchers have measured access and the empirical evidence regarding physician participation in Medicare and beneficiaries' access to services. The report is organized as follows: chapter one will describe measures of access that have been developed by researchers; chapter two will discuss physicians' participation in Medicare, their sensitivity to fees and their level of satisfaction with the program; and chapter three will examine Medicare

beneficiaries' access to services and procedures by race, ethnicity, gender, income and region.

1 Measuring Access to Care

Variation exists in the definition of access and the frameworks to measure it. Many contend that the definition of access is elusive (Gillis, *et al.;* 1992, Penchansky and Thomas, 1981), and researchers have put forth different aspects of access when defining it. Some focus on groupings of potential and realized access that describe the "entry of a given population group to the health care delivery system" (Aday and Andersen, 1981). Other definitions incorporate health outcomes to describe access as, "the timely use of personal health services to achieve the best possible outcomes" (Docteur, *et al.,* 1996) or "the extent to which the health care delivery system meets health care needs" (Lee and Gillis, 1994).

As there are varying definitions of access, there are different frameworks used for measuring access. One of the most oft-cited frameworks was developed by Aday and Andersen. Their framework attempted to integrate both demand and supply-side aspects as well as health outcomes when measuring access. To them, access was comprised of two distinct parts: potential and realized. Potential access was considered to be characteristics of the delivery system, and examples of potential access included number of providers in an area, number of specialists in an area and the size of a physician's patient base. These characteristics described the environment from which consumers could access care. Realized access pertained to the utilization of health care services and

the consumer's perspective of health care. It included not only utilization rates, but also elements of consumer satisfaction of care, descriptions of the type of care received as well as consumer perceptions of the care received. Examples of potential and realized access measures specific to Medicare are listed in Table 1. Many of these measures are able to be developed with enrollment data, claims data and program monitoring files.

Table 1

Examples of Potential and Realized Access Measures for Medicare

Potential Access Measures	**Realized Access Measures**
Number of providers per 1,000 population	Population utilization rates of physician services
Medicare participation rates	Number of services provided to Medicare beneficiaries
Medicare physician opt-out rates	Types of services provided to Medicare beneficiaries
Availability of specialists to perform services specific to the Medicare population	Number of office visits per 1,000 beneficiaries
Size of physician's Medicare caseload	Number of emergency room visits per 1,000 beneficiaries
Local availability of mid-level providers (e.g., nurse practitioners, physician assistants)	Number of hospitalizations for ambulatory care sensitive conditions
Number of rural health clinics and/or FQHCs in local area	Consumer satisfaction (e.g., convenience, availability, financing, provider characteristics, quality)

Penchansky and Thomas (1981) modified the Aday and Andersen definition and framework. To them, access consisted of five dimensions that had been used previously by other researchers in defining access:

- availability (being able to get health care)
- accessibility (being able to get to the physician or usual source of care)
- accommodation (being able to get appointments)
- affordability (factors including price and insurance), and
- acceptability (comfort level once at the usual source of care).

These five concepts provided a richer description of the "fit between the patient and the health care system." Penchansky and Thomas used these measures, shown in Table 2, in a survey of GMC employees and spouses in Rochester, New York in 1974. Their regression results indicated that each dimension was a valid measure of access.

Table 2

Five Dimensions of Access

Dimension	Survey Questions
Availability	• Confidence in being able to get good medical care • Satisfaction with ability to find one good doctor for whole family • Satisfaction with knowledge of where to get health care • Satisfaction with ability to get medical care in emergency
Accessibility	• Satisfaction with convenience of physician office • Difficulty in getting to physician office
Accommodation	• Satisfaction with wait for an appointment • Satisfaction with physician office hours • Satisfaction with length of time in waiting room • Satisfaction with ease of contacting physician
Affordability	• Satisfaction with health insurance • Satisfaction with physician price • Satisfaction with how soon you have to pay bill
Acceptability	• Satisfaction with appearance of physician office • Satisfaction with physician neighborhood • Satisfaction with other patients you usually see at physician office

SOURCE: Penchansky R and JW Thomas: "The Concept of Access Definition and Relationship to Consumer Satisfaction", *Medical Care*, 19(2):127-40, February 1981.

Concerns have been raised by researchers that measures of access have been created primarily with Medicare beneficiary data. Beneficiary-level data tends to report mostly on utilization of health care services; they do not reflect physician availability and other supply factors. A number of researchers, therefore, developed access measures using physician-based data such as the American Medical Association's Socioeconomic Monitoring System or the Medicare Physician Identification and Eligibility system linked to physician claims (Gillis, *et al.,* 1992; Lee, *et al;* 1994, Meadow, 1995). Potential and realized measures that were constructed included:

- proportion of physicians who saw all new Medicare patients;
- the number and proportion of visits to physicians accounted for by Medicare patients;
- the Medicare participation rate;
- the Medicare assignment rate; and
- the proportion of physician revenues derived from Medicare.

In a 1993 article for the *Health Care Financing Review*, McCall developed access measures reflecting physicians' caseloads and volumes using Medicare claims data. The specific measures were:

- availability of physicians treating Medicare beneficiaries;
- number of beneficiaries physicians treat;
- types of beneficiaries physicians treat;
- physicians' level of financial participation in Medicare;
- volume of services provided by physicians; and

- intensity of services provided by physicians.

Recently, it was suggested that the Aday and Andersen model be modified to monitor access for Medicare beneficiaries in managed care. In 1996, Docteur, *et al.,* used a model from the Institute of Medicine (which was taken from the Aday and Andersen framework). The modified framework depicted the interrelationship of the barriers to care, service utilization, indicators of quality of care and health outcomes. It also took into account that with managed care, beneficiaries had to choose the health care delivery system in which they wished to enroll. Access was affected depending upon the type of system the beneficiary chose as well as how informed and educated the beneficiary was about the choices. Additional access measures then had to be constructed, and examples included beneficiaries' understanding of managed care, beneficiaries' ability to comply with the managed care process, their ability to understand plans' primary care gatekeeper arrangements, and their right to appeal.

Gold (1998) also advocated the addition of elements to the access framework to better reflect the advent of managed care. The structure of the health care delivery system, financial arrangements of these systems and individual choice had to be incorporated into the model. She noted how, with time, the uses of access measurements also expanded. Access measures were still used for benchmarks and comparisons. However, they were now used for measuring the performance of managed care plans (through HEDIS® scores and CAHPS® surveys). These measures were translated to assist consumers in their enrollment decisions. She cautioned that access measures would

continue to change as the market place and health care delivery systems evolved, and that there were tradeoffs between collecting data timely and the limited resources to do so.

The following chapters review literature about access care, first from the physician perspective using mostly physician-level data, followed by literature regarding beneficiary access using beneficiary-level data.

2 Medicare Fee Changes and Access to Care

Extensive research has been conducted regarding Medicare beneficiary access to care due to incentives created with changes in physician payment. The Omnibus Budget Reconciliation Act (OBRA) of 1987 reduced the price of twelve "overpriced services," many pertinent to senior citizens. OBRA 1989 established the Medicare Fee Schedule (MFS) changing how physicians were paid, and the Balanced Budget Act of 1997 increased fees for E&M services, decreased fees for most surgical procedures and allowed physicians to privately contract with Medicare beneficiaries.[1]

Changes in physician fees raise concerns for policymakers and advocates about the ability of beneficiaries to access services. If physicians are paid less for their procedures to Medicare beneficiaries, will they provide fewer services to Medicare beneficiaries? Alternatively, in order to make up the difference in their reduced income, will physicians provide more services to Medicare beneficiaries? These are questions researchers address in the following section. In addition, Appendix A contains a table providing the methodology and access measures used in this chapter's reviewed articles.

[1] Two laws have since been implemented: the Balanced Budget Refinement Act of 1999 (BBRA) and the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA). Both may have implications for access, although it is too early to tell. The BBRA increased the sustainable growth rate affecting the Medicare physician conversion factor, thus increasing physician payments for Medicare patients. BIPA implemented the following that may affect access: modification of the prospective payment system for hospital outpatient departments (OPD); requirements of GAO to report on the appropriateness of transferring certain services to the physician office from the OPD and to examine how the Secretary accepted and used practice expense data; requirements of MedPAC to report on Medicare reimbursement for ancillary service providers and the coverage of services performed by certain non-physician providers. BIPA also established a demonstration project "to test

2.1 Physician Participation in Medicare and Assignment of Claims

The Medicare Participating Physician and Supplier Program (PAR) was implemented in 1984 through the Deficit Reduction Act and has been modified often since then. Currently, physicians who join the PAR program agree to accept assignment for all Medicare claims for a year. In return, participating physicians receive the full Medicare payment amount in contrast to nonparticipating physicians, who receive only 95 percent of the fee schedule amount but can balance bill up to 115 percent of the 95 percent amount. In addition, participating physicians' names are listed in the Medicare Participating Physician/Supplier Directory, and they receive toll-free lines if they submit their claims electronically. A purpose of the PAR program is to financially protect Medicare beneficiaries by informing them which physicians accept assignment. Therefore, beneficiaries know whether they will incur additional out-of-pocket expenses, aside from the 20 percent coinsurance, for physician services.

In 1984, when the PAR program began, only 30 percent of physicians signed participation agreements (Mitchell, *et al.,* 1988). At that time, a fee-freeze on Medicare services was imposed for 15 months. Actual charges for nonparticipating physicians were also frozen, effectively limiting their balance billing, while participating physicians were allowed to increase their actual charges during that period. Under the customary,

financial incentives to encourage care coordination and administrative efficiency and to reward physician efforts to improve health outcomes." (CMS, 2001).

prevailing, and reasonable (CPR) payment system, this would result in future payment increases for participating physicians.

One study analyzed the Physicians' Practice Costs and Income Survey of 1984-1985 for characteristics of physicians who chose to participate in Medicare (Mitchell *et al.,* 1988). The study found that:

- physicians with large Medicare caseloads were more likely to sign the agreement compared to physicians with smaller caseloads (physicians with 50 percent of their caseload devoted to Medicare patients compared with physicians with 10 patient of the caseload being Medicare patients);
- physicians with practices in high income areas were less likely to participate due to private demand; and
- medical graduates from non-English speaking, non-western European medical schools were more likely to participate in Medicare.

Participation rates have increased over the years. As mentioned earlier, when the PAR program began, less than one-third of physicians participated. By 1996, with the MFS fully implemented and balance billing limits in place, 78 percent of Medicare providers participated, accounting for 92 percent of spending for physicians services (PPRC, 1997).

Assignment rates have also increased. In 1986, only 70 percent of allowed charges were from assigned claims; by 1996, 96 percent of allowed charges were assigned (PPRC, 1997). Assignment rates are an important indicator of access because physicians who do not accept assignment increase the financial liability of Medicare beneficiaries. Beneficiaries are liable for coinsurance and any difference in the Medicare

allowed charge and physician fee. Thus, physicians who do not accept assignment may have a limiting effect on beneficiaries' access to care.

There had been suggestions of eliminating physicians' ability to accept assignment on a case-by-case basis in order to increase assignment rates. Results from the analysis of a 1976 Physician Survey and information from AMA Masterfile, Area Resource File, AMA's Physician Distribution and Medical Licensure in the U.S. indicated that 68.5 percent of physicians, if forced to choose between taking all or none of their Medicare patients on assignment, would take none (Mitchell and Cromwell, 1983). Further, simulations suggested that the assignment rates would fall by 10 percent. From an earlier study using survey data, the Area Resource File and Medicare prevailing charges data and assignment information, results indicated that increases in Medicare allowed fees would encourage physicians to accept assignment (Mitchell and Cromwell, 1982)

Colby, *et al.,* (1995) were concerned about the effects of Medicare participation and balance billing on vulnerable Medicare beneficiaries. Using physician participation rates from the Health Care Financing Administration and a 1 percent sample of Medicare beneficiaries' claims from 1986-1990, the study found that :

- there was an overall increase in participation rates that varied by specialty (e.g., 44 percent of optometrists versus 20 percent of anesthesiologists) and by state;
- during this time, there was also an increase in assignment rates varying again by specialty and by state; and
- from 1986 to 1990 the average balance bills per beneficiary decreased by 30 percent.

2.2 Effect of the Medicare Fee Schedule on Access to Care

Researchers were curious about the effect that the MFS, once implemented, would have on beneficiaries' access to care. Because it was implemented at the beginning of 1992, researchers looked to other sources of data to predict its effects. There was uncertainty as to whether physicians would adhere to CMS' assumptions that there would be an increase in services to compensate for up to 50 percent in lost income (Escarce, 1993; Mitchell and Cromwell, 1995). Or, perhaps, physicians would decrease the volume of services provided.

McCall (1993) used Medicare claims data from April – December 1987 and April – December 1988 from four states to examine the effects that the reduction in prices of overpriced services (OBRA 1987) had from the physician perspective. Results indicated:

- the number of physicians treating Medicare beneficiaries or performing overpriced procedures did not change significantly with the reduction in payment; and
- most physicians experienced increases in Medicare caseloads, particularly those most dependent on the overpriced procedures.

Also, in response to the implementation of the MFS, Gillis, *et al.,* (1992) provided baseline statistics as to physician participation and assignment rates. Using the 1986 and 1990 AMA SMS, the authors constructed access measures based on this physician-level data. According to the trend analysis:

- participation rates increased from 1986 to 1990;
- overall, 79.8 percent of physicians accepted all new Medicare patients;
- participation was more likely by non-primary care physicians; and

- assignment rates were higher for non-primary care physicians.

CMS was required by Congress to submit annual reports about Medicare beneficiaries' access to services once the MFS was implemented. To monitor beneficiaries' access, overall trends were analyzed prior to its implementation as well as monitoring trends for more vulnerable populations (minority, low-income, very old, rural). Using data derived from the National Claims History File (NCH), analyses conducted by Gornick (1993) indicated:

- there was a shift in volume and allowed charges from procedures to primary care types of services (i.e., Evaluation and Management services, consults); and
- the MFS had not changed beneficiaries' access to services.

In 1994, Lee and Gillis updated their earlier study with an additional year of survey data. Using the 1993 AMA SMS to create access measures, the results indicated:

- there was a small increase in 1993 from the previous year in provider willingness to accept new Medicare patients and a small decrease in the proportion of physicians accepting no new patients;
- primary care physicians were more likely than nonprimary care physicians to reduce services to Medicare patients (physicians in rural areas were most likely to do so);
- approximately 7.5 percent of physicians reduced the number of services performed on Medicare patients that they performed on others (88 percent of them claimed it was because of the level of Medicare reimbursement); and
- primary care physicians were less likely to accept all new Medicare patients compared with nonprimary care physicians.

Two studies focused on specific services to determine the impact of the MFS on access to care. Mitchell and Cromwell (1995) used Medicare Part B claims from 1985-1989 for eleven states to examine surgical rates on vulnerable beneficiaries (dual eligibles, African Americans, the very old, rural). Regression results indicated that:

- the MFS caused small, but statistically significant increases in three surgical procedures, small decreases for two procedures but no effect on six procedures; and
- utilization may have increased with the decrease in fees for the vulnerable subgroups for hip and knee replacements and cataract surgeries.

These results supported an earlier study (Escarce, 1993) questioning CMS' assumption that physicians would increase the volume of procedures provided to Medicare beneficiaries by as much as 50 percent to recoup their losses.

In a separate study, Reilly (1995) was concerned with the effect that the physician payment reform (PPR) had on access to "important ambulatory care services." The study examined congestive heart failure (CHF) as a tracer condition. The author reasoned that if rates of hospitalization for CHF had increased among Medicare beneficiaries, beneficiaries were not receiving appropriate visits with physicians to monitor the condition. This could be either due to beneficiaries not seeking care due to increased copayments or physicians withdrawing participation due to limits on balance billing created by PPR. Using MEDPAR data from 1993, the study found that hospitalization rates were not significantly different prior to and post-PPR.

2.3 Effect of the Balanced Budget Act on Access to Care

Several payment provisions were established in the Balanced Budget Act of 1997 (BBA) that could have possible effects on Medicare beneficiaries' access to care. The BBA increased payments for Evaluation and Management (E&M) services and some nonsurgical procedures while it decreased payment for some surgical procedures. Specialties particularly affected were ophthalmologists, orthopedic surgeons and cardiothoracic surgeons (Schoenman, *et al*., 2001). It further created a provision allowing physicians to opt-out of Medicare for two-year periods of time.

Using MedPAC's 1999 Survey of Physicians about the Medicare Program, Schoenman, *et al.,* (2001) found that:

- 45 percent of the surveyed physicians reported that Medicare payment levels were a very serious problem for them (surgeons were more likely than nonsurgeons to express that sentiment); and
- the majority of physicians reported that appointment priority for fee-for-service Medicare patients had not changed, although 5.8 percent did say it was lower.

The authors concluded that access for Medicare fee-for-service beneficiaries "remains on par with privately insured fee-for-service patients and in a better position relative to patients with fee-for-service Medicaid or in capitated plans."

In addition to low Medicare reimbursement levels, rules and regulations for billing Medicare frustrate physicians. For example, some criticize the guidelines for documenting and billing E&M services as too complex and involving too much paperwork (Brett, 1998). One intent of the documentation requirements is to prevent

fraud and abuse by physicians. However, others contend that the amount of paperwork is onerous, and instead of trying to prevent fraud and abuse, the government creates an adversarial relationship with physicians (Kassirer and Angell, 1998; Iezzoni, 1999). It should be noted that physicians are not only frustrated with Medicare, but with insurance generally: a recent *USA Today* article stated, "…doctors are increasingly frustrated with insurance, not just Medicare. Some refuse all insurance, seeking cash-paying patients" (Appleby, 2001).

There is little empirical evidence to date about the effect of the private contracting provision on beneficiaries' ability to access care. Although proponents believe that private contracting could increase beneficiary access to physician services, some fear that this option will impair beneficiaries' ability to find new physicians as well as cause beneficiaries to incur substantial out-of-pocket costs. Data as of June 30, 2001 indicate that 1,772 physicians opted-out of the program; this is less than one percent of the total physician population (Communications with CMS Project Officer, 2001). The majority are nonparticipating physicians, and most are psychiatrists (CMS P.O., 2001).

Research to date suggests that there has been relatively little effect on beneficiaries' ability to access services despite changes in physician payment. Participation rates are high as are assignment rates, although these differ by state. Although it seems that low Medicare reimbursement is physicians' primary dissatisfaction with the program, physicians appear additionally frustrated by documentation requirements and managed care. There is, however, some concern about

physicians', especially primary care providers', willingness to accept all new Medicare patients.

3 Medicare Beneficiary Access to Services and Procedures

Do anecdotal reports from the media stating that physicians are no longer accepting new Medicare patients translate into beneficiaries having difficulty accessing care? A recent *USA Today* article reported that beneficiaries were experiencing difficulty finding physicians who would accept Medicare in several areas of the country. This information came from two surveys conducted in Colorado, as well as anecdotes from Atlanta, Austin, Spokane and "other urban areas" (Appleby, 2001). The results from one of the surveys conducted in Colorado by a patient-advocacy group indicated that only 15 percent of physicians were accepting new Medicare patients (Appleby, 2001). However, this may not mean that beneficiaries were having difficulty accessing care. According to MedPAC's analysis of the 1998 Medicare Current Beneficiary Survey (MCBS), only 3.3 percent of beneficiaries "had trouble getting care" (MedPAC, 2000). The literature does indicate that Medicare beneficiaries' access to services and procedures varies based on race, ethnicity, gender, income and region of the country. The following chapter reviews that evidence.

3.1 Access by Race and Ethnicity

Results from two beneficiary-based studies, one using Medicare claims and another using the MCBS, indicated that African American Medicare beneficiaries were

approximately 20 percent to 30 percent less likely to have an office visit than white beneficiaries (Haber and Mitchell, 1999; Gornick, 2000). Another MCBS study found that just over one half of African American Medicare beneficiaries compared to 70 percent of white beneficiaries reported that their usual source of care occurred at a doctor's office (Murray, 2000). These results suggested that African Americans were more likely than whites to use a hospital emergency room or outpatient department as their source of care. This pattern of physician visits further suggested that African Americans have less access to ambulatory care than whites (Gornick, 2000).

Using claims data for ten states and the District of Columbia from 1989, Lee, et al. (1997) examined the difference in utilization rates for selected office and hospital visits, ambulatory procedures, diagnostic procedures, minor and major general surgery and eye procedures for white and African American Medicare beneficiaries. The results indicated:

- whites received higher intensity services (coronary artery bypass graft surgeries, thromboendarterectromies, hip fracture repairs, hip replacements, hysterectomies); and
- whites received a 24 percent greater service intensity when analyses were conducted on a matched sample of whites and African Americans.

Using the MCBS, Gornick (2000) found that African Americans received coronary artery bypass graft surgeries (CABGs) at a rate that was 68 percent that of white

Medicare beneficiaries. Eggers and Greenberg (2000), also using the MCBS, found that among Medicare beneficiaries with ischemic heart disease, 53 percent fewer African Americans received CABGs compared to whites.

Not only do African American Medicare beneficiaries receive fewer high intensity services compared to whites, they also receive less preventive care. In particular, African Americans, as compared to whites, experienced a lower level of sigmoidoscopies, colonoscopies and mammograms, all of which screen for cancer, and flu immunizations (Gornick, 2000).

The literature also indicated that African Americans tend to be less satisfied with their medical experiences than whites. One MCBS study reported that white Medicare beneficiaries compared to African Americans were more likely to report that they were "very satisfied" with their general health care, follow up care, information from their physicians, and their doctor's concern for their health (Murray, 2000).

3.2 Access by Gender

Researchers also reported that men were more likely to receive adequate care compared to women. The referral patterns of physicians for cardiac catheterization from one survey study showed that women were less likely than men to be referred (Schulman, *et al.,* 1999). (The population studied in this survey was not necessarily Medicare beneficiaries.) Another national claims study indicated that the age- and sex-adjusted rates for CABG differed widely based on gender in the Medicare population:

- the CABG rate per 10,000 was 40.4 for white men and 16.2 for white women;
- 7.6 for African American men and 6.4 for African American women (Goldberg, *et al.*, 1992).

Another national study revealed that female Medicare patients were less likely than male Medicare patients to receive carotid endarterectomies and PTCAs (McBean, *et al.,* 1994).

3.3 Access by Income

Income also played a role in the level of access to care a beneficiary received. One study reported that the rate of ambulatory physician visits among the least affluent elderly white persons was 18 percent lower than the rate for the most affluent elderly white person. The least well off white persons, in contrast, received 35 percent more emergency room visits than those that were "best off" (Gornick, 2000). This implies that lower income persons relative to affluent persons have less access to ambulatory care. Also, a separate MCBS study reported that beneficiaries with incomes greater than $35,000 per year compared to beneficiaries in the lowest income class ($10,000 or less) were less likely to report barriers to care. Further, the lowest income group was less likely than the higher income groups to have had any physician visit during the year, to have an outpatient visit, and to be satisfied with the quality and cost of care (Rosenbach, 1995).

In terms of the rate of utilization of specific procedures, least affluent individuals tended to receive them at a lower rate than the most affluent individuals. Specifically, in

both the African American and white Medicare populations, the least affluent individuals in comparison to the most affluent individuals received MRIs, preventive care, amputation of lower limb, and flu immunizations at a lower rate (Gornick, 2000; Asch, *et al.,* 2000).

3.4 Access by Region

Studies also documented differences in access to care across geographic regions. A study using Medicare claims from 1986 indicated that in all regions of the country whites received more services than African Americans (Escarce, *et al*., 1993). In the Lee study (1997) using claims from 1989 for ten states and the District of Columbia, the results indicated:

- white aged Medicare beneficiaries in the South received 16 percent more procedures compared to African Americans;
- white aged Medicare beneficiaries in the South received 38 percent more higher intensity services compared to African Americans; and
- in non-South areas whites and African Americans received nearly equal amounts and intensities of services.

Appendix B

APPENDIX B

Methodology and Access Measures of Reviewed Literature in Chapter 3

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Methodology and Access Measures of Reviewed Literature in Chapter 3

Citation	Methodology	Access Measures
Adler GS: "Medicare Beneficiaries Rate Their Medical Care: New Data From the MCBS", *Health Care Financing Review*, 16(4):175-87, Summer 1995.	Examined the satisfaction of Medicare beneficiaries with medical care received using 1993 MCBS.	• Overall quality of the medical care received in the last year • Availability of medical care at night and on weekends • Ease and convenience of getting to a doctor • Out-of-pocket costs paid for medical care • Information given to beneficiary about condition • Follow-up care received after an initial treatment or operation • Concern of doctors for overall health rather than isolated symptom or disease • Getting all medical care needs taken care of at the same location • Primary source of dissatisfaction • Perspective on what areas in the medical services need to be improved • Level of satisfaction with usual source of care
Asch SM, EM Sloss, C Hogan *et al*.: "Measuring Underuse of Necessary Care Among Elderly Medicare Beneficiaries Using Inpatient and Outpatient Claims", *JAMA,* 284(18):2325-33, November 8, 2000.	Using 1992-1993 Medicare claims data and information from the published literature and expert opinion, the study developed clinical indicators of underuse for the elderly Medicare Population. These indicators were used to calculate the proportion of beneficiaries who had received the necessary care, as well as the	Necessary Care Indicators • Visit < 4 weeks after discharge for patients hospitalized for unstable angina • Visit every 6 months for patients with chronic stable angina • Follow-up visit or hospitalization , < 1 week of initial diagnosis of unstable angina • For patients with breast cancer and eventual mastectomy, interval from biopsy to definitive therapy • Mammography every year for patients with history of breast cancer • At initial diagnosis of breast cancer, mammogram

Citation	Methodology	Access Measures
	proportion of several vulnerable populations within this sample who had received the necessary care.	• Electrocardiogram <2 days after initial diagnosis of transient ischemic attack • Visit < 4 weeks after discharge for patients hospitalized ischemic attack • Visit every 6 months for patients with chronic obstructive pulmonary disease • Visit <4 weeks after discharge for patients hospitalized for congestive heart failure • Visit every 6 months for patients with congestive heart failure • Electrocardiogram <3 months after initial diagnosis of congestive heart failure • Visit <2 week after discharge for patients with diabetes • Glycosylated hemoglobin of fructosamine every 6 months for patients with diabetes • Eye examination every year for patients with diabetes • Visit every 6 months for patients with diabetes • Visit <4 weeks after discharge of patients hospitalized for gastrointestinal bleeding • Hematocrit test <4 weeks after discharge of patients hospitalized for gastrointestinal bleeding Avoidable Outcome Indicators • Among patients with known angina, > 3 emergency department visits for cardiovascular-related diagnosis in 1 year • Nonelective admission for congestive heart failure • Among patients with known diabetes, admission for hyperosmolar or ketotic coma • Among patients with known chronic obstructive pulmonary disease, subsequent admission for respiratory diagnosis

Citation	Methodology	Access Measures
		Preventive Care Indicators • Assessment of visual impairments every 2 years • Mammography every 2 years for female patients.
Blendon RJ, LH Aiken and HE Freeman *et al*.: "Access to Medical Care for Black and White Americans - A Matter of Continuing Concern", *JAMA*, 261(2):278-81, January 13, 1989.	Descriptive analysis of national telephone survey conducted in 1986 (respondents were not necessarily Medicare beneficiaries). Regression analyses to examine whether differences in number of visits and provider visit in a year are related to ethnicity.	• Ambulatory and hospital experience by race • Ambulatory and hospital experience by health status • Patients' perception of care provided • Patients' satisfaction with care provided Dependent variables: • Mean number of ambulatory visits • Office visit in past year Independent variables: • Insurance • Demographics • Health status
Eggers PW and LG Greenberg: "Racial and Ethnic Differences in Hospitalization Rates Among Aged Medicare Beneficiaries, 1998", Health Care Financing Review 21(4): 91-105, Summer 2000.	Descriptive analyses to compare hospitalization rates by race and ethnicity using 1990 US Census, NCHS, and HCFA administrative databases (1997-19998).	• Number of hospital discharges by diagnosis • Persons hospitalized for IHD and receiving cardiac services by race • Number of persons receiving selected cardiac procedure with at least one IHD hospitalization by race

Citation	Methodology	Access Measures
Goldberg KC, Hartz AJ, et al.: "Racial and community factors influencing coronary artery bypass graft surgery rates for all 1986 Medicare patients." *JAMA* 267(11): 1473-1477, 1992.	Comparisons were made across states and race for CABG rates using the 1986 MEDPAR files, the 1988 Area Resource File and the 1985 Census.	• Number of CABGs by race and state • Rate of CABGs by race and state
Gornick M: "Disparities in Medicare Services: Potential Causes, Plausible Explanations, and Recommendations", *Health Care Financing Review*, 21(4):23-43, Summer 2000.	Descriptive analysis of 1996 MCBS, 1998 Medicare Part B data: Examined disparities in the use of elective services expected to improve health and disparities in the use of non-elective services associated with poor management of chronic disease.	• Use of CABG • Use of PTCA • Use of sonography • Use of thromboendarterectomy • Use of mammograms • Use of sigmoidoscopy • Use of colonoscopy • Rate of physician office visits (hospital, emergency, specialists) • Rate of receiving an influenza immunization • Rate of visits to ophthalmologists (in the area of cataract removal and treatment of retinal lesions) • Rate of lower limb amputation • Rate of arteriovenostomy • Rate of excisional debridement •
Haber SG and JB Mitchell: "Access to Physicians' Services for Vulnerable Medicare Beneficiaries", *Inquiry,* 36(4):445-60, Winter 1999-00.	Using 1991 HCFA enrollment files, Medicare Part B physician and outpatient department claims, MEDPAR claims for acute hospital stays, the Medicare physician/supplier procedure	• Probability of an office visit • Number of visits for those with at least one office visit • Emergency room use • Admission rates for ambulatory care sensitive conditions. • Mean inadequate access to primary care services • Probability of receiving specific tests and procedures related to each

Citation	Methodology	Access Measures
	summary file, claims data from a private sector insurance plan that offered national coverage, and the PPS Impact File, the study examines whether changes in physician reimbursement under the MFS had differential impacts on access to care for Medicare beneficiaries. Regression analysis was used to assess MFS impacts on access to services for vulnerable populations.	condition. Dependent variable: • Utilization of services Independent variables: • Percentage change in allowed charges • Year • Vulnerable groups • Average Medicare fee • Beneficiary/patient/market area/hospital characteristics
Lee JA, S Gehlbach, D Hosmer *et al*.: "Medicare Treatment Differences for Blacks and Whites", *Medical Care,* 35(12):1173-89, 1997.	Regression analysis using the 1989 Medicare eligibility file to assess racial differences in procedure use for elderly Medicare beneficiaries.	Dependent variable: • Utilization for service or procedure Independent variables: • Disease prevalence and severity • Ability to pay • Probability that patient will present or seek care for a symptom • Probability that patient will comply with treatment • Provider practice patterns

Citation	Methodology	Access Measures
McBean AM, JL Warren and JD Babish: "Continuing Differences in the Rates of Percutaneous Transluminal Coronary Angioplasty and Coronary Artery Bypass Graft Surgery Between Elderly Black and White Medicare Beneficiaries", *American Heart Journal*, 127:287-95, February 1994.	Comparisons were made of PTCA and CABG hospitalization rates for 1986-1990 by gender and race using MEDPAR.	• Change in PTCA rates for Medicare beneficiaries • Change in PTCA discharge rates by race and gender • Change in CABG rates for Medicare beneficiaries • Change in CABG discharge rates by race and gender
Meng Y, DE Jatulis, JP McDonald *et al*.: "Satisfaction With Access to and Quality of Health Care Among Medicare Enrollees in a Health Maintenance Organization", *Western Journal of Medicine,* 166(4): 242-47, April 1997.	Descriptive and regression analyses of 1995 Health Net Member Satisfaction Survey to examine Medicare enrollees' satisfaction with access and quality in the HMO.	Dependent variable: • Satisfaction with care • Satisfaction with medical group Independent variables: • Age • Gender • Utilization • Health status • Region • Type of medical group
Murray LA: "Racial and Ethnic Differences Among Medicare Beneficiaries", *Health Care Financing Review*, 21(4): 117-27, Summer 2000.	Descriptive analysis of 1998 MCBS by race and ethnicity	• Reported diseases and chronic conditions of Medicare beneficiaries • Beneficiaries usual source of care • Beneficiaries access to care problems • Beneficiaries reporting they were "very satisfied" with their care • Beneficiaries reporting they were very satisfied with their access to care and cost of care • Beneficiaries use of covered preventive services

Citation	Methodology	Access Measures
		• Percent of beneficiaries who received a flu shot • Percent of female beneficiaries' who received a mammogram • Personal health expenditure
Murray LA and JA Poisal: "Barriers to Physician Care for Medicare Beneficiaries", *Health Care Financing Review*, 19(3): 101-04, Spring 1998.	Descriptive analysis 1991-1996 MCBS data. Examined the change in access to medical care since the implementation of balanced billing limits in 1991 and the physician fee schedule in 1992.	• Change in beneficiaries responding delaying medical care due to worries about cost • Change in beneficiaries reporting not seeking necessary care from a doctor • Change in beneficiaries indicating that they have had trouble getting wanted or needed health care during the year
Rosenbach ML: "Access and Satisfaction Within the Disabled Medicare Population", *Health Care Financing Review*, 17(2):147-67, Winter 1995.	Descriptive and regression analyses of 1991 MCBS about variations in access and satisfaction with disabled Medicare beneficiaries.	Dependent variables: • Probability of having usual source of care • Probability of having physician's office as usual source of care • Satisfaction with the overall quality of care • Satisfaction with out-of-pocket costs • Satisfaction with availability of care at night or weekends • Probability of having any unmet need Independent variables: • Demographics • Disability status • Health status • Supplemental insurance coverage • Region • MSA

Citation	Methodology	Access Measures
Rosenbach ML, KW Adamache and RK Khandker: "Variations in Medicare Access and Satisfaction by Health Status: 1991-93", *Health Care Financing Review*, 17(2):29-49, Winter 1995.	Descriptive analysis of 1991-1993 MCBS data to examine Medicare access, use, and satisfaction before and after implementation of the Medicare Fee Schedule. Regression analysis to examine Medicare access, use and satisfaction before and after MFS	• Change in physician visit (any setting) • Change in physician visit in non-hospital setting • Change in outpatient department visit • Change in emergency room visit • Change in average number of visits per user • Change in percent with hospitalization • Change in percent with flu shot in previous winter • Change in percent of women with mammogram in previous year • Change in percent of women with pap smear in previous year • Change in percent reporting a health problem and not receiving care • Change in quality of medical care • Change in availability of medical care • Change in the ease of getting to a doctor • Change in the level of satisfaction with the costs of medical care Dependent variables: • Likelihood of utilization • Number of office visits and consults • Satisfaction Independent variables: • Year • Payment change • Demographics • Supplemental coverage • Usual source of care • Health status • Region • MSA

Citation	Methodology	Access Measures
Rosenbach ML and DA Dayhoff: "Access to Care in Rural America: Impact of Hospital Closures", *Health Care Financing Review,* 17(1):15-37, Fall 1995.	Quasi-experimental, pre/post comparison group design was conducted using Part A and B claims data for 11 states (1985-1989) to examine the impact of the closure of rural hospitals had on Medicare beneficiaries access to care.	• Inpatient days • Per capita expenditure in rural closure areas versus no-closure and no-hospital areas • The distribution of hospital discharges by selected hospital characteristics • Per capita spending • The number of users per beneficiary • The number of services per user • Indicators of beneficiary liability • Mortality rate
Schulman KA, Berlin JA, et al: "The effect of race and sex on physicians' recommendations for cardiac catheterization", *New England Journal of Medicine,* 340 (8): 618-626. 1999.	Analysis of a physician survey in 1996-1997 to examine differences in the use of cardiovascular procedures according to patient race and sex. Not all cases were Medicare beneficiaries.	• Recommendation pattern of physicians.
Trude S and DC Colby: "Monitoring the Impact of the Medicare Fee Schedule on Access to Care for Vulnerable Populations", *Journal of Health Politics, Policy & Law,* 22(1):49-71, February 1997.	Used 1992 MCBS and Medicare Claims to conduct descriptive analysis and regression analysis to examine health care utilization of vulnerable populations.	• Health services utilization • Satisfaction with care • Usual source of care Dependent variables: • Utilization • Change in utilization from 1991-1992 Independent variables:

Citation	Methodology	Access Measures
		• Demographics • Self-reported health status • Vulnerable Medicare populations • Areas with increases/decreases in fees

Appendix C

SUMMARY OF ACCESS INDICATOR RANKINGS

Domains

domains = 1=very important; 2=important; 3=not important

DOMAINS									**Average**
Barriers	1.5	1	1	3	1	1	1	1	1.3
Use of Services	1.5	1	1	3	1	1	1	1	1.3
Mediators	3	2	2	1	2	2	3	2	2.1
Health Outcomes	3	2	2	1	2.5	3	3	3	2.4

SUMMARY OF ACCESS INDICATOR RANKINGS

Timeliness

timeliness = 1=very timely; 2=somewhat timely; 3=not very timely

									Average
BARRIERS									
Structural Barriers									
#new physicians entering Medicare program	1	1	1	3	--	3	1	2	1.7
#physicians opting out	1	2	1	3	--	1	1	1	1.4
Ratio of eligible physicians to beneficiaries	1.5	1	1	2	1	1	1	1	1.2
Ratio of billing physicians to beneficiaries	1	2	1	2	1	--	1	--	1.3
by physician specialty	--	--	--	--	--	1.5	--	1	1.3
by beneficiary characteristics	--	--	--	--	--	3	--	3	3.0
Size of physician's Medicare caseload	2	2	2	2	2	3	2	3	2.3
Medicare participating rate	1	2	2	3	--	1	2	1	1.7
Medicare assignment rate	1	2	2	2	--	1	1	1	1.4
Proportion of physicians accepting all/no new patients	2.5	3	1	3	--	3	2	3	2.5
Proportion of physicians not performing special services	3	3	1	1	1.5	3	3	3	2.3
Other									
Financial Barriers									
Index of Relative Prices	2	3	1	1	2.5	2	3	--	2.1
across services	--	--	--	--	--	--	--	3	3.0
across payers	--	--	--	--	--	3	--	3	3.0
Proportion of Medicare beneficiaries with supplemental insurance	2	3	3	2	--	3	3	--	2.7
Medigap	--	--	--	--	--	--	--	3	3.0
Medicaid	--	--	--	--	--	3	--	3	3.0

SUMMARY OF ACCESS INDICATOR RANKINGS

Timeliness

timeliness = 1=very timely; 2=somewhat timely; 3=not very timely

									Average
Level of managed care penetration	2	3	2	2	1	3	3	--	2.3
across all populations	2	--	--	--	--	--	--	2	2.0
Medicare+Choice	--	--	--	--	--	--	--	1	1.0
Average balance bill per Medicare beneficiary	2	2	1	2	2	1	3	2	1.9
Personal Barriers									
Average education and income level	3	3	3	3	2.5	3	3	3	2.9
Disability Status	1	2	2	2	1	1	1	1	1.4
Proportion of minority Medicare beneficiaries	1	2	3	1	--	1	1	1	1.4
Measures of health seeking behavior	3	3	1	3	--	3	3	--	2.7
rates in preventive care	--	--	--	--	--	--	--	2	2.0
delay in seeking care	--	--	--	--	--	3	--	1	2.0
rate in ER usage	2	--	--	--	--	3	--	1	2.0
proportion of beneficiaries whose USC is MD office	--	--	--	--	--	1	--	2	1.5
Consumer satisfaction measures	3	3	1	3	2.5	3	3	--	2.6
availability	--	--	--	--	--	3	--	3	3.0
accessibility	--	--	--	--	--	3	--	3	3.0
accommodation	--	--	--	--	--	3	--	3	3.0
affordability	--	--	--	--	--	3	--	3	3.0
acceptability	--	--	--	--	--	3	--	3	3.0
Health Status Measures	2	2	1	3	--	3	3	3	2.4

SUMMARY OF ACCESS INDICATOR RANKINGS

Timeliness

timeliness = 1=very timely; 2=somewhat timely; 3=not very timely

									Average
USE OF SERVICES									
Primary/Preventive									
% of Medicare beneficiaries with a physician visit	2	2	1	3	2	3	3	3	2.4
% of Medicare beneficiaries with a primary care visit	2	2	1	3	2	3	3	3	2.4
Rate of usage per 1,000 beneficiaries	2	1	1	2	2	3	3	3	2.1
Number of services per user	2	2	1	2	2	3	3	3	2.3
Rate of time-sensitive ambulatory visits for benes w/chronic conditi	2	3	1	3	2	3	3	2	2.4
EKG<3 months after CHF diagnosis; annual eye exam diabetics	--	--	--	--	--	3	--	--	3.0
eye exam for diabetics	--	--	--	--	--	--	--	2	2.0
Procedures									
Rates of "HEDIS" type of preventive types of services	2	2	2	2	2	3	3	--	2.3
mammography screening	--	--	--	--	--	3	--	3	3.0
diabetes eye exam	--	--	--	--	--	3	--	3	3.0
influenza vaccination	--	--	--	--	--	--	--	3	3.0
Rates of "high tech" procedures for specific clinical conditions	2	2	3	1	2	3	3	--	2.3
PCTA/Stent CABG	--	--	--	--	--	3	--	3	3.0
Rates of hospitalization	2	2	1	2	2	3	3	--	2.1
Rates of discharge by diagnosis or specific procedures	--	--	--	--	--	3	--	2	2.5
Rates of hospitalization for ACSCs	--	--	--	--	--	--	--	2	2.0
MEDIATORS									
Appropriateness of Care: Efficacy of Treatment									

SUMMARY OF ACCESS INDICATOR RANKINGS

Timeliness

timeliness = 1=very timely; 2=somewhat timely; 3=not very timely

									Average
Glycemic Control for Diabetics	3	3	1	2	--	3	3	3	2.6
Rates of progression of disease for benes w/specific chronic conditic	3	3	1	2	2.5	--	3	--	2.4
lower leg amputation for diabetics	--	--	--	--	--	3	--	2	2.5
MI for ischemic heart disease beneficiaries	--	--	--	--	--	3	--	2	2.5
Rates of ambulatory visits for beneficiaries with chronic conditions	3	3	1	2	2	--	3	--	2.3
EKG<3 months after diagnosis of CHF	--	--	--	--	--	3	--	2	2.5
Annual eye exam for diabetics	--	--	--	--	--	3	--	2	2.5
Quality of Providers									
Rate of board certified providers	1	2	3	1	--	1	3	2	1.9
Average number of claims in National Practitioner DataBank	2.5	2	3	1	--	--	3	2	2.3
Proportion of physicians with Medicare sanctions	1	1	2	2	--	2	3	2	1.9
Patient Adherence									
Rates of timely follow-up visits following discharge from hospital	3	3	2	2	2	--	3	--	2.5
mental health	--	--	--	--	--	3	--	3	3.0
unstable angina	--	--	--	--	--	3	--	3	3.0
diabetes	--	--	--	--	--	3	--	3	3.0
Rates of hospitalizations for acute events	2	3	1	2	--	--	3	--	2.2
glycemic control for diabetics	--	--	--	--	--	2	--	2	2.0
Self-reported rates of adherence	3	3	2	1	--	--	3	--	2.4

SUMMARY OF ACCESS INDICATOR RANKINGS

Timeliness

timeliness = 1=very timely; 2=somewhat timely; 3=not very timely

									Average
follow-up visits	--	--	--	--	--	3	--	3	3.0
medication	--	--	--	--	--	3	--	3	3.0
OUTCOMES									
Well-being									
Mortality Rates	1	3	2	1	2	3	1	3	2.0
Rates of Chronic Conditions	2	2	3	1	--	3	3	3	2.4
Claims-based measures of health status	2	0	2	1	--	3	3	3	2.0
Self-reported health status	3	3	2	1	2.5	3	3	3	2.6
Self-reported limitations of ADLs	3	3	2	1	2.5	--	3	2	2.4
Rates of Nursing Home usage	1	2	2	2	1.5	3	3	3	2.2
Equity of Services									
Patient reported satisfaction	3	3	2	3	2.5	3	3	2	2.7
Use rates of "high tech" procedures	2	3	3	2	2	3	3	2	2.5
by minority race groups	--	--	--	--	--	--	--	2	2.0
Rates of hospitalization for ACSCs	1	2	1	2	2	3	3	2	2.0

SUMMARY OF ACCESS INDICATOR RANKINGS

Accuracy

accuracy = 1=very accurate; 2=somewhat accurate; 3=not likely to be accurate

									Average
BARRIERS									
Structural Barriers									
#new physicians entering Medicare program	1	1	1	3	--	2	2	2	1.7
#physicians opting out	1	1	1	3	--	1	3	1	1.6
Ratio of eligible physicians to beneficiaries	1	2	1	2	1	2	3	2	1.8
Ratio of billing physicians to beneficiaries	1	2	1	2	1	--	2	--	1.5
by physician specialty	--	--	--	--	--	2	--	2	2.0
by beneficiary characteristics	--	--	--	--	--	3	--	3	3.0
Size of physician's Medicare caseload	2	1	2	2	1.5	1	2	1	1.6
Medicare participating rate	1	1	1	3	--	1	3	1	1.6
Medicare assignment rate	1	1	1	3	--	1	1	1	1.3
Proportion of physicians accepting all/no new patients	2	2	1	3	--	3	3	3	2.4
Proportion of physicians not performing special services	2	2	1	1	2	3	3	3	2.1
Financial Barriers									
Index of Relative Prices	3	2	1	1	1.5	3	3	--	2.1
across services	--	--	--	--	--	--	--	3	3.0
across payers	--	--	--	--	--	3	--	3	3.0
Proportion of Medicare beneficiaries with supplemental insurance	2	2	2	2	--	1	3	--	2.0
Medigap	--	--	--	--	--	--	--	1	1.0
Medicaid	--	--	--	--	--	1	--	1	1.0
Level of managed care penetration	2	2	2	2	1	1	3	--	1.9
across all populations	2	--	--	--	--	--	--	2	2.0
Medicare+Choice	--	--	--	--	--	--	--	1	1.0
Average balance bill per Medicare beneficiary	2	2	2	2	1	1	3	2	1.9
Personal Barriers									
Average education and income level	2	2	3	3	1	3	3	3	2.5
Disability Status	2	1	2	2	1	1	1	1	1.4
Proportion of minority Medicare beneficiaries	2	2	3	1	--	1	1	1	1.6
Measures of health seeking behavior	2	2	1	2	--	3	3	--	2.2

SUMMARY OF ACCESS INDICATOR RANKINGS

Accuracy

accuracy = 1=very accurate; 2=somewhat accurate; 3=not likely to be accurate

									Average
rates in preventive care	--	--	--	--	--	--	--	3	3.0
delay in seeking care	--	--	--	--	--	2	--	1	1.5
rate in ER usage	3	--	--	--	--	2	--	1	2.0
proportion of beneficiaries whose USC is MD office	--	--	--	--	--	1	--	1	1.0
Consumer satisfaction measures	3	2	1	3	3	2	3	--	2.4
availability	--	--	--	--	--	3	--	3	3.0
accessibility	--	--	--	--	--	3	--	3	3.0
accommodation	--	--	--	--	--	3	--	3	3.0
affordability	--	--	--	--	--	3	--	3	3.0
acceptability	--	--	--	--	--	3	--	3	3.0
Health Status Measures	2	2	1	3	--	1	3	3	2.1
USE OF SERVICES									
Primary/Preventive									
% of Medicare beneficiaries with a physician visit	2	1	1	3	1	3	1	3	1.9
% of Medicare beneficiaries with a primary care visit	2	1	1	3	1.5	3	1	3	1.9
Rate of usage per 1,000 beneficiaries	1	1	1	2	1	3	1	3	1.6
Number of services per user	1	1	1	2	1	3	1	3	1.6
Rate of time-sensitive ambulatory visits for benes w/chronic conditions	2	2	1	3	3	1	2	1	1.9
EKG<3 months after CHF diagnosis; annual eye exam diabetics	--	--	--	--	--	1	--	--	1.0
eye exam annually for diabetics	--	--	--	--	--	--	--	1	1.0
Procedures									
Rates of "HEDIS" type of preventive types of services	2	2	2	2	2	2	1	--	1.9
mammography screening	--	--	--	--	--	2	--	2	2.0
diabetes eye exam	--	--	--	--	--	2	--	2	2.0
influenza vaccination	--	--	--	--	--	--	--	2	2.0
Rates of "high tech" procedures for specific clinical conditions	2	2	3	1	3	3	1	--	2.1
PCTA/Stent CABG	--	--	--	--	--	3	--	3	3.0
Rates of hospitalization	1	2	1	2	3	3	1	--	1.9
Rates of discharge by diagnosis or specific procedures	--	--	--	--	--	2	--	2	2.0
Rates of hospitalization for ACSCs	--	--	--	--	--	--	--	2	2.0

SUMMARY OF ACCESS INDICATOR RANKINGS

Accuracy

accuracy = 1=very accurate; 2=somewhat accurate; 3=not likely to be accurate

									Average
MEDIATORS									
Appropriateness of Care: Efficacy of Treatment									
Glycemic Control for Diabetics	2	2	1	2	--	2	2	2	1.9
Rates of progression of disease for benes w/specific chronic conditions	2	2	1	2	3	--	2	--	2.0
lower leg amputation for diabetics	--	--	--	--	--	3	--	2	2.5
MI for ischemic heart disease beneficiaries	--	--	--	--	--	3	--	2	2.5
Rates of ambulatory visits for beneficiaries with chronic conditions	2	2	1	2	3	--	2	--	2.0
EKG<3 months after diagnosis of CHF	--	--	--	--	--	1	--	1	1.0
Annual eye exam for diabetics	--	--	--	--	--	1	--	1	1.0
Quality of Providers									
Rate of board certified providers	2	2	3	1	--	2	3	2	2.1
Average number of claims in National Practitioner DataBank	3	1	3	1	--	--	3	2	2.2
Proportion of physicians with Medicare sanctions	3	1	1	2	--	3	3	2	2.1
Patient Adherence									
Rates of timely follow-up visits following discharge from hospital	3	2	2	2	3	--	3	--	2.5
mental health	--	--	--	--	--	2	--	3	2.5
unstable angina	--	--	--	--	--	2	--	3	2.5
diabetes	--	--	--	--	--	2	--	3	2.5
Rates of hospitalizations for acute events	3	2	1	2	--	--	3	--	2.2
glycemic control for diabetics	--	--	--	--	--	2	--	2	2.0
Self-reported rates of adherence	3	3	2	1	--	--	3	--	2.4
follow-up visits	--	--	--	--	--	3	--	3	3.0
medication	--	--	--	--	--	3	--	3	3.0
OUTCOMES									
Well-being									
Mortality Rates	2	2	2	1	2.5	3	1	3	2.1
Rates of Chronic Conditions	2	2	3	1	--	3	2	3	2.3

SUMMARY OF ACCESS INDICATOR RANKINGS

Accuracy

accuracy = 1=very accurate; 2=somewhat accurate; 3=not likely to be accurate

									Average
Claims-based measures of health status	2	3	2	1	--	3	2	3	2.3
Self-reported health status	3	0	2	1	3	3	3	3	2.3
Self-reported limitations of ADLs	3	2	2	1	3	--	3	2	2.3
Rates of Nursing Home usage	3	2	2	2	2.5	3	3	3	2.6
Equity of Services									
Patient reported satisfaction	3	2	2	3	3	1	3	2	2.4
Use rates of "high tech" procedures	2	2	3	2	3	3	2	2	2.4
by minority race groups	--	--	--	--	--	--	--	2	2.0
Rates of hospitalization for ACSCs	2	2	1	2	3	2	2	2	2.0

Appendix D

HEALTH ECONOMICS RESEARCH, INC. –
THE NEW ENGLAND RESEARCH INSTITUTES

PHYSICIAN AVAILABILITY IN MEDICARE SURVEY
TELEPHONE SURVEY

SECTION A: SCREENING QUESTIONS

A1. (Are you/Is the physician) a resident or a fellow?
1. Yes (end interview)
2. No
3. Refused (end interview)

A2. In the last month (have you/has the physician) spent any time involved in the provision of direct patient care?
1. Yes
2. No (end interview)
3. Refused (end interview)

A3. In the last twelve months (have you/has the physician) seen any Medicare fee-for-service patients even if you did not bill Medicare for them?
1. Yes
2. No (end interview)
3. Refused (end interview)

A4. (Do you/does the physician) have any ownership or decision-making role in contracting at (your/his/her) main practice? Your main practice is where you see the majority of your patients.
1. Yes
2. No (end interview)
3. Refused (end interview)

A5. We have (your/the physician's) primary specialty at (your/his/her) main practice setting listed as _____ (fill in from MasterFile data). Is this correct?
1. Yes (go to B1)
2. No (go to A6)
3. Refused (end interview)

If specialty is emergency medicine, pediatrics or pathology (including all sub-specialties), end interview. Otherwise, continue interview.

A6. Please identify your primary specialty at your main practice.
   1. _____ [If specialty is emergency medicine, pediatrics or pathology (including all sub-specialties), end interview. Otherwise, continue interview.]
   2. Refused (end interview)

SECTION B: PHYSICIAN AND PRACTICE CHARACTERISTICS

Introduction: I'd like to ask you a few questions about where your main practice is located, the number of hours you spend seeing patients, the types of insurance your patients have, and the types of payment you receive from insurers. May I begin?

B1. We have the city and state of your main practice listed as (fill in from MasterFile data). Is this correct? Your main practice is where you see the majority of your patients.
   1. Yes (go to B3)
   2. No (go to B2)
   3. Refused (go to B3)

B2. Please state the city and state in which your main practice is located.
   1. _____
   2. Refused

B3. Would you describe your main practice as a:
   1. Solo practice
   2. Single specialty partnership or group practice
   3. Multispecialty partnership or group practice
   4. University faculty position
   5. Other (_____)
   6. Refused

B4. Approximately how many hours do you spend providing patient care in a typical workweek?
   1. _____
   2. Refused
   3. Don't know

B5. Currently, what percentage of patients in your practice (have/are):
   1. Commercial insurance
   2. Medicare
   3. Medicaid
   4. Free care, charity or self-pay
   5. Other (_____ , e.g., CHAMPUS, VA)
   6. Refused
   7. Don't know

B6. What percentage would you estimate are in managed care plans?
1. ____%
2. Refused (Go to C1)
3. Don't know (Go to C1)

B7. About what percentage of your managed care patients are Medicare managed care?
1. ____%
2. Refused
3. Don't know

B8. About what percentage of your managed care patients have commercial managed care insurance?
1. ____%
2. Refused
3. Don't know

SECTION C: MEDICARE PARTICIPATION

Introduction: Now, I would like to ask you a few questions about your participation in the Medicare insurance program.

C1. (Are you/Is your group) currently a Medicare Participating (Physician / Group) in your main practice?
1. Yes
2. No
3. Refused
4. Don't know

C2. Last year (were you/was your group) a Medicare Participating (Physician / Group) in your main practice?
1. Yes
2. No
3. Refused
4. Don't know

C3. In your main practice, who makes the final decision whether to be a Medicare Participating (Physician/Group)?
1. Self ("I do")
2. A collective decision by physicians associated with the practice
3. The board of directors or other administrative body
4. Other (_____)
5. Refused
6. Don't know

If C1=2, then go to C4.
If C1=1 & C2=1, then go to D1.
Otherwise, go to C6.

C4. What percentage of (your/your group's) Medicare services do you accept on assignment?
1. ___%
2. Refused
3. Don't know

If C4-1=100% or 0%, go to C6
Otherwise, go to C5

C5. Which of the following types of services (do you not/does your group not) typically accept on assignment? (Check all that apply.)
1. Office visits
2. Diagnostic Tests
3. Consultations
4. Surgery

C6. Compared with last year, has the percentage of Medicare services that (you accept/your group accepts) on assignment increased, decreased or remained about the same?
1. Increased
2. Decreased
3. Remained about the same
4. Refused
5. Don't know

SECTION D: MEDICARE PRIVATE CONTRACTING

Introduction: Now, I would like to ask you a few questions about a fairly new Medicare law that allows physicians to privately contract with Medicare beneficiaries.

D1. Do you recall receiving a letter from the Medicare program at the end of last year telling you about the new Medicare private contracting law?
1. Yes
2. No
3. Refused
4. Don't recall

D2. Do you recall receiving information from the American Medical Association, your specialty society, or other group telling you about the new Medicare private contracting law?
1. Yes
2. No
3. Refused
4. Don't recall

If D1≠1 and D2≠1, then go to explanation.

Explanation:

I'd like to take a moment to tell you briefly about the new private contracting law and ask your opinion about what effects you believe the new law is likely to have on Medicare beneficiaries' access to physicians. May I?

The new Medicare private contracting law allows physicians to opt-out of the Medicare program and receive payment directly from Medicare patients. To do so,

- the physician must sign an affidavit saying he/she will not bill Medicare for two years for any service provided to any Medicare patient; and
- the physician must collect payment directly from the patient.

It is important to note, these Medicare patients will not receive any reimbursement from the Medicare program. They must pay the physician directly out of their own pocket.

D3. Do you recall discussing this new law with your colleagues, accountant or practice manager and making a definite decision?
1. Yes (go to D4)
2. No (go to D8)
3. Refused (go to D8)
4. Don't know (go to D8)

D4. Did (you/your practice) make a decision to enter into private contracting with Medicare patients and forego any government payments?
1. Yes (go to G1)
2. No (go to D5)
3. I don't know (go to D8)
4. Refused (go to D8)

D5. In your practice, who made the decision to remain in Medicare and not opt-out?
1. Self ("I did")
2. A collective decision by physicians associated with the practice
3. The board of directors or other administrative body
4. I/we have not thought about the provision
5. Other (_____)
6. Refused
7. Don't know

D6. What was the most important reason for remaining in the Medicare program?
1. _____
2. Refused
3. No reason

D7. Was there any other reason?
1. _____
2. No
3. Refused

D8. What percentage of your Medicare patients do you believe would be able and willing to pay for your services out of their own pocket without being reimbursed by the government?
1. ___%
2. Refused
3. No opinion

D9. Do you know if any of your Medicare patients have switched to physicians who engage in private contracting?
1. Yes
2. No
3. Refused
4. Don't know

D10. Do you believe that the new private contracting provision restricts, improves or has no effect on Medicare patients' access to physicians in your area?
1. Restricts
2. Improves
3. No effect
4. Refused
5. No opinion

D11. If physicians could enter into a private contracting agreement with Medicare for only one year rather than two, (would you / would your group) be:
1. Most likely to engage in private contracting
2. A bit more likely to engage in private contracting
3. Your decision would remain the same
4. Refused
5. Don't know

D12. If the Medicare program were to let physicians privately contract with beneficiaries on a case-by-case basis, rather than having to privately contract on all cases, how likely would you be to enter into this type of private contracting arrangement?
1. Absolutely
2. Very likely
3. Very unlikely
4. Definitely not
5. Refused
6. Not Sure

D13. . What percentage of your Medicare patients do you believe would be willing to enter into a private contracting agreement with you and pay out of pocket?

1. ___%
2. Refused
3. Don't know

D14. Do you believe the majority of Medicare patients would benefit from case-by-case private contracting?

1. Yes (go to D15)
2. No (go to D16)
3. Refused (Go to E1)
4. Don't know (Go to E1)

D15. What do you believe would be the most important benefit to Medicare patients?

1. _____
2. Refused
3. No opinion

D16. What do you believe would be the most important negative effect on Medicare patients?

1. _____
2. Refused
3. No opinion

SECTION E: ACCESS TO PHYSICIANS AND SERVICES

Introduction: Now, I'd like to ask you a few questions about your current willingness to accept new patients and whether your willingness differs by the patient's type of insurance. May I begin?

E1. Are you currently accepting all new, some new or no new patients that contact you?

1. All new (go to E9)
2. Some new (go to E4)
3. No new (go to E2)
4. Refused (go to E9)
5. Don't know (go to E9)

E2. What is your primary reason for not accepting any new patients?

1. _____
2. Refused (go to E4)
3. No opinion/reason (go to E4)

E3. Is there any other reason?

1. _____
2. Refused (go to E4)
3. No opinion/reason (go to E4)

E4. Does your willingness to see a new patient depend upon the type of insurance they have?

1. Yes (go to E5)
2. No (go to E6)
3. Refused (go to E6)

E5. What types of insurance are you no longer accepting? (Check all that the physician mentions.)

1. All types of managed care
2. Medicare
3. Medicare managed care
4. Medicaid
5. Medicaid managed care
6. Commercial insurance
7. Commercial managed care
8. Uninsured
9. Refused
10. Don't know

E6. Does your willingness to see a new patient depend upon the type of service they are seeking?

1. Yes (go to E7)
2. No (go to E9)
3. Refused (go to E9)

E7. What types of services are you no longer providing to new patients? (Fill in all that apply.)

1. _____
2. _____
3. _____
4. Refused (go to E9)

E8. What is your primary reason for not providing these services to new patients?

1. _____
2. Refused
3. No reason

The next few questions ask about changes in your clinical practice that may have occurred over the past year. Please use one of the following three responses: increased, decreased, or stayed about the same.

E9. The length of time new Medicare patients have to wait for an initial non-emergency appointment with you?

1. Increased
2. Decreased
3. Stayed about the same
4. Refused
5. Don't know

E10. The length of time that new non-Medicare patients have to wait for an initial non-emergency appointment with you?
1. Increased
2. Decreased
3. Stayed about the same
4. Refused
5. Don't know

E11. Your willingness to see Medicare patients outside of your normal clinical hours?
1. Increased
2. Decreased
3. Stayed about the same
4. Refused
5. Don't know

E12. Your willingness to see non-Medicare patients outside of your normal clinical hours?
1. Increased
2. Decreased
3. Stayed about the same
4. Refused
5. Don't know

E13. The amount of time you personally spend with Medicare patients or their families?
1. Increased
2. Decreased
3. Stayed about the same
4. Refused
5. Don't know

E14. And, the amount of time you personally spend with non-Medicare patients or their families?
1. Increased
2. Decreased
3. Stayed about the same
4. Refused
5. Don't know

E15. I'd like you to think about the most common service you perform. May I ask you what is your most common service?
1. _____
2. Refused
3. Don't know

E16. During the last 12 months, did the number of (insert most common service from E15) you performed on Medicare fee-for-service patients compared to non-Medicare patients increase, decrease or remain about the same?
1. Increase (go to E17)
2. Decrease (go to E17)
3. Remain about the same (go to E18)
4. Refused (go to E18)
5. Don't know (go to E18)
6. Not applicable (go to E18)

E17. What is the primary reason for the change?
1. _____
2. Refused
3. No opinion

Now, I'd like to ask a few questions about Medicare patients access to physicians in your local service area.

E18. Do you believe Medicare patients have problems getting appointments with primary care physicians in your local service area?
1. Yes (go to E19)
2. No (go to E20)
3. Refused (go to E20)
4. No opinion (go to E20)

E19. What do you believe to be the primary reason for the problem?
1. _____
2. No reason
3. Refused

E20. Do you believe Medicare patients have problems getting appointments with specialists in your local service area?
1. Yes (go to E21)
2. No (go to E22)
3. Refused (go to E22)
4. No opinion (go to E22)

E21. What do you believe to be the primary reason for the problem?
1. _____
2. No reason
3. Refused

E22. Are you aware of Medicare beneficiaries having problems getting any particular type of care or service in your local area?
1. Yes (go to E23)
2. No (go to F1)
3. Refused (go to F1)
4. No opinion (go to F1)

E23. What type of care or service do Medicare beneficiaries have problems accessing?
1. _____
2. _____
3. _____
4. Refused

SECTION F: PAYMENT LEVELS AND ADMINISTRATIVE BURDEN

Introduction: I would now like to ask how you feel about the level of payment you receive from Medicare and other insurers and the administrative burden involved.

F1. How satisfied are you with the fee that you receive from Medicare for [insert "most common service" from E15]?
1. Very satisfied
2. Satisfied
3. Dissatisfied
4. Very dissatisfied
5. Refused
6. No opinion

F2 If (B7>0%) Do you receive monthly capitated payments for your Medicare managed care patients?
1. Yes (Go to F3)
2. No (Go to F4)
3. Refused (Go to F4)
4. Don't Know (Go to F4)

F3. How satisfied are you with the level of capitated payments you receive for your Medicare managed care patients?
1. Very satisfied
2. Satisfied
3. Dissatisfied
4. Very dissatisfied
5. Refused
6. No opinion

F4. If (B8>0%) Do you receive monthly capitated payments for your commercial managed care patients?
1. Yes (Go to F5)
2. No (Go to F6)
3. Refused (Go to F6)
4. Don't Know (Go to F6)

F5. How satisfied are you with the level of capitated payments you receive for your commercial managed care patients?
1. Very satisfied
2. Satisfied
3. Dissatisfied
4. Very dissatisfied
5. Refused
6. No opinion

Now, I'd like to ask you to compare the fee you receive from the Medicare program with those from other insurers. Please respond using one of the five following comparisons: much better, better, about the same, worse or much worse.

F6. How does the fee you receive from Medicare compare with the fees you receive from commercial indemnity insurance plans for (insert E15 service)?
1. Much better
2. Better
3. About the Same
4. Worse
5. Much Worse
6. Refused
7. Don't know

F7. (If B8>0%) How does the fee you receive from Medicare compare with the fees you receive from commercial managed care plans for [E15 service]?
1. Much better
2. Better
3. About the Same
4. Worse
5. Much Worse
6. Refused
7. Don't know

F8. (If B7>0%) (How does the fee you receive from Medicare compare with) the fees you receive from Medicare managed care plans for [E15 service]?
1. Much better
2. Better
3. About the Same
4. Worse
5. Much Worse
6. Refused
7. Don't know

F9. (How does the amount you may balance bill Medicare compare with) the amount you may balance bill patients with commercial indemnity insurance?
1. Much better
2. Better
3. About the Same
4. Worse
5. Much Worse
6. Refused
7. Don't know

F10. (How does the amount you may balance bill Medicare compare with) the amount you may balance bill patients with managed care insurance?
1. Much better
2. Better
3. About the Same
4. Worse
5. Much Worse
6. Refused
7. Don't know

Now, I'd like to ask you to compare the Medicare program with commercial indemnity insurers in terms of administrative burden. Please respond using the same five categories.

F11. How does Medicare compare with commercial indemnity plans in terms of billing and collection hassles?
1. Much better
2. Better
3. About the Same
4. Worse
5. Much Worse
6. Refused
7. Don't know

F12. How does Medicare compare with commercial indemnity plans in terms of the amount of paperwork that you must complete before referring a patient or providing specialty care?
1. Much better
2. Better
3. About the Same
4. Worse
5. Much Worse
6. Refused
7. Don't know

F13. (How does Medicare compare with commercial indemnity plans in terms of) medical record documentation?
1. Much better
2. Better
3. About the Same
4. Worse
5. Much Worse
6. Refused
7. Don't know

Now, please compare the Medicare program with commercial managed care insurers using the same five response categories.

F14 How does Medicare compare with commercial managed care insurers in terms of billing and collection hassles?
1. Much better
2. Better
3. About the Same
4. Worse
5. Much Worse
6. Refused
7. Don't know

F15. How does Medicare compare with commercial managed care insurers in terms of the amount of paperwork that you must complete before referring a patient or providing specialty care?
1. Much better
2. Better
3. About the Same
4. Worse
5. Much Worse
6. Refused
7. Don't know

F16. How does Medicare compare with commercial managed care insurers in terms of medical record documentation?

1. Much better
2. Better
3. About the Same
4. Worse
5. Much Worse
6. Refused
7. Don't know

END

Appendix E

ID

PHYSICIAN AVAILABILITY IN MEDICARE
POSTCARD SURVEY

1. Please list your specialty: _____

2. Over the last 2 weeks, about how many patients have you treated in all settings such as your office, the operating room, etc.? ☐☐☐ NUMBER OF PATIENTS

3. About what percent of these patients are:

   a. Medicare-eligible? ☐☐☐ %

   b. In Managed Care Plans? ☐☐☐ %

4. What percent of Medicare services do you accept on assignment? ☐☐☐ %

5. Are you currently accepting all new, some new, or no new patients that contact you?

1	2	3	-7	-8
All new	Some new	No new	Refused	Don't Know

6. Over the last year, have you chosen to limit the number of Medicare patients that you have seen?

1	2
Yes	No

7. Over the last year, have you restricted the type or scope of services that are available to Medicare patients?

1	2
Yes	No

If yes, why?

1	2	3	4	5
Inadequate payment	Fear of fraud and abuse	Closing practice / retiring	Fewer patients being referred to you	Other _____ _____

8. Over the last year, has the length of time *new* Medicare patients have to wait for an initial non-emergency appointment with you changed?

1	2	3	-1
Increased	Decreased	Remained about the same	Not Applicable

9. Over the last year, has the amount of time you personally spend with Medicare patients or families during a visit changed?

1	2	3	-1
Increased	Decreased	Remained about the same	Not Applicable

10. How satisfied are you with the level of fees you receive from managed care plans versus Medicare fee-for-service?

1	2	3
Medicare much better than managed care plans?	About the same?	Medicare much worse than managed care plans?

11. How does Medicare compare with managed care plans in terms of billing and collection hassles (e.g., slow payment, prior authorization, denials, E&M documentation)?

1	2	3
Medicare much better than managed care plans?	About the same?	Medicare much worse than managed care plans?

12. In the coming year, do you anticipate changing your Medicare practice in any way?

1	2	-7	-8
Yes	No	Refused	Don't know

If yes, how?

1	2	3	4	5	6
Increasing the number of new Medicare patients you see	Limiting the number of new Medicare patients you see	Closing practice to new Medicare patients	Increasing services to Medicare patients	Limiting services to Medicare patients	Other _____ _____