

Future of Family Medicine Project Leadership Committee. The future of family medicine: a collaborative project of the family medicine community. *Ann Fam Med*. 2004;2(Suppl 1):S3-S32.

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Appendix 1. Methods

The 7 family medicine organizations delegated oversight of the Future of Family Medicine (FFM) project to the Project Leadership Committee (PLC). An initial step in the development of this report was to commission a national research study that was conducted by 2 independent research firms, Greenfield Consulting Group and Roper ASW, who worked collaboratively with a national strategic branding firm, Siegel & Gale. The Project Leadership Committee created a Research Advisory Committee (RAC), which consisted of the 5 task force chairs, James C. Martin, MD, and Kurt C. Stange, MD, PhD. The Research Advisory Committee provided ongoing management of the research effort that produced a wealth of interesting and even provocative quantitative and qualitative findings. The FFM research data will be maintained at the Robert Graham Center and will be made available for future study and research. The professional organizations of family medicine are encouraged to review carefully and share widely these data.

QUALITATIVE RESEARCH

Siegel & Gale commissioned Greenfield Consulting Group (GCG) to conduct a program of qualitative research for the Future of Family Medicine (FFM) project. GCG used independent recruiters to invite target respondents to attend a focus group or to participate in a telephone interview at a specified time or place. Independent recruiters are used in nearly all qualitative research projects to contact, question, and identify qualified target respondents. GCG developed questionnaires (screeners) for the independent recruiters to use in each market of interest. These questionnaires were reviewed and approved by Siegel & Gale and the FFM Research Advisory Committee (RAC) before release to recruiters in each given market.

Prospective respondents called by the recruiters were drawn from the recruiters' proprietary databases. Most recruiters have sophisticated databases for key target

respondents, including most medical specialties. On rare occasions, if databases are exhausted before recruiting the desired number of respondents, the Yellow Pages may be used to augment the recruiting efforts.

In nearly all qualitative projects, the GCG recruiters assiduously avoid any respondent who has participated in a focus group or interview within the recent past; certainly in this one, no respondent, professional or consumer, had participated in qualitative research within the past 6 months. In this way, GCG can eliminate professional respondents who may be overexposed to the qualitative research technique.

Once the prospective respondent completed the telephone-administered questionnaire and qualified on all required specifications, he or she was invited to participate in the focus group or interview at a specific place and time and for a financial incentive.

Focus group sessions were overrecruited somewhat, such as recruiting 10 with the anticipation that 7 or 8 would actually attend. This practice is common, anticipating that professionals tend to experience last-minute, unscheduled priorities which may prevent them from participating in the group session or interview as scheduled.

Given the exploratory and diagnostic nature of the research objectives, a qualitative methodology—including focus groups and one-on-one telephone interviews—was used. To this end, 29 focus groups and 25 telephone interviews were conducted.

The following respondents participated in focus groups:

- Thirteen groups of patients—family-general practice (2), family practice, rural (2), family practice, inner city (1), family practice, chronically ill (1), family practice, ethnic (3), non-family-general practice (4)
- Five groups of family physicians
- Three groups of subspecialty physicians
- Two groups of residents
- Two groups of medical students
- Three groups of managed care payers
- One group of nurse practitioners

The following groups participated in telephone interviews:

- Ten Fortune 500 benefits managers
- Ten consumer advocacy groups
- Five Medicaid/Medicare administrators

For all patient, resident, medical student, and nurse practitioner groups, 10 respondents were recruited to seat 7 or 8. For all physician and managed care payer groups, 8 respondents were recruited to seat 5 or 6. Focus groups lasted 2 hours; telephone interviews ran approximately 45 minutes.

Focus groups were conducted in Minneapolis, Minn, and surrounding local areas during the week of March 4, 2002; in Los Angeles, Calif, during the week of March 11, 2002; and in Boston, Mass, during the week of March 18, 2002. The nurse practitioner group, not part of the original project design, was conducted in White Plains, NY, on April 25, 2002. All telephone interviews were conducted during the weeks of March 11 and March 18, 2002.

Quantitative Research

Siegel & Gale, Inc, commissioned Roper ASW to conduct a program of quantitative research for the Future of Family Medicine (FFM) project. A detailed description of Roper's sampling method is provided as Attachment A. Roper ASW provided the following information as the methodology basis of their research.

Telephone interviews were conducted among 8 populations:

1. The general public/patients (1,031). Field dates: June 14–July 1, 2002; average interview length of 27 minutes; RDD sample
2. Parents of children aged 17 years and younger (125). Field dates: June 26–July 12; average interview length of 26 minutes; RDD sample. Family physicians (300 total: 150 national; 75 rural; 75 urban). Field dates: July 1–July 15, 2002; average interview length of 38 minutes; AAFP sample
3. Family physicians (300 total: 150 national; 75 rural; 75 urban) Field dates: July 1 - July 15, 2002; average interview length of 38 min.; AAFP sample
4. Specialists (75). Field dates: July 8–July 22, 2002; average interview length of 25 minutes; AMA sample
5. Professors of family medicine (75). Field dates: July 8–July 22, 2002; average interview length of 20 minutes; AAFP sample
6. Medical students (100). Field dates: June 24–July 5, 2002; average interview length of 26 minutes; AMA sample
7. Residents in family medicine (75). Field dates:

July 22–July 31, 2002; average interview length of 28 minutes; AMA sample

8. Residents in other specialties (75). Field dates: July 10–July 21; average interview length of 26 minutes; AMA sample

The general public was screened at the beginning of the survey and divided into the following cohorts:

1. Persons who have a specific medical doctor they would go to if they needed medical attention (78% of the total public)

2. Persons who have a nonphysician or alternative health care practitioner they would go to (3%)

3. Persons who do not have a specific health-care provider they would go to, including those who would go to a hospital emergency department or clinic (19%)

Each group was administered a slightly different questionnaire customized for their particular situation. The bulk of quantitative analysis focused on the first group.

Siegel & Gale

Siegel & Gale's stated main role in helping to determine the future of family medicine was to clarify the identity of the specialty. By identity, they refer to the unique characteristics that reveal the value creating potential of family medicine.

Because identity is holistic, the process by which Siegel & Gale was governed was the need to see—and make—connections across a wide range of factors. These factors included the views of different constituencies, the core attributes of family medicine, and the existing beliefs and practices described in the training curriculum of family medicine and other pertinent literature.

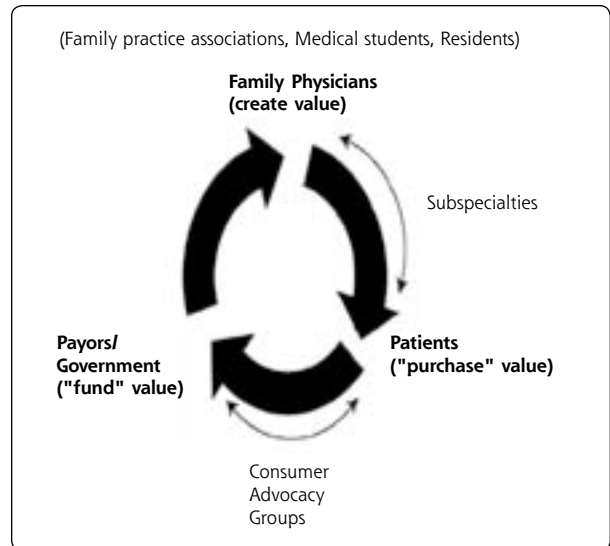
Identity analysis is governed by the process of deconstruction followed by reconstruction. It is geared to answering the question, How does family medicine create proprietary value? In this respect, pattern recognition is key. Everything is taken apart and then put back together again in a way that addresses the whole of the organization (or in this case, the specialty), revealing in turn important information and insights. (A good example is how Siegel & Gale took apart each of the 4 core attributes, which led to the discovery of hidden vulnerabilities, as well as opportunities, within each and as a group.)

Many inputs contribute to identity analysis, but 3 stand out. First are the experiences, behaviors, and perceptions of those stakeholders who are directly involved in the value creation process, for example, physicians, payers and patients. In each case, it is a matter of analyzing the relationship that exists to articulate how the organization creates proprietary value for each particular group. The qualitative and quantitative research helped to identify these relationships and their value.

Of high importance as well is institutional history, especially for organizations that have been around for decades, time having allowed them to deepen and refine their identities. A third valuable source of information and insight is the literature, including speeches, existing market research, and other published materials. It is possible to read between the lines, as well as take them at face value, for useful clues to the nature of the specialty.

Another aspect of the Siegel & Gale process was how the many constituencies of family medicine were approached as a system, rather than as a portfolio—a system that influences the basic ability to create value (ie, make a proprietary contribution in the health care marketplace and society) (Figure A). This system is based on the interdependence of key stakeholder groups, including patients, consumer advocacy groups, payers, employers, the government, family physicians, family practice associations, medical students, residents, subspecialties, nurse practitioners, and physician assistants. In this instance, interdependence is as much about the giving and receiving of care as it is about economics. This philosophy informed the choice of groups interviewed as part of the qualitative and quantitative studies.

Although comprehensive and rigorous, identity



analysis is not a hard science. Rather, Siegel & Gale's conclusions were based on the experience and objectivity brought to the weight of evidence represented by the research, content analysis, and in-depth interviews conducted with strategically important decision makers across all stakeholder groups.

ATTACHMENT A. ROPER ASW SAMPLING METHODS FOR RANDOM DIGIT SAMPLES

The following is a description of the sampling method used in the American Academy of Family Physicians (AAFP) general public and parents survey conducted by Roper ASW. The text (slightly modified) is from the Web site of Survey Sampling International (SSI), the source of the sample for the 3 random digit database (RDD) surveys.

I. Creation of the Random Digit Database

SSI starts with a database of all directory-listed households in the United States. Using area code and exchange data regularly obtained from Telcordia and additional databases, this file of directory-listed telephone numbers is subjected to an extensive cleaning and validation process to ensure that all exchanges are currently valid, assigned to the correct area code, and fall within an appropriate set of ZIP codes.

Most SSI samples are generated using a database of working blocks. A block (also known as a 100-bank or a bank) is a set of 100 contiguous numbers identified by the first 2 digits of the last 4 digits of a telephone number. For example, in the telephone number 255-4200, "42" is the block. A block is termed to be working if one or more listed telephone numbers are found in that block.

Each exchange is assigned to a single county. Nationally, about 72% of all exchanges appear to fall totally within single-county boundaries. For those overlapping county and

state lines, the exchanges are assigned to the county of plurality, or the county with the highest number of listed residents within the exchange. This assignment ensures known probabilities of selection for all telephone numbers.

II. Sample Stratification

All SSI samples are generated using stratified sampling procedures. Stratified sampling divides the population of sampling units into subpopulations called strata. A separate sample is then selected from the sampling units in each stratum. The SSI database has been stratified by county.

Measure of Size Weights

Before sample selection, the sample is allocated proportionally across all strata in the defined geography using one of several frame adjustment options. The sampling frame determines the way a sample is distributed across geographic areas at the county level. SSI offers 5 different measure of size (MOS) stratification frames for its random digit samples.

Estimated Number of Telephone Households. Estimates for telephone households are updated annually. The estimates are calculated by subtracting census no-telephone household counts from current household estimates. Sample units will be allocated to each county in proportion to its share of

telephone households. Estimated telephone households is the most commonly used sampling frame for random B samples.

Number of Households. Estimates for households are updated annually. Sample units are allocated to each county in proportion to its share of households in the defined geographic area.

Total Population. Estimates for population are updated annually. Sample units are allocated to each county in proportion to its share of population in the defined geographic area.

Total Active Blocks. Sample units are distributed by county in proportion to the total eligible blocks in the exchanges assigned to that county. Rather than being an estimate of target population, all frame units are represented with equal probability across counties. The number of eligible blocks in an exchange is multiplied by 100 (the number of possible 10-digit telephone numbers in a block) to calculate the total number of possible telephone numbers. Sample are allocated to each county in proportion to its share of these possible 10-digit telephone numbers. This frame is recommended for apportioning random A samples.

Other. Sample allocation may also be based on special frames that may result in equal probability samples. Such frames may be user defined or based on incidence estimates and may be used singly or in combination with these or other sampling frames.

Samples are first systematically stratified to each county in the survey area in proportion to the sampling frame selected. After a geographic area has been defined as a combination of counties, the sum of the estimated telephone households or requested frame value is calculated and divided by the desired sample size to produce a sampling interval.

The counties are ordered by alphabetical state and county within state. A random number between 0 and 1 is generated and multiplied by the sampling interval to calculate a random starting point between 1 and the sampling interval. A cumulative count of elements is calculated. At the point at which the accumulation reaches the random starting point, a specific county is selected and the next sampling point is 1 interval away. Accumulation continues in this fashion until the entire sample has been apportioned.

Sampling Frame Adjustments: Minimum Acceptable Block Size

Approximately 2.5 million blocks are identified as working (having 1 or more listed numbers). By raising the minimum acceptable block size from 1 to 3 (SSI default) or more, further gains in efficiency can be achieved with only minimal reduction in coverage. Blocks with 1 or 2 listed numbers represent only 5.9% of all working blocks and only 0.3% of all listed telephone households. These listed numbers are far more likely to be keypunch errors or White Page business listings than the only listed number in a given block. SSI uses a default minimum block size of 3 listed numbers, but this minimum may be adjusted up or down based on the user's specifications. Users can even sample from blocks with 0 listed numbers, but efficiency may fall as low as 16%. For the AAFP sample, we used a minimum block size of 3 listed numbers.

III. Sample Selection

After the sample has been allocated, 3 methods of systematic sample selection are available. For the AAFP sample, we used random B.

Random B

Random B is an SSI term denoting samples of random numbers distributed across all eligible blocks in proportion to their density of listed telephone households. All blocks within a county are organized in ascending order by area code, exchange, and block number. Once the quota has been allocated to all counties in the frame, a sampling interval is calculated by summing the number of listed residential numbers in each eligible block within the county and dividing that sum by the number of sampling points assigned to the county. From a random start between 0 and the sampling interval, blocks are systematically selected in proportion to their density of listed households. Once a block has been selected, a 2-digit number is systematically selected in the range 00 to 99 and is appended to the exchange and block to form a 10-digit telephone number.

Random A

Random A is an SSI term denoting samples of random numbers systematically selected with equal probability across all eligible blocks. All blocks within a county are organized in ascending order by area code, exchange, and block number. Once the quota has been allocated to all the counties in the frame, a sampling interval is calculated for each county by summing all the eligible blocks in the county and dividing that sum by the number of sampling points assigned to the county. From a random start between 0 and the sampling interval, blocks are systematically selected from each county. Once a block has been selected, a 2-digit number is systematically selected in the range 00 to 99 and is appended to the exchange and block, to form a 10-digit telephone number.

Epssem Samples

Epssem (equal probability of selection method) samples are single-stage, equal probability samples of all possible 10-digit telephone numbers in blocks with 1 or more listed telephone numbers. The working phones rate for an Epssem sample is on average 50%, but can range from 30% to 70% depending on the size and nature of the geographic area and local telephone number assignment practices.

Epssem sampling uses a total active blocks frame and random A sampling methodology. A sample of random numbers is systematically selected with equal probability across all blocks containing 1 or more listed numbers, which distributes the sample across counties in proportion to their share of total active blocks. Epssem samples have the following characteristics: minimum block size is 1; business numbers cannot be replaced, but can be flagged; and number protection is unavailable.

IV. Selection Options

The following options were selected for the American Academy of Family Physicians [AAFP] RDD sample.

Business Number Purge

To improve efficiency, SSI maintains a database of more than 11 million business telephone numbers, compiled from Yellow Page directories and special directories (Standard & Poor and industry-specific directories). Once a 10-digit telephone number has been selected for a sample, the status of the number generated may be compared with the SSI list of known business numbers. If the RDD number matches a known business listing, 2 options are available. (1) Replace the number with the next number that is not a known business number. This non-Epsem procedure ensures that the requested sample size is met. To prevent introducing additional sampling bias, this procedure operates within strict limits. During either random A or B sample selection, the search will not go beyond the boundaries of the selected block. (2) Select the number but flag it as a business number. This option preserves Epsem sampling. Business numbers selected and flagged may be included as part of the sample or removed. If these numbers are retained in the final sample file, they may be sorted to the bottom of the file or the bottom of each replicate. If these numbers are removed, the final sample file will fall short of the requested sample size.

Number Protection

Every SSI random digit sample is marked on the database to protect against reuse for a period of 6 months. The SSI protection system was designed to reduce the chance of selecting the same number for multiple projects or multiple waves of a single project conducted by a single research firm or by competing research firms.

Incorporating number protection during sample selection is only an option. Once a 10-digit telephone number has been selected for a sample, the protected status of the number selected is checked. If the number has not been selected for a sample in the previous 6 months, the selected number is marked as protected and sampling continues. If the number is identified as having been selected for a sample in the previous 6 months, 2 sampling options are available. (1) Replace the number with the next number that is not a protected number. To prevent introducing sampling bias in areas that have been frequently sampled, this procedure operates within

strict limits. In either random A or B sample, the search for an eligible replacement will not go beyond the boundaries of the selected block. In the event that an eligible replacement cannot be found within these limits, the originally selected protected number will be taken. (2) Select the number anyway, preserving Epsem sampling.

Screen for Disconnected Numbers

The SSI sample screening service is a stand-alone, postproduction process that identifies nonworking or unassigned numbers, as well as modem and fax numbers, in random digit telephone samples. It uses a new and proprietary technology that recognizes almost one half of these numbers, thereby improving the effective working phones rate of random digit telephone samples by an average of 10% to 15%. Once these numbers have been identified, 2 options are available. (1) Remove disconnects from the sample. If these numbers are removed, the final sample file will fall short of the requested sample size. Number removal may be exercised either before replication (sample will have equal-sized replicates) or after replication (sample will have unequal-sized replicates, but each replicate will contain exactly the same good telephone numbers it would have if the sample had not been screened). (2) Include disconnects as part of the sample. If these numbers are retained in the final sample file, they are flagged and may be sorted to the bottom of the file or the bottom of each replicate and printed on separate sample pages.

Listed Samples

The procedure for selecting samples from lists is less involved. Listed sample was used for the following surveys: family practitioners (source, AAFP), specialists other than family practitioners (source, American Medical Association [AMA]); professors of family practice (source: AAFP); residents in family practice (source: AAFP), residents in other specialties (source, AMA), and medical students (source, AMA).

Listed sample was either the entire sample list or a random sample from the supplier's database. When received by Roper ASW sampling statisticians, the sample was randomized and distributed to the various facilities that conducted the interviews.