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**The Early Experience of
the Georgetown Medicare
Coordinated Care
Demonstration Program**

Final Report

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EXECUTIVE SUMMARY

In January 2001, the Centers for Medicare & Medicaid Services (CMS) selected Georgetown University Medical School (Georgetown) to operate a demonstration program as part of its Medicare Coordinated Care Demonstration (MCCD). Mathematica Policy Research, Inc. is evaluating the 15 programs in the demonstration, as well as one program that is participating in CMS's Medicare Case Management Demonstration for Congestive Heart Failure and Diabetes Mellitus. The evaluation uses a randomized design to test the impact of care coordination on care quality, health service use, and health service costs. This case study, which is based on document review and telephone interviews with program staff conducted three months after the program began enrolling patients, documents Georgetown's early experiences in the demonstration. A report providing a more detailed description of program implementation will be completed in early 2004.

Experience with Care Coordination. Georgetown, located in Washington, DC, is operating its demonstration program, "Mind _{My} Heart," in partnership with Georgetown University Hospital. Georgetown University Hospital is owned by MedStar Health, Inc., a large, nonprofit, community-based health care organization in the Baltimore/Washington, DC, area. Georgetown developed its Mind _{My} Heart intervention based on its institutional experience caring for patients with chronic illness and its experience with MyCareTeam, a Web-based disease management program targeting patients with diabetes.

Eligibility Criteria and Goals. Georgetown targets patients with congestive heart failure (CHF) residing in the Washington, DC, metropolitan area who have been hospitalized in the past 12 months. As in all MCCD programs, participants must have both Medicare Part A and Medicare Part B, must have Medicare as their primary payer, and must not be enrolled in a managed care plan.

The program's primary program goals include (1) improving patient adherence to treatment recommendations, and (2) improving communication and coordination among patients and physicians. The program seeks to improve communication and coordination among patients and physicians primarily by teaching patients how to communicate with their doctor and seeks to improve patient adherence by using a home monitoring device and educating patients about self-care. Waiver cost estimates project that the program will save Medicare \$7,028,689 over the four-year study period, assuming a 20 percent reduction in Medicare costs for the 1,025 treatment group patients that were anticipated.

Outreach and Enrollment. The program identifies patients primarily by examining hospital census and discharge lists. After the program identifies potential participants, it verifies clinical and Medicare eligibility and approaches the patient's physician for enrollment approval. If the physician agrees to allow his or her patient to be enrolled, the care manager contacts the patient and requests a home visit. During this visit, the care manager describes the program, including the use of random assignment, and obtains informed consent from the patient. If the patient agrees to participate, the care manager submits the patient for random assignment and the patient is notified of the result during the visit. The program began enrolling patients in June

2002. After three months of operations, it had enrolled only 16 patients (7 in the treatment group and 9 in the control group). The program attributes the shortfall in enrollment primarily to a lack of enthusiasm among physicians for the program and a high patient refusal rate.

Key Program Staff. Key program staff for the intervention are the principal investigator, medical and program directors, care management supervisor, care managers, and the care manager associate. The principal investigator, a family practice physician, is responsible for ensuring that the implementation of the intervention is consistent with the overall program goals, providing medical oversight, and assisting in the recruitment of physicians. The medical director, a cardiologist, serves as a resource on the medical management of patients and also helps recruit physicians. The program director oversees day-to-day operations and is responsible for all demonstration activities. The care management supervisor trains the care managers and supervises their day-to-day activities. The care managers deliver the program intervention and must be registered nurses with college degrees and experience in geriatrics or community nursing. The care manager associate provides administrative support to the program and works with social service agencies to arrange services for patients.

Care Coordination Components. The Mind_{My} Heart intervention includes assessment, care planning, monitoring, patient education, service arrangement, and communication with providers. Patients will remain in the program until the end of the four-year study. Following random assignment to the treatment group, a care manager assesses each patient in person in their home. The assessment covers physical health, functional status, cognition, mood, social support systems, disease-specific knowledge, pain, learning style, nutrition, environment, and risk of falls. Reassessments occur formally every six months and after major health incidents or life changes, such as hospitalization or the death of a spouse. The care manager develops the care plan in consultation with the program's multidisciplinary team, which includes all program staff and a subcontracted pharmacist, dietitian, and social worker. Physicians must approve the care plan during an in-person conference with the care manager.

Mind_{My} Heart uses the HomMed telephonic home monitoring device to monitor patients' daily vital information. The physician sets the parameters during the care planning conference. Care managers call patients when readings are outside normal parameters. In addition to home monitoring, care managers contact patients by telephone at intervals defined by the patient's designated care coordination level. Patients are classified into one of five levels of care coordination based on their risk for hospitalization or emergency room admission. During monitoring contacts, the care manager checks the patient's symptoms and adherence to the prescribed treatment regimen and provides information and education about the patient's condition and self-care skills. All patients receive at least one home visit for reassessment every six months.

Patient Education and Coordination Across Providers. Patient education is a major component of the program's effort to improve adherence to treatment recommendations. The program hopes to promote patients' understanding of the relationship between their behaviors and symptoms, ultimately effecting a change in patient behavior. The care managers also want to give patients tools to coordinate their own care during the program and after its termination. For this reason, care managers teach patients how to communicate with physicians. The care managers also review disease-specific patient education booklets with patients in person or by

telephone. Care managers refer patients with comorbid conditions to Web sites or arrange for them to receive education from specific health care providers (for example, a nutritionist or diabetes educator). The program also seeks to educate patients about the availability of community resources, such as meals-on-wheels and support groups.

Arranging Services. The program can arrange for, or refer patients to, many community-based services and resources. It reported that it had not had much need to do so at the time of the interview, however, given the low enrollment. The program anticipates that it will pay for some services and resources (for example, transportation, medications, medical equipment) for patients whose family income is at or below two times the federal poverty level, but it had not had to do so at the time of the interview.

Physicians' Expected Role. The program expects that physicians will review patients as appropriate for the demonstration, review the program's care plan, set monitoring parameters, and respond to care manager calls about out-of-range monitoring results. So few patients and physicians were participating at the time of our interview that it was not possible to speculate on how much program involvement physicians generally would have with the program. However, the program is careful not to unduly burden physicians with care management activities, viewing the care manager's role as supporting, not interfering with, physicians' medical management of their patients. The care managers contact physicians by telephone if a patient has had an out-of-range monitor reading that the care manager believes is serious enough to warrant physician attention. Care managers avoid bothering physicians with nonmedical issues, such as transportation problems. Reports on patients' home monitoring data are provided at least on a monthly basis, or more frequently if the physician requests it. Physicians also receive an updated care plan upon reassessment if a change has occurred.

Data Systems. The program uses three separate data systems to document and facilitate care management activities. A program-developed, Web-based system is used to document and code assessment results to input to Canopy, a Web-based care management software product. Canopy is used to store standardized data from assessments, develop care plans, document patient contacts, and generate reports for monitoring patient outcomes or patient-level data for the evaluation. Georgetown also tracks every patient referred to the program using Canopy. Finally, the program uses HomMed's central electronic database to capture the telephonic daily home monitoring results. The monitoring results are documented on paper and input to Canopy. At the time of the interview, the program had not had occasion to generate reports for providers but planned on using Canopy to generate care plans and HomMed to generate home monitoring trend reports.

Early Implementation Experience. Health service delivery demonstration programs such as those in this evaluation typically encounter some barriers to early implementation. These barriers include lower-than-expected enrollment, opposition from physicians, difficulty hiring qualified staff or obtaining space and equipment (including higher-than-expected labor, rent, or equipment costs), and difficulty developing a data collection system that can monitor patients and program activities efficiently. The main implementation barrier for Mind _{My} Heart is low enrollment due, according to staff reports, to a lack of physician enthusiasm and a high patient refusal rate. Staff attribute physician disinterest in participating in the program to its small scale or fear that the program would take over their patients. Staff also reported and that some patients

refuse to participate because they fear that the program might be a “scam.” At the time the program was enrolling, seniors had grown wary of free offers because they were approached frequently by marketers of health-related goods and services. At the time of the interview, the program was negotiating with Washington Hospital Center, a MedStar-owned hospital, to recruit their patients. The program was also preparing to market the program to community-based organizations and home health agencies to generate referrals.

Problems Related to Evaluation Activities. Demonstration programs sometimes encounter early problems related to their participation in an evaluation, such as inadvertent control group contamination or difficulty providing data for the evaluation. Georgetown seems at very low risk for these problems. However, the low enrollment will severely limit our ability to detect program effects.

Early Successes. Mind _{My} Heart contains many features that have been found to be associated with successful care coordination interventions. The home monitoring device allows care managers and physicians to see changes in clinical indicators much faster than physicians ordinarily would by seeing patients for routine visits. Patient education can teach patients better self-management and skills to communicate better with providers. The multidisciplinary team can assess issues of polypharmacy, nutrition, and the need for a range of support services. In its first three months of operations, the program has encountered few problems, with the notable exception of much lower-than-anticipated enrollment, and has been implemented largely as planned. Thus, Mind _{My} Heart has the potential to be successful if the program can find enough participants.

In this case study, we briefly describe the features and early experiences of the Georgetown University Medical School's (Georgetown's) Medicare Coordinated Care Demonstration (MCCD) program, "Mind My Heart." The Mind My Heart program is 1 of 15 programs participating in the Centers for Medicare & Medicaid Services's (CMS's) nationwide MCCD, mandated by the Balanced Budget Act of 1997. The national demonstration is testing a wide range of models to improve the care of chronically ill beneficiaries who are in the Medicare fee-for-service (FFS) program. Mathematica Policy Research, Inc. (MPR) is evaluating the national demonstration, through both impact and implementation analyses.¹

This case study is part of the implementation analysis. Separate case studies are being prepared for each of the 15 MCCD programs, as well as CMS's Case Management Demonstration for Congestive Heart Failure and Diabetes Mellitus. Each case study is based on telephone interviews with key program staff, program documents, and program encounter data that the programs have been submitting electronically to MPR. The telephone interviews are based on semistructured protocols and were conducted about three to four months after each program started enrolling patients.

Subsequent reports from the implementation analysis will describe program implementation in greater detail, using information from site visits, a second round of telephone interviews, and data and documents submitted by the programs. Ultimately, we will synthesize the findings from the implementation analyses with those from the impact analysis to help us interpret the overall results and to identify program features that correlate with program effectiveness or lack of effectiveness,

¹ MPR is incorporating a 16th program into the overall MCCD evaluation. That program—the CMS Medicare Case Management Demonstration for Congestive Heart Failure and Diabetes Mellitus—is operated by Lovelace Health Systems, in Albuquerque, New Mexico.

The Mind _{My} Heart program began enrolling patients in June 2002. For this report, we interviewed the following Mind _{My} Heart staff in September 2002: the principal investigator, program director, care manager supervisor, and the medical director. Other sources of data include Georgetown's original proposal, submitted to CMS in February 1999, and the program documents listed in Appendix A.

Program Context

Georgetown University Medical School (Georgetown), in Washington, DC, is operating the Mind _{My} Heart demonstration in partnership with Georgetown University Hospital (GUH). MedStar Health, a large, nonprofit, community-based health care organization in the Baltimore/Washington, DC, area, owns GUH. MedStar also owns five other hospitals, as well as several nursing homes, adult day care centers, and rehabilitation and ambulatory centers (MedStar Health Web site 2002).

Intervention History. The Mind _{My} Heart demonstration grew, in part, out of Georgetown University's interest in telemedicine applications (Table 1). Georgetown University's Imaging Science and Information Systems Center developed "MyCareTeam," an interactive, Web-based disease management tool to monitor people with diabetes. In a 1998 pilot study of this technology, 16 patients ages 19 to 66 monitored their daily blood glucose levels and transmitted their readings electronically to the Internet. The MyCareTeam Web site allows patients and their practitioners access to monitoring results and alerts them to out-of-range readings, upcoming tests, and doctor's appointments. The system also allows patients and their practitioners to communicate through a Web-based messaging system. Over six months, several MyCareTeam study participants showed decreased blood glucose levels compared to baseline measurements.

TABLE 1
PROGRAM HISTORY

Intervention Developer

Georgetown University Medical School

Origin of Intervention

Telemedicine program developed by Georgetown University Imaging Science and Information Systems Center

Institutional experience caring for patients with chronic illnesses

Previous Experience in Care Coordination

Program did not have a prototype CHF intervention

MyCareTeam Web-based disease management program for diabetes:

- Pilot study targeted 16 people aged 19 to 66 and reduced blood glucose levels over a six month study period

Sources: Telephone interviews with Georgetown program staff conducted September 2002 and review of program documents.

CHF = congestive heart failure.

The MyCareTeam intervention is currently being evaluated in two randomized clinical trials (Levine et al. 2002).

Georgetown also developed an interest in the management of chronic conditions based on its experience managing chronically ill patients at GUH. Initially, Georgetown envisioned a large program targeting numerous chronic illnesses and many patients. The original principal investigator hoped that such a program would bring additional patients into GUH's system. However, after the original and second principal investigators left Georgetown, the program's third (and current) principal investigator narrowed the demonstration's focus to target only patients with congestive heart failure (CHF). At the time, cardiac conditions were one of the

most common admission diagnoses at GUH, and the hospital had a thriving practice in cardiac surgery and cardiology.² The current principal investigator chose this target population because CHF is highly prevalent among elderly Medicare beneficiaries, and effective treatment for CHF exists that can improve quality of life for patients.

The current demonstration shares some characteristics with the MyCareTeam intervention, but it is different in several important ways. First, MyCareTeam targets younger patients with diabetes, and Mind_{My} Heart targets patients older than age 65 with CHF. Second, the demonstration intervention emphasizes regular involvement by a registered nurse, or “care manager,” by telephone or in person. In contrast, the MyCareTeam intervention allows for Web-based communication between the patient and the patient’s health care provider and does not involve a third party (for example, a nurse). Finally, although both interventions use home monitoring, patients in the MyCareTeam program are expected to act on the alerts issued by the Internet-based program themselves by changing their behavior or going to see their doctor. Patients in Mind_{My} Heart are telephoned by care managers when readings are out of range, and care managers follow up with patients to make sure appointments are made or kept, schedule tests or appointments when necessary, and educate patients about their symptoms to affect behavior change. Mind_{My} Heart also includes multidisciplinary team meetings to discuss each patient.

Relationship Among Program, Host Organization, and Providers. The organizational structure of the Mind_{My} Heart program is a supportive partnership between Georgetown and MedStar. MedStar owns GUH, the hospital from which the program recruits patients, and GUH had been previously owned by the host. MedStar also employs some of the program staff for the

² MedStar closed Georgetown University Hospital’s cardiac surgery program in May 2003.

demonstration, among them the medical director, care manager supervisor, care managers, and the care manager associate. Georgetown University employs the principal investigator and program director.

Although the managerial and institutional ties between Georgetown and MedStar allow for a strong working relationship between these two entities, their partnership does not guarantee access to physicians and their patients. Originally, the program had hoped to recruit heavily from physicians in the faculty practice affiliated with GUH. However, this potentially rich referral source was dismantled when Georgetown sold GUH to MedStar. To compensate for this loss, the program has devoted considerable attention to making physicians aware of the Mind _{My} Heart program. For example, the principal investigator, program director, and medical director have made several presentations at physician meetings. The program also distributes promotional materials such as posters, flyers, pens, and notepads to physicians.

While the program would like physicians to identify patients who would benefit from the program, it does not have the goal of getting physicians to integrate the program into their practice. Rather, Georgetown wants physicians to see care managers as a resource that will help them in their practice. For this reason, contact with physicians initiated by the care managers is generally restricted to telephonic communication about important patient-specific issues that arise unexpectedly, and care managers are not co-located in the physician's practices.

Service Environment. Changes in the Washington, DC, health care market may have increased the supply of eligible participants for the demonstration. A few large Medicare health maintenance organization programs, most recently the Kaiser Permanente Medicare+Choice program, have withdrawn from the area. The recent closing of a general hospital that primarily served low-income people is also likely to have increased the supply of high-risk poor patients eligible for the Mind _{My} Heart program. Low-income patients are of special interest to

Georgetown because of their unique vulnerabilities and lower likelihood of using health care. Between 1998 and 2000, nearly 32 percent of people older than 65 living in the Washington, DC, area lived below 150 percent of poverty (U.S. Census Bureau 2002). However, Georgetown University's reputation in the greater Washington, DC community as being "upper-class" could deter some patients from choosing this hospital or participating in the program. Low-income people, for example, might view the demonstration as a program that targets more-educated people. To avoid this, the Georgetown MCCD markets itself as the "Mind _{My} Heart" program, with no mention of the program's affiliation with Georgetown University.

At the time of the interview, few disease management and care coordination programs were operating in the program's catchment area. Some of the community hospitals have programs with very few beneficiaries involved in them. For example, Inova Hospital in Fairfax County, Virginia, has a small program, with only 25 home monitoring devices available.

Key Program Features

Program Approaches and Expected Savings. As in all the demonstration programs, the Mind _{My} Heart intervention seeks to improve patient health and reduce the need for emergency rooms, inpatient hospital services, and other acute-care services. Specifically, the goals of Mind _{My} Heart are to (1) improve communication and coordination among patients and physicians, and (2) improve patient adherence to treatment recommendations (Table 2). The program seeks to improve communication and coordination among patients and physicians primarily by teaching patients how to communicate with their doctor, explaining when it is appropriate to make appointments with their doctor, and following up with patients to make sure they schedule appointments and tests and receive care. Mind _{My} Heart seeks to improve patient adherence by

TABLE 2
PROGRAM GOALS AND DESIRED OUTCOMES

Program Goals

- Improve communication and coordination among patients and physicians
- Improve patient adherence to treatment recommendations

Outcomes for Patients

- Improve overall quality of life and satisfaction
- Improve control and understanding of their disease process and self-management skills
- Increase access to non-Medicare services for low-income patients
- Improve clinical outcomes and health, including nutrition and mobility

Outcomes for Providers

- Increase providers' understanding of and satisfaction with care coordination
- Minimize providers' burdens in managing patients with CHF

Goals for Health Service Delivery System

- Demonstrate the efficacy of technology-based case management

Program Payment and Net Savings for Medicare

- Program payment of \$360 per patient for the first month of enrollment and \$320 thereafter^a
 - Reductions in inpatient and emergency room use, resulting in net savings to Medicare of \$7,028,689 over the four-year life of the project, assuming a 20 percent reduction in Part A and B costs and enrollment of 1,025 treatment group members
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Sources: Telephone interviews with Georgetown program staff conducted September 2002 and review of program documents.

^aCMS increased the program's initial per-patient, per-month rate from \$360 to \$379 and established per-patient, per-month rate from \$320 to \$336 as of June 1, 2003.

CHF = congestive heart failure.

monitoring patient health status daily using a telephone-based home monitoring device and educating patients about their disease and how to care for themselves.

As a secondary goal, the program would like to increase physicians' understanding of and acceptance of care coordination and minimize their burden in managing patients with CHF. The program would also like to increase access to non-Medicare services for low-income people by purchasing health-related goods and services for them when necessary.

The Mind _{My} Heart program's goal is to optimize health outcomes for each patient while reducing overall costs to Medicare. Specific desired outcomes for patients are better health, fewer avoidable service encounters, improved quality of life, decreased polypharmacy, increased understanding of disease, increased mobility, and improved nutrition. The program would also like to demonstrate a model of care coordination that is both cost-effective and sustainable for patients with chronic illnesses.

CMS is paying Georgetown \$360 per patient for the first month of enrollment and \$320 per month thereafter.³ The program pays physicians a fee of \$100 for an in-person meeting with the care manager. Waiver cost calculations assume that each program in the demonstration will reduce Medicare cost by 20 percent. The waiver cost calculations for Georgetown estimate an average savings for Medicare of \$330 per patient per month, net of the demonstration's costs (including start-up and evaluation costs). If the program succeeds in enrolling the targeted 1,025 treatment group members, the expected savings to the Medicare program would be \$7,028,689 over the four-year demonstration (Table 2).

³ As a result of an annual increase from inflation built into the original grant, CMS increased the program's initial per-patient, per-month rate from \$360 to \$379 and established the per-patient, per-month rate from \$320 to \$336 as of June 1, 2003.

Target Population and Outreach. The Mind _{My} Heart program targets patients with New York Heart Association Class II, III, or IV congestive heart failure (CHF) (Table 3). As in all demonstration programs, patients must have Medicare Parts A and B as their primary payer and must not be in managed care. Beneficiaries must live within a 25-mile radius of the program office, which includes the District of Columbia, the Virginia counties of Arlington and Fairfax and the city of Alexandria, and the Maryland counties of Montgomery and Prince George's. They also must have been hospitalized with a primary or secondary diagnosis of CHF at a hospital in the service area within the past 12 months. Patients' primary care physicians must consent to their participation.

Georgetown excludes those patients with a life expectancy of less than six months (for any reason other than CHF), primary liver failure, or end-stage renal disease requiring dialysis. Patients younger than 65, living permanently in a skilled nursing or intermediate-care facility, or without a telephone line also are excluded.⁴ In addition, patients with any other factors that would impair active participation—such as severe mental impairment or dementia, inability to give informed consent, inability to use the home monitoring device, or absence of a responsible caregiver—are excluded. If a cognitively impaired patient has an able and willing caregiver and the program is certain it can obtain informed consent, the patient may participate in the demonstration. Given its eligibility criteria, the program estimates a 25 percent attrition rate per year for the following reasons: (1) patient death, (2) patient relocation outside of the service area, (3) long-term institutionalization, and (4) voluntary withdrawal from the study.

The program identifies potential participants primarily from hospital discharge and census lists from its participating hospitals. After a patient has been identified, the care manager

⁴ The program eliminated its age-specific exclusion criterion in April 2004.

TABLE 3
TARGET POPULATION AND OUTREACH

General Eligibility Criteria for All Medicare Coordinated Care Demonstrations	<ul style="list-style-type: none"> Has coverage under Medicare Parts A and B Does not have Medicare as second payer Is not enrolled in Medicare risk plan
Eligibility Inclusion Criteria for Mind My Heart MCCD	<ul style="list-style-type: none"> Resides within 25 miles of the program office in the Washington, DC, metropolitan area Hospitalization in the past 12 months for CHF (primary or secondary diagnosis)
Eligibility Exclusion Criteria	<ul style="list-style-type: none"> Younger than age 65^a Has six or fewer months to live for reason other than CHF Has primary liver failure or end-stage renal disease Resides in a skilled nursing or intermediate care facility Primary care physician refuses consent Has severe mental impairment or dementia Unable to give informed consent or no telephone line Lack of an able or willing caregiver^b
Outreach and Referral Procedures	<ul style="list-style-type: none"> Identification of potentially eligible enrollees from discharge and census records of two participating hospitals Accept referrals from physicians, self-referrals No direct marketing to community, although planning to market program to community and home health agencies
Enrollment After Three Months:	
Goal	130 (65 treatment group and 65 control group members) enrolled within the first three months
Number Enrolled	7 treatment group and 9 control group members enrolled by September 8, 2002
Enrollment Problems	<ul style="list-style-type: none"> Lack of physician enthusiasm or awareness High patient refusal rate

Sources: Telephone interviews with Georgetown program staff conducted in September 2002 and review of program documents.

CHF = congestive heart failure.

^aThe program eliminated this exclusion criterion in April 2004.

^bA cognitively impaired patient is eligible if he or she has an able caregiver and can give informed consent.

supervisor reviews the patient's medical records to confirm the CHF diagnosis and check the common working file for Medicare eligibility. The program tracks the status of potential enrollees after they have been identified and records the result of the eligibility screening process. If the beneficiary meets inclusion criteria, the care manager supervisor assigns the potential participant to a care manager. The care manager then contacts the patient's primary care physician to ask if the physician is willing to work with the care manager and will give permission to enroll the patient. If the physician consents, the care manager contacts the patient to request a home visit. The care manager meets with the patient in the patient's home to discuss the project and explain and obtain informed consent. If the patient agrees to participate, the care manager submits the patient's information through the MPR Web site, which randomly assigns the participant to the treatment or control group. To allay enrollee suspicions about the validity of the random assignment process, the care manager will use a laptop computer to obtain the treatment or control group assignment while in the enrollee's home. The program then sends a letter to all participants confirming their group assignment. Control group members receive no further contact from the program.

After three months of operation, the program had enrolled 16 patients (7 treatment group members and 9 control group members as of September 8, 2002). This number is substantially below its three-month enrollment target of 130 participants. The program attributes its difficulty in enrolling participants to lack of physician enthusiasm for the program and a high patient refusal rate. Staff attribute physicians' lack of enthusiasm for the program to their disappointment in the narrowed scope of the program as implemented relative to its original design. In addition, staff felt that physicians, particularly those not associated with either MedStar or Georgetown, might be reluctant to refer patients because they might be afraid that the program would take over their patients. Staff reported that the patient refusal rate has been high,

in part because many elderly people thought the program might be a “scam.” At the time the program was enrolling, seniors had grown wary of free offers because they were approached frequently by marketers of health-related goods and services. Finally, because these patients often suffer from chronic exhaustion, staff must catch them in the limited window of time each day when they are awake and alert enough to understand the study and provide informed consent.

Originally, Georgetown did not plan on receiving many direct referrals and had not thought it would actively market the program to the community at large. However, at the time of the interview, the program was negotiating with Washington Hospital Center, a MedStar-owned hospital, to recruit their patients given the slow pace of enrollment. In addition, Georgetown was planning to formally present the program to social and home health agencies. The program was also contemplating the use of newspaper and television media to market the demonstration to the wider community. The program welcomes referrals from physicians, particularly physicians it contacts for the first time about enrolling a patient. The program has also received patient-initiated referrals.

Key Program Staff Members and Their Responsibilities. The key staff for the intervention are the principal investigator, the program director, the medical director, the care management supervisor, the care managers, and the care manager associate. Specifically:

- The principal investigator is a practicing family physician with a master’s in business administration. He is responsible for ensuring that the implementation of the intervention is consistent with the overall program goals, providing medical oversight, and helping recruit physicians.
- The program director is a registered nurse, has a master’s degree in health care administration, and has more than 25 years’ experience as a health care provider and executive. He oversees day-to-day operations and is responsible for all demonstration activities, including business development, financing, planning, legal compliance, recruiting, marketing, enrollment, and eligibility checking.

- The medical director, a practicing cardiologist, has extensive experience caring for the frail elderly with CHF. He is a resource for the care managers on patient medical management and regularly meets with care managers to discuss their cases. He also helps with recruitment by communicating with community physicians and cardiologists.
- The case management supervisor, a registered nurse with a master's degree in public health, has more than 30 years of community health experience. She has experience in managing primary and family practice groups. She trains the care managers and supervises their day-to-day activities.
- The care managers are responsible for implementing the program intervention (discussed in more detail in the next section).
- The care manager associate provides administrative and clerical support to the program and works with social service agencies to arrange services for patients.

At a minimum, care managers must be registered nurses with a bachelor's degree. However, the program prefers nurses with a master's degree and experience in geriatric, cardiac, medical-surgical, or community nursing. The program particularly values nurses with community nursing experience because they are more likely to be skilled at persuading patients who live in a community to adopt behavioral and lifestyle changes, in contrast to nurses used to the hospital environment in which patients have little control over their diet and activity. Care managers must like elderly people and understand how the aging process affects learning. They also must be comfortable using computers, home monitoring devices, and electronic medical records. The single full-time care manager working with patients at the time of our interview has a bachelor's degree in nursing and has more than 20 years of nursing experience, including cardiology. (The program was training two other care managers at that time, and one other had left the program.)

Newly hired care managers must undergo a competency assessment and orientation. Each new care manager completes a self-assessment of their current skill level in areas relevant to the intervention. The case management supervisor reviews the self-assessment and tailors orientation training to each new care manager depending on their experience. Orientation topics

include (1) an overview of demonstration procedures and policies, (2) management of CHF, (3) management of the geriatric patient, (4) patient/care giver education, (5) use of community resources, (6) addressing special situations (for example, death, abuse, change in mental status), (7) documentation, (8) operation of the home monitoring device, and (9) safety and infection control. New care managers are on probation during the six-month orientation period and are followed closely by both a senior care manager, or “preceptor,” and the care management supervisor. The preceptor, supervisor, and new care manager meet weekly during orientation to discuss the new employee’s progress and reevaluate training needs. Given the relatively slow start to the program, the training process was still being refined at the time of the interview.

Georgetown’s goal is to have 1,025 treatment group members and a ratio of one care manager for every 50 to 75 patients. The program chose this ratio on the basis of current literature on case management and an educated guess about how home monitoring technology would increase the number of patients a care manager can care for. With an enrollment of seven treatment group patients three months after the start of the demonstration, the ratio was almost one to seven.⁵ Despite this low initial caseload, the care managers remained fully occupied by other tasks, such as patient recruitment and orientation. At the time of the interview, the program had subcontracted a dietitian, pharmacist, and social worker to serve as consultants to the program and participate in weekly case review meetings.

Care Coordination Components. The Georgetown intervention includes core care management functions (assessment, care planning, and monitoring), patient education, arrangement of services and resources, and communication with providers (Table 4). Each of

⁵ One of the care managers left the program shortly after enrollment began and only had contact with one patient, and that patient disenrolled from the study.

TABLE 4
MAJOR PROGRAM COMPONENTS

Component ^a	Provided?	Brief Description
Assessment	Yes	<p>Primarily conducted in patient’s home to allow for direct observation, but can begin in hospital.</p> <p>Occurs over four to six in person visits.</p> <p>Results documented on paper and in program-developed, Web-based record system.</p> <p>Includes Minnesota Living with Heart Failure Questionnaire, NYHA Classification, pain, nutrition, environment, fall risk, medications, learning readiness/style, Barthel Index of Basic Activities of Daily Living, Instrumental Activities of Daily Living, Mini-Mental State Examination, 2002 Health and Human Services Poverty Guidelines, Zarit Caregiver Burden Scale, Lubben Scale, Yesavage Geriatric Depression Scale, and CAGE (suspected alcohol abuse).</p> <p>Formal reassessment every six months and after life-altering events.</p>
Care Planning	Yes	<p>Assessment identifies problems to be addressed by care plan.</p> <p>Care manager develops in consultation with multidisciplinary team. Physicians approve the care plan.</p> <p>Care managers develop care plan using template in Canopy.</p>
Ongoing Monitoring and Evaluation	Yes	<p>Use telephonic home monitoring device. Participants measure vital signs and respond to a few questions about symptoms every day. Daily electronic transmission of data by devices to central program database.</p> <p>Care managers monitor patients by telephone and in person. Telephonic contact frequency determined by results of home monitoring and care coordination level assignment: Level 5: none; all in-person assessment visits Level 4: weekly Level 3: every other week Level 2: every month Level 1: every one to two months</p> <p>All patients receive a home visit at least once every six months after the initial assessment.</p>

TABLE 4 (continued)

Component ^a	Provided?	Brief Description
Patient Education	Yes	<p>Conducted during patient contacts by care managers based on initial assessment and patient's last contact.</p> <p>Patient education booklets are used; patients are also referred to support groups, nutritional counseling, and diabetes education.</p>
Provider Education	No	<p>Providers informed about program by staff presentations only.</p> <p>Care managers only remind providers about CHF guidelines for care as issues arise on a case-by-case basis.</p>
Service and Resource Arrangement or Provision	Yes	<p>Care manager associate can arrange for a wide variety of services and resources. Care managers teach patients to arrange for their own services.</p> <p>Program will pay for transportation, medications, medical equipment for financially needy patients.</p> <p>Services arranged for/referred to include:</p> <p>Medicare-covered services: durable medical equipment, home monitoring, medication assistance programs, transportation</p> <p>Community-based services: transportation; meals and/or food sources; medication assistance programs; personal care, homemaker, companion, or respite care; mental health counseling and spiritual care; dental services; adult day care; assistance with public programs or other benefits; housing resources</p>
Facilitating Communication Across Providers	Yes	<p>Care managers contact physicians about emergent issues.</p> <p>Care managers teach patients to communicate with providers more effectively.</p>

Sources: Telephone interviews with Georgetown program staff conducted in September 2002 and review of program documents.

^aBased on recommendations for successful care coordination interventions by Chen et al. (2000).

these components has been associated with effective care coordination (see, for example, Chen et al. 2000). Patients will remain in the program until the end of the four-year study.

Assessment. Care management for all patients begins with a comprehensive assessment to determine their needs. A care manager conducts the assessment in person. Assessments are generally carried out in the patient's home but can be partially completed in the hospital. An assessment takes between four and six visits and is usually completed within two weeks of random assignment. Assessment may be delayed if the patient presents acute problems during the initial home visit. The program uses standard assessment tools to ascertain physical health, functional status, cognition, mood, and social support systems. The program also administers tools developed in house that evaluate disease-specific knowledge, pain, learning style, nutrition, environment, and risk of falls. The care managers document the results of the assessment on paper and enter them into a program-developed, Web-based record system. The care manager then scores the assessment results so they can be entered into Canopy, another Web-based system originally designed for case management and utilization review in managed care plans. The intervention reassesses patients every six months and after life-altering events, such as the death of a spouse, hospitalization, a fall, or unexpected financial burden.

Care Planning. The care managers use the results of the initial assessment to develop care plans tailored to each patient. Care plans are completed within four weeks of random assignment at the same time that home monitoring by telephone is initiated. The plans lay out personalized goals for treatment adherence and lifestyle changes, provide a timetable for meeting those goals, and include standard interventions to address the patient's problems (for example, nutrition education for a malnourished patient). The care manager presents the care plan to the program's multidisciplinary team, which includes all program staff, a pharmacist, and, when warranted, a social worker or dietitian. In addition, the multidisciplinary team reviews care plans annually

and as needed. The care manager meets in person with the primary care physician to get the plan approved a few weeks after home monitoring has begun. The program pays physicians a \$100 fee for these face-to-face conferences. The care manager develops the care plan using a template in Canopy and uses the plan to guide ongoing care management.

Monitoring. Regular patient monitoring supports program efforts both to improve communication with physicians by keeping them up-to-date about changes in patients' vital signs and to improve patient adherence to needed self-management activities. The program uses a home monitoring device called the Sentry HomMed monitor (made by HomMed LLC) to collect and analyze patient weight, heart rate, blood pressure, and oxygen saturation daily, as well as additional information provided by yes/no responses to questions. The monitor, which can easily fit on a tabletop, also includes a digital scale, finger probe, and blood pressure cuff. After the assessment is completed, the care manager takes the monitor to the patient's home, sets it up, and teaches the patient how to use it. The HomMed device automatically transmits the collected data through a pager (or a telephone line as backup) to a Skytel server. The program pays for the installation and ongoing use of the device.

Monitoring takes the patient a few minutes each day. At a predetermined time, a voice prompt from the machine tells the patient it is time to take their vital signs. The monitor is directly connected to the measurement devices so that patients do not have to input their vital signs into the machine. After the last vital signs are taken, the patient is asked two subjective questions (breathing ease and fatigue level) that can be answered with simple buttons marked "yes" or "no." After the patient has answered the questions, the monitor will remind the patient to take medications as ordered and to follow the prescribed diet. At the time of the interview, the program reported that it was difficult to get patients to take their measurements early in the

morning as originally planned and that they now give patients flexibility to use the device by 12:30 midday.

When a patient's vital signs are outside of established parameters, the care manager contacts the patient. Initially, the vital sign parameters are preset according to default measures built into the HomMed device. During the in-person care planning conference, the care manager presents the first few weeks of monitoring data to the physician, who then specifies the acceptable ranges of vital signs for that patient. Monitoring data collected by the Skytel server is fed directly into an electronic database on the HomMed server (separate from Canopy or the Web-based system) and alerts the care manager if any readings are outside the established parameters. When abnormal readings occur, the care manager contacts the patient by telephone and asks them to repeat the measurements. If the reading is accurate and the care manager believes it is serious enough to warrant physician attention, the care manager calls the patient's primary care physician. If the care manager is unable to reach the patient's physician, the care manager contacts the program's medical director.

In addition to home monitoring alerts, the frequency of contact between the care manager and the patient is based on the patient's designated care coordination level. Patients are classified into one of five levels of care coordination based on their risk for hospitalization or emergency room admission (Table 4). All patients at Level 5 (the highest risk level) are in the assessment phase and receive only home visits. After assessment, all patients receive at least one home visit every six months. At the second highest level of risk, Level 4 patients receive weekly telephone calls and home visits every two weeks. At the lowest level of risk, Level 1 patients receive a telephone call at least every one to two months. At the time of the interview, all enrolled patients were categorized as Level 4 or 5. During monitoring contacts by telephone, care managers conduct patient education, reassess the patient's status, and evaluate the patient's

progress toward meeting the care plan goals. Home visits can be more frequent if the care manager senses a change in cognitive status while talking with the patient on the telephone or if a life-altering event or hospitalization occurs. In addition, care managers have made home visits to adjust or fix the HomMed monitor.

Patient Education. Patient education is a major component of the program's effort to improve adherence to treatment recommendations. The program views patient education as an ongoing process that seeks to improve patients' understanding of their disease and ability to manage their condition. The program hopes to promote patient understanding of the relationship between their behaviors and symptoms, and ultimately convince them to practice good self-care and to adhere to treatment regimens. The program also seeks to educate patients about the availability of community resources, such as meals-on-wheels and support groups, and to improve patients' ability to communicate effectively with providers.

During the initial assessment, care managers determine the patient's needs for education and then develop a structured education plan for the patient. The care managers review disease-specific patient education booklets with participants in person or by telephone. In addition, care managers might refer patients with comorbid conditions to Web sites or arrange for them to receive education from specific health care providers (for example, a nutritionist or diabetes educator).

Provider Practice. Mind My Heart does not seek to change physicians' clinical practice. It does plan, however, to address medical management issues with physicians on a case-by-case basis. For example, a care manager might approach a physician about a particular patient whom she and the program's pharmacist believe has not been prescribed beneficial medication or has been prescribed a medication at a lower-than-optimal dose. At the time of the interview, staff

had not encountered any such instances but anticipated these cases would occur as the demonstration progressed.

In addition, the program wants physicians to understand more clearly what care management is and to consider it a valuable tool that will aid them in their practice. The care managers help physicians recognize the barriers that patients face in their daily lives and the areas in which the physicians need to communicate more effectively with particular patients. The program expects physicians will value care coordination when they see how it benefits their patients. Georgetown intends to survey physicians about their experiences with the program every six months after enrollment of their patient(s).

Arranging Services. The program can arrange for or refer patients to many community-based services and resources. Given the low enrollment, however, it had not had much opportunity to do so at the time of the interview (Table 4). The program anticipated that it would pay for some services and resources (for example, transportation, medications, medical equipment) for patients whose family income is at or below two times the federal poverty level. Georgetown calls this portion of its program the “Flexible Benefits Fund.” However, at the time of the interview, the program had not enrolled any participants who met the income level criteria for the Flexible Benefits Fund.

Communication. The care managers are responsible for communicating with the patient’s primary care physician and other providers about the progress the patient has made in achieving the care plan goals. However, this contact is not regular. One of the core principles of the Mind My Heart program is to make the individual physician’s practice as efficient as possible by providing the physician with timely medical information in an unobtrusive manner. The program does not unduly burden physicians with care management activities, because it views the care manager’s role as supporting, not interfering with, physicians’ medical management of

their patients. For example, the care managers contact physicians by telephone if a patient has had an out-of-range monitor reading. They do not, however, bother them with nonmedical issues, such as transportation problems or inability to afford prescription drugs, which require no physician input. Reports on patients' home monitoring data are provided at least on a monthly basis—more frequently if a physician requests it. Physicians also receive an updated care plan annually.

Care managers are indirectly responsible for making sure that events (such as diagnostic testing) occur at the appropriate time and in the proper order. The care managers want to give patients and their caregivers tools to coordinate the patient's care during and following termination of the program. For example, care managers encourage patients to follow up with providers rather than making the appointments for them. The care managers also teach patients how to communicate with physicians and, on occasion, will attend doctor's appointments with patients if their physician consents.

Early Implementation Data. According to program data generated for the evaluation between July and September 2002, 9 of the 11 enrollees through the end of September had at least one contact with a care manager (Table 5). The majority (95 percent) of the 154 contacts were made by one care manager and 70 percent of the 154 contacts occurred by telephone. Most (83 percent) of these contacts were initiated by the care managers.

All patients who had at least one contact had an assessment contact. The program's policy is to complete a patient's initial assessment within two weeks of random assignment. The majority of assessments (78 percent) were begun within one week of random assignment. However, 22 percent of these assessments were begun more than two weeks after random assignment. Staff reported that during the program's first few months assessments were

TABLE 5
 CARE MANAGER CONTACTS WITH PATIENTS BETWEEN
 JULY 1, 2002, AND SEPTEMBER 30, 2002

Number of patients enrolled ^a	11
Number of patients with at least one care management contact	9
Total number of contacts for all patients ^b	154
Number of care managers contacting patients	2
Number of patients in contact with more than one care manager	0
Among those patients with at least one contact:	
Percentage of contacts care manager initiated	83.1
Percentage of contacts:	
In person at patient's residence	29.2
By telephone	70.1
In person, elsewhere	0.6
Of all patients enrolled, percentage with assessment contact	81.8
Among those patients with an assessment, percentage of patients whose first assessment contact is:	
Within a week of random assignment	77.8
Between one and two weeks of random assignment	0.0
More than two weeks after random assignment	22.2
Of all patients enrolled, percentage of patients with contacts for:	
Identifying needs of non-Medicare services	0.0
Identifying needs for Medicare services	0.0
Providing disease-specific or self-care education	81.8
Explaining tests or procedures	72.7
Explaining medications	81.8
Routine patient monitoring	45.5
Monitoring receipt of services ^c	0.0
Monitoring abnormal results	63.6
Providing emotional support	72.7
Average number of patients contacted per care manager	4.5
Average number of patient contacts per care manager	77.0

Source: Georgetown program data submitted in November 2002.

^aNumber enrolled in the treatment group as of September 30, 2002.

^bOne care manager made 147 of the 154 contacts.

^cCare managers follow up with patients to make sure they received a key service such as a physician office visit or visit by a social worker.

sometimes delayed because one of the two original care managers had left the program. On occasion, assessments were delayed because acute health problems discovered during the first home visit necessitated a trip to the emergency room and subsequent hospitalization.

During the same period, 64 percent of patients enrolled had contacts during which care managers were following up to discuss abnormal readings or test results. (Many of these contacts probably were to discuss out-of-range readings from the home monitor.) Most patients had contacts involving disease-specific or self-care education (82 percent) or explanation of tests or procedures (73 percent); 46 percent had contacts for routine monitoring. In addition, many had contacts during which care managers provided emotional support (73 percent). These proportions are likely to change as the program matures, and new enrollees make up a smaller share of total enrollment.

Involvement of Physicians. Program staff expect that physicians will (1) review patients as appropriate for the demonstration and eventually refer their patients directly to the program, (2) review the care plan and set monitoring parameters, and (3) respond to care manager calls about out-of-range monitoring results and adverse events (Table 6). Because the program does not want to increase the burden on physicians' time or resources, it limits the frequency of contact care managers have with physicians. Program staff reported that contact with physicians can vary from as much as one to two times per week to once every four to eight weeks. So few patients and physicians were participating at the time of our interview that it was not possible to speculate on how much program involvement physicians generally would have with the program.

TABLE 6
PLANNED PHYSICIAN INVOLVEMENT

	Brief Description
Promotion of Program to Physicians	Program staff present program at physician staff meetings and when they contact physicians to enroll one of their patients for the first time. Program distributes informational packet to physicians.
Physicians as Referral Sources	Physicians must approve patient's participation in the program. Physicians have not been a major source of direct referrals to the program, but the program welcomes such referrals.
Physician Role in Encouraging and Maintaining Patient Participation	None reported
Physicians' Role in Care Coordination	Program expects physicians to be responsive to care manager phone calls about out-of-range monitoring readings and adverse events, and to meet with care managers to review the care plan.

Sources: Telephone interviews with Georgetown program staff conducted September 2002 and review of program documents.

Data Systems. The program uses three data systems to document and facilitate care management activities (Table 7). A program-developed, Web-based system is used to document and code assessment results to input to Canopy, a Web-based care management software product. Canopy is used to store standardized data from assessments, develop care plans, document patient contacts, and generate reports for monitoring patient outcomes. With some additional programming, the Canopy system has been able to generate patient-level data for the evaluator, including dates of program enrollment and disenrollment and records of care manager contacts and services paid for by the program. Georgetown also uses Canopy to track every patient referred to the program. Finally, the program uses HomMed's central electronic database

TABLE 7
PLANNED DATA SYSTEMS

	Program Maintains?	Brief Description
Participant Level		
Enrollment/disenrollment	Yes	In Canopy (Web-based computer program)
Assessment	Yes	In Assessment Tool Collection database (program-developed, Web-based computer program), and Canopy
Care planning	Yes	In Canopy
Monitoring/evaluation	Yes	In HomMed (computer program interfaced with telephone), and Canopy
Non-Medicare services	Yes	In Canopy
Adverse events	Yes	In Canopy
Grievances	No	
Care Manager Level		
Time log/productivity	No	
Program Level		
Costs by type	Yes	In Canopy

Sources: Telephone interviews with Georgetown program staff conducted September 2002 and review of program documents.

to capture the telephonic daily home monitoring results. The monitoring results are documented on paper and input to Canopy. The three data systems do not interface with each other.⁶

At the time of the interview, the program had not had occasion to generate reports for providers, but it planned on using Canopy to generate care plans and HomMed to generate home monitoring trend reports. The care managers have adapted well to using Canopy and find it a valuable tool. They believe it has improved the quality of their documentation and helped standardize their care procedures.

Financial Monitoring and Physician Payment. Georgetown tracks the number of staff hours, by task, and the cost of various tasks, such as patient recruitment. It also monitors

⁶ After three months of operation, the program was planning to interface Canopy and HomMed.

different categories of direct costs, such as salaries and supplies. The program pays a fee to Georgetown University for accounting, purchasing, human resources, staff from other departments, and information technology. The program pays directly for marketing and the home monitoring device.

According to the demonstration cost report through September 30, 2002, the program had spent \$183,803 and had not yet received any patient payments. The \$183,803 includes costs for such items as staff salaries, equipment, and rent.⁷ The program does not offer financial incentives to promote patient or program goals, but it does pay physicians a fee of \$100 for meeting with care managers, as well as reviewing and approving the care plan.

Early Implementation Experience

Operations. Health service delivery demonstration programs such as those in this evaluation typically encounter some barriers to early implementation. These barriers can include lower-than-expected enrollment, opposition from physicians, difficulty hiring qualified staff or obtaining space and equipment (including higher-than-expected labor, rent, or equipment costs), and difficulty developing a data collection system that can monitor patients and program activities efficiently. Problems in these areas in the early months of implementation could lead to changes in the original design of the program.

The program had no difficulty obtaining space and equipment or developing a data system, but low enrollment was a major problem for Mind _{My} Heart during its first few months, primarily because the program did not have the enthusiastic support of area physicians. As previously discussed, Georgetown originally proposed a large demonstration targeting many chronic

⁷ Georgetown received funds to develop its program from a congressional appropriation outside the MCCD program.

conditions. By the time the demonstration began, the program was much narrower than some physicians might have thought it would be. However, the program's principal investigator, medical director, and care manager supervisor have increased the program's visibility to area physicians—for example, by giving presentations to physician groups and pitching the program to individual physicians when their patients were identified as eligible.

In addition to marketing the program to physicians, the program hopes to expand recruiting efforts to other hospitals in the service area. At the time of the interview, Georgetown was negotiating with Washington Hospital Center, a MedStar-owned hospital, to recruit their patients. The program has also begun preparing presentations for home health and other community-based agencies. The program has considered using news media to promote the program to the community at large. The care manager supervisor has spent time at GUH marketing the program to nurses and discharge planners.

Problems Related to Evaluation Activities. Health care delivery demonstration programs also may encounter early problems that can affect the evaluation of their effectiveness. These problems can include (1) contamination of the control group, (2) provider or beneficiary opposition to random assignment, and (3) difficulty providing program data required for the evaluation.

Control group contamination can occur in several ways. Control group members might participate in other case management programs. Their contact with the demonstration staff before or after random assignment might lead them to receive treatment they might not have received otherwise. Demonstration influences on physicians' practice patterns could lead to treatment changes for all patients, control and treatment group alike—a so-called “spillover” effect on physicians' care.

Georgetown's program does not appear to be susceptible to significant control group contamination. Few care coordination and disease management programs that control group members might join are available in the Mind My Heart's service area, and those that are have very limited enrollment. The program does not assess beneficiaries before random assignment and has no contact with control group members following random assignment. At the time of the interview, staff did not report substantial physician opposition to random assignment. Finally, although many participating physicians will also treat control group members, it is unlikely that the control group would be contaminated by changes in provider practice caused by the demonstration, since the program is not trying to get physicians to change their practice patterns.

Summary and Discussion

The recent rapid growth in care coordination and disease management initiatives has yielded a confusing array of programs. Some do little more than utilization review, others focus on improving physicians' practice patterns, and others attempt to intervene on several levels—physicians' practice, patients' behavior, and coordination of providers and services. In addition, the programs' interventions consist of various combinations and permutations of basic care coordination elements.

One goal of the implementation analysis for the evaluation of the MCCD is to develop a useful method of classifying the wide variety of care coordination/disease management programs by using readily observed program features and to relate this classification scheme to program impacts. We start with a simple, provisional framework that will evolve as we learn more from the MCCD. In the current framework, we classify programs by (1) the organization or organizations implementing the program and the extent of the program's potential for integration

with other key providers, (2) the program's target population and whether the program is condition-specific or not, and (3) the program's major strategies and interventions. By major strategies and interventions, we mean, for example, improving patient adherence through education, improving provider practice, increasing access to support services, and improving communication and coordination. In addition to placing the Mind_{My} Heart intervention in this framework, we provide some early observations on the implementation experiences of the program to date and on potential challenges facing the evaluation of the programs.

Organizations Implementing the Program and Integration with Providers. Mind_{My} Heart is hosted by Georgetown in partnership with MedStar Health, Inc., which employs the majority of the program staff and a substantial proportion of the physicians who serve program patients. Because program staff and many of the physicians share the same employer, the potential exists for a measure of integration between the program and many patient providers. On the other hand, the program does not require a great deal of regular input from physicians to the care coordination process because it does not wish to burden them further and does not seek to make major changes in physician practice. Although some physicians might have known the program's principal investigator and medical director before the demonstration, most would not have known the care managers. Furthermore, care managers and physicians have little opportunity for informal contact because they are not co-located, and care managers contact physicians only if a problem arises. Thus, the ability of the care managers to build trusting, collaborative relationships with physicians is limited.

Target Population. Mind_{My} Heart targets beneficiaries living in the Washington, DC, metropolitan area who have been hospitalized in the past year for CHF and, therefore, are at risk of future high utilization of health care. Although Mind_{My} Heart targets people with a single medical diagnosis and bases much of their intervention on addressing that condition, the

program's approach does address comorbidities and attend to patients' broader functioning and social issues through its multidisciplinary team. For example, the program tries to identify the need for support services, arrange for their delivery, and, sometimes, pay for certain services, such as transportation.

Major Strategies and Interventions. Mind_{My} Heart aims to (1) improve patient adherence to treatment recommendations, and (2) improve communication and coordination among patients and providers. The program seeks to improve patients' ability to care for themselves and adhere to medication regimens and self-care recommendations by using home monitoring to prompt them. The program seeks to improve communication and coordination among patients and physicians by teaching patients how to communicate with their physician. The monitoring device also can identify problems at an early stage, so the care manager can inform patients and their physicians of the need to address the problem.

Potential Challenges for the Demonstration and Evaluation. The lower-than-anticipated enrollment appears to be the greatest challenge to the evaluation of the Mind_{My} Heart intervention. Low enrollment will decrease the ability of the evaluation to detect program effects. However, the program is actively exploring strategies to increase enrollment, such as recruiting patients at another hospital in the service area and promoting the program to community-based agencies.

Early Successes of the Demonstration. The program has adopted a structured, intense intervention for CHF patients. The program also strives to minimize its burden on the physician and to reduce the time physicians need to spend with complex patients. The program has also assembled an energetic staff with impressive credentials.

Mind_{My} Heart contains many features that have been found to be associated with successful care coordination interventions (Chen et al. 2000). The home monitoring device allows care

managers and physicians to see changes in clinical indicators much faster than physicians ordinarily would when seeing patients for usual visits. Patient education teaches patients better self-management and skills to communicate better with providers. The multidisciplinary team can assess issues of polypharmacy, nutrition, and the need for a range of support services. Thus, Mind _{My} Heart has the potential to be successful if enough participants can be identified.

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APPENDIX A

**LIST OF MATERIALS PROVIDED BY GEORGETOWN AND REVIEWED
FOR THIS REPORT**

**LIST OF MATERIALS PROVIDED BY GEORGETOWN AND
REVIEWED FOR THIS REPORT**

Georgetown Medicare Care Coordination Demonstration (MCCD) proposal to the Centers for Medicare & Medicaid Services, dated October 9, 2000.

Georgetown Mind _{My} Heart Policy and Procedure Manual, August 2002

Care Management Interventions Protocol, May 2001

Beneficiary Targeting and Marketing Protocol, May 2001

Enrollment-Disenrollment Protocol, May 2001

Quality Improvement Protocol, May 2001

Financial Procedures Protocol, June 2001

Staff Training and Development Protocol, July 2001

Patient Education Protocol, July 2001 and other patient education materials

Physician Relations and Education, August 2001

Assessment tools

Physician information packet

Informed consent form

Program staff organizational chart

Key staff and case managers' resumes and position descriptions