

# Case Study of a Primary Care–Based Accountable Care System Approach to Medical Home Transformation

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**Abstract:** We report a case study of a mature primary care-based accountable care organization that is both a health plan and a network of medical homes. Over 20 years, WellMed Inc (San Antonio, Texas) implemented many patient-centered services, experimenting to find which belong within clinics and which operate best as system functions. The adjusted mortality rate is half that of the state for people older than 65 years. Hospitalization and readmission rates and emergency department visits have not changed over time, but preventive services have improved. Phased implementation across the network makes it difficult to link improvements to specific processes but they seem to have improved outcomes collectively. **Key words:** *medical home, patient-centered care, primary care*

**B**ILLS THAT helped shape the Patient Protection and Affordable Care Act initially conceived of the patient-centered medical home (PCMH) and accountable care organization (ACO) as uniquely different entities. The law allows mutual demonstrations of these 2 models as legislators came to realize that they might overlap. The Medicare Payment Advisory Committee regards medical homes

as building blocks of effective ACOs (Medicare Payment Advisory Committee, 2009). Anthony Rodgers, deputy administrator and director, Center for Strategic Planning Center for Medicare & Medicaid Services, in a presentation to the Patient Centered Primary Care Collaborative, described several potential ACO models, including some that may not include a hospital (Rodgers, 2010). This case study describes a primary care-based ACO that does not include a hospital or most specialists and evaluates some of their patient population health outcomes in the second decade of operation.

Two years ago, we noted that a clinic network in a national primary care research network stood out for its unusually high quality measure rates. Discussions with the network leadership suggested that it had many of the hallmarks of the PCMH including providing access to care on the patient's time frame and managing chronic disease and populations (Stange et al., 1998; Zweifler, 2007), an information system that supports care and helps monitor quality (McDonald & Metzger, 2002), teams of individuals to support

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coordination of care and links to community resources (Donaldson et al., 1996), and a multidisciplinary team that delivers and continually improves care (Crane, 2003; Institute of Medicine, 2001). They also had many of the features of an ACO in that they managed the full continuum of care with accountability for the overall costs and quality of care for a defined population (Rittenhouse et al., 2009).

### **WELLMED MEDICAL GROUP—TAILORING CARE AND BENEFITS TO PATIENT NEEDS**

The WellMed Medical Group is a core group of 21 clinics in the San Antonio area that are the primary clinical network affiliated with the more diversified corporate structure of WellMed Medical Management. This clinic group developed a care model over the last 20 years that meets 97 of 100 points under the National Committee for Quality assurance (NCQA) definition of a PCMH. Neither WellMed Medical Group nor WellMed Medical Management own or operate a hospital, and they predominantly employ primary care physicians. WellMed operated under full risk capitation for most of 20 years and now almost exclusively cares for patients covered by a Medicare Advantage plan. This arrangement gives WellMed control of both funds and data in managing their patient panel. The flexibility afforded to WellMed by their current business model facilitated the evolution of the current system of care and benefit structure based on identification of patient needs and patient outcomes. WellMed employed continuous quality improvement and the Chronic Care Model long before consensus developed around the PCMH (Figure 1).

WellMed Medical Management serves more than 87 000 patients and plan members, mostly Medicare-eligible seniors in Texas, Arkansas, Florida, and New Mexico. We focus this case study on the core 21 WellMed Medical Group practices in San Antonio and exclusively on its Medicare Advantage patients for whom its care model is most fully devel-

oped. WellMed ACO functions routinely monitor costs and outcomes and develop patient and system interventions in response to poor outcomes and cost variations. They regularly provide patient and panel quality measures to clinics and individual clinicians in the network, and select referral specialists and hospitals based on their outcomes. The duration and evolution of their model and robust monitoring of dollars and data made them good candidates for external evaluation of ACO and PCMH functions and outcomes. Since its founding in 1990, WellMed has implemented many PCMH and ACO functions over time (Figure 1) that we describe next.

### **THE CLINICAL TEAM**

Each patient has a primary care clinician who coordinates all care and refers to specialists as needed. The goal for each physician is a panel of 650 patients for those who also do inpatient care, and 750 for those who do not. They typically place a physician assistant or nurse practitioner with 2 to 3 physicians and with physicians in solo sites. In 2008, there were 54 physicians and 17 nurse practitioners or physician assistants in the 21 clinics, and the patient panels for each physician ranged from 104 to 941 (median, 480). WellMed has a case manager for each clinic and health coaches for each 1 to 2 physicians depending on panel size. They also have on-site or phone access to social services. Some WellMed physicians still round on their patients in the hospital, but the clinic group also has its own hospitalists and inpatient care management teams and a team of nursing home nurse practitioners. The WellMed Medical Group hired rheumatologists, dermatologists, and podiatrists to rotate among their clinics when they found it difficult to get timely referrals for these services, but all other medical specialists are contracted. WellMed provides dental, vision, and hearing aid benefits and other wellness programs, including nutritional counseling and a supervised walking program.

1990	Established with particular emphasis on Medicare population
1991	Strengthen and support primary care: reduce unnecessary insurance review, support comprehensive care approach, support inpatient and nursing home roles, appropriate access, team based chronic disease care
1993	Begin benefits review process to remove patient barriers to essential care—transportation help, paid health maintenance visits, expanded medication coverage, eye care, dental benefits, hearing aid benefits
1996	Same day appointments
1997	Regularly track patient satisfaction
1999	Start disease management division
2001	Recognize that health is a broader concept than health care. Partner with community organizations/ activities such as Silver Sneakers and Diabetes Self Management Support groups
2001	Install EHR including electronic prescribing
2002	Add clinical decision support system along with improved population, practice and physician level clinical reports (registry functions)
2003	Transform disease management to health coach concept- patient centered and available to all patients with selected diagnoses that wish to access this level of support, not just high utilizing individuals, shift disease management focus from “guideline concordance” to supporting patient behavioral change, motivational interviewing approach adopted and “case managers” considered “health coaches”
2006	Web access to patient level data for treating specialists
2006	Portable “EHR” system given to patients to improve data transfer to other care providers
2008	Transitions “Health Coach” function from a centralized approach to a primary care office based approach and begins transition to expanded team based chronic care within the primary care office
2008	Web access for medical data for patients

Figure 1. WellMed timeline related to patient-centered medical home activities.

**Disease management**

WellMed’s current disease management programs focus on diabetes, congestive heart failure, ischemic heart disease, chronic obstructive pulmonary disease, and asthma, but are open to any patient with one or more chronic condition. The disease management program, HealthRight, is one of the companies under the WellMed Medical Management umbrella, which usually embeds disease management specialists within clinics. The disease management specialists were recently changed to “health coaches” and are much more present in the clinics, often attending clinician visits with patients, taking time afterward to clarify care plans, provide counseling, and evaluate for need of other services. Health coaches come from a variety of professional disciplines.

**Onsite pharmacies**

WellMed has an on-site pharmacy in many of its clinics for ease of patient access, coordination of the medication voucher program (patients can receive prescriptions without a co-payment), and improvement of communication between pharmacists, doctors, and patients.

**Care coordination and transportation**

The WellMed social services unit helps Medicare beneficiaries apply for the Medicare savings programs to reduce or eliminate Part B premiums and receive medication assistance if they qualify. Social workers are not typically placed within clinics but are contacted by clinic staff for help with a variety of services. For specialist referrals, WellMed has clinic referral specialists,

who coordinate care with recommended specialists by helping to set up appointments, providing necessary medical records, and assisting with follow-up care. WellMed developed Comfort Care Transportation Service when patient data made it clear that patients who did not keep appointments were more likely to visit an emergency department or be hospitalized. This service provides free transportation to and from medical appointments for any WellMed Medical Group patient in the San Antonio area. The service improved rates of patients keeping scheduled medical appointments. WellMed inpatient case managers help coordinate communication with specialists, discharges, and skilled nursing or home health needs.

### **Technology to support the PCMH model**

WellMed commissioned the development of an electronic medical record (EMR), which was implemented in 2001. The existing EMR does not have electronic prescribing (which reduced their NCQA score). Failing to find an off-the-shelf product to meet their needs, they are in the middle of a new contracted EMR build. WellMed also provides patients with a secured portable device in the form of a CARE band bracelet or key chain (GC Publishers, San Antonio, Texas) that has a USB port for computer access to an individual's continuity of care record (CCR) via secured Web-based application. The CCR includes the patient's general information, physician and insurance information, most recent WellMed medical records, laboratory results for the past year, allergies, immunizations, medications, problem list, and notice of last will and testament and/or living will on file. A patient's CCR is updated on the CARE band after each visit and is available to emergency responders or hospitals as a read-only document on a secure Web page. WellMed's EMR also has a member resource gateway, allowing patients to view laboratory results and CCR. WellMed's sophisticated data array and analytic team draw on the EMR, claims, and laboratory and pharmaceutical data to routinely monitor patient, provider, clinic, and system-level outcomes and costs.

### **OUTCOME MEASURES**

For our evaluation, we specifically wanted to find out whether the WellMed model improved care for all patients. Our prevention measures include cancer screening, chronic disease care, and hypertension and hyperlipidemia control. We also assessed general health outcome measures including clinical outcome test values for chronic diseases and general hospitalization, readmission, and mortality rates.

### **DATA SOURCES AND ANALYTIC METHODS**

Data analyzed for this study consisted of 2000-2008 billing and 2002-2008 electronic health record data on all aspects of medical care services provided to WellMed Medicare Advantage patients older than 65 years in the greater San Antonio area. It included data on outpatient visits, hospitalizations, medical vital measures, vaccinations, clinical diagnoses, laboratory tests, medical procedures, disease management, and prescription medications. After initial checks of the data, we ascertained the extent to which WellMed patients were representative of the average Medicare Advantage patient who is aged 65 years or older.

To determine whether the WellMed program developments were effective, we evaluated rates of utilization of preventive services and health outcomes. The denominator for each of these computations included all those eligible for the specific test. These rates and the references are presented in Table 1. We abandoned risk-score adjustments for comparisons across years when we recognized a significant trend in increasing diagnoses and year-to-year consistency of diagnoses.

All analyses and all rates were calculated on an annual basis as a cross-section of patients in that year. Patients' plan eligibility was determined in each year using their eligibility effective dates and plan termination dates. Rehospitalization rates were calculated when there was hospitalization within 30 days of discharge from a previous hospitalization.

**Table 1.** Preventive Services Delivery Goals

Tests and References	Denominator	Numerator
Global—All eligible WellMed patients aged 65 years or older		
Mammography test (Asch, Sioss, Hogan, Brook, & Kravitz, 2000; Freeman et al., 2002; Pham, Schrag, Hargraves, & Bach, 2005)	Female patients excluding those with cancer diagnoses or mastectomy	From ICD9 codes: 87.36, 87.37, V76.11, V76.12 every year
Colon cancer screening tests: colonoscopy, flexible sigmoidoscopy, and fecal occult blood test (Freeman et al., 2002; NYQA, 2008; Pham et al., 2005;)	Excluding those with previous cancer diagnoses	From laboratory data—any of the 3 tests that were administered
Hemoglobin A <sub>1c</sub> test and monitoring (NYQA, 2008; Pham et al., 2005; Skeie, Thue, & Sandberg, 2001)	With DM, ICD9: 250.00 thru 250.91	Every year. For control—Hb A <sub>1c</sub> < 7
LDL cholesterol test (NYQA, 2008)	All with DM or IHD diagnoses	Every year LDL < 100 mg/dL
Blood pressure test (NYQA, 2008)	All with HBP diagnosis	Every year <140/90
ER visits per patient	All WellMed-eligible patients	Place of service—ER
Hospitalization rate (Jencks, Williams, & Coleman, 2009)	All WellMed-eligible patients	Patients hospitalized as derived from hospital data
Rehospitalization rate (Jencks et al., 2009)	Excluding those deceased at last discharge	Within 30 days of last discharge
Mortality (Buescher, 1998)	All WellMed-eligible patients	Determined from hospital and identifier data

Abbreviations: DM, diabetes mellitus; ER, emergency room; HBP, high blood pressure; IHD, ischemic heart disease; LDL, low-density lipoprotein.

Breast cancer and colon cancer screening rates were calculated only for those patients who were not previously diagnosed with cancer. For comparability with Texas mortality rates, we age-sex adjusted mortality rates and reported them by age—65 to 74 years and 75 years or older. All data management tasks and preliminary data analyses were undertaken using the SAS 9.2 and STATA 11.1 statistical software packages.

**RESULTS**

The WellMed patient population is slightly older and more likely to be male than the typical Medicare population. This did not change significantly between 2000 and 2008

(Table 2). Patients were increasingly likely to be diagnosed with a chronic condition over the 8-year period (Table 2) and were more likely to be consistently diagnosed with a given condition across later years (ie, someone with diabetes in 2007 was more likely to have that diagnosis in 2008 than were people [in 2002] diagnosed with diabetes in 2001) (not shown). Improvement in coding was also seen for conditions that were not linked to better reimbursement under Medicare Advantage.

Rates of primary and secondary prevention generally improved substantially from 2000 to 2008, especially for colon cancer screening (11%-50%) but there were significant changes in appropriately conducting many of these

**Table 2.** WellMed Patient Population and Comparison With US Population Estimates

	<b>Medicare Benchmark</b>	<b>2000</b>	<b>2002</b>	<b>2004</b>	<b>2006</b>	<b>2008</b>
No. of eligible WellMed patients older than 65 y		14 411	16 735	17 045	17 643	18 491
Age-sex composition						
Female, %	58.8	56.6	53.9	52.6	54.2	54.5
Aged 65 y and older, %	86.2	100.0	100.0	100.0	100.0	100.0
Mean age, y	72.0	75.4	75.8	76.0	76.1	76.2
65-74	52.3	50.2	47.8	45.7	44.3	44.2
75-84	35.7	39.2	40.9	42.8	42.5	41.5
Older than 85	12.0	10.6	11.3	11.5	13.3	14.3
Rates of chronic diseases National prevalence						
COPD	19.4/16.7 <sup>a</sup>	14.3	15.3	21.6	27.4	31.3
Diabetes	20.4/17.3 <sup>b</sup>	6.2	10.6	17.8	24.9	31.5
High blood pressure	54.4/61.1 <sup>c</sup>	12.2	17.4	24.5	38.0	65.2
IHD	16.9/39.2 <sup>c</sup>	16.4	20.2	23.4	28.9	35.7
Alzheimer disease/dementia	14.3 <sup>d</sup>	3.2	3.8	4.5	4.7	7.1
Depression	1-5 <sup>e</sup>	0.5	0.5	1.1	2.0	6.6
Actinic keratosis		8.1	6.7	5.6	5.9	10.6
Breast cancer	4.4/5.2 <sup>f</sup>	2.4	2.4	2.6	3.1	3.5
Acute cystitis	9.2-10.6 <sup>g</sup>	0.5	0.7	1.0	1.4	1.8

Abbreviations: COPD, chronic obstructive pulmonary disease; IHD, ischemic heart disease.

<sup>a</sup>Ages 65 to 74 years or older than 74 years. Male/Female Summary Health Statistics for U.S. Adults: National Health Interview Survey, 2008, table 4 (emphysema, asthma, chronic bronchitis).

<sup>b</sup>Ages 65 to 74 years or older than 74 years. From "Summary health statistics for U.S. adults: National Health Interview Survey, 2008. National Center for Health Statistics," by J. R. Pleis, J. W. Lucas, and B. W. Ward, 2008. *Vital Health Statistics*, Series 10, No. 242, Table 8.

<sup>c</sup>Ages 65 to 74 years or older than 74 years. From "Summary health statistics for U.S. adults: National Health Interview Survey, 2008. National Center for Health Statistics," by J. R. Pleis, J. W. Lucas, and B. W. Ward, 2008. *Vital Health Statistics*, Series 10, No. 242, Table 2.

<sup>d</sup>From "Dementia and Alzheimer disease incidence: A prospective cohort study." by W. A. Kukull, R. Higdon, J. D. Bowen, W. C. McCormick, L. Teri, G. D. Schellenberg, et al., 2002, *Archives of Neurology*, 59, pp. 1737-1746.

<sup>e</sup>From "Epidemiology of late-life mental disorders," by C. F. Hybels and D. G. Blazer, 2003, *Clinics in Geriatric Medicine*, 19, pp. 663-696.

<sup>f</sup>Ages 65 to 74 years or older than 74 years. From "Summary health statistics for U.S. adults: National Health Interview Survey, 2008. National Center for Health Statistics," by J. R. Pleis, J. W. Lucas, and B. W. Ward, 2008. *Vital Health Statistics*, Series 10, No. 242, Table 6.

<sup>g</sup>National Health and Nutrition Examination Survey III, 1988-1994. Ages 65-74, 74-85 cited in Litwin MS, Saigal CS, editors. Urologic Diseases in America. US Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases. Washington, DC: US Government Publishing Office, 2004; NIH Publication No. 04-5512.

tests (Table 3). WellMed rates for successfully achieving hemoglobin A<sub>1c</sub> and blood pressure control also improved significantly over the 8 years.

There were no significant changes in emergency visits, hospitalizations, or readmission rates (Table 4) over this time period. Mortality

increased slightly in most age categories but consistently remained at least half the state age-specific mortality rates (Table 4, Figure 2).

We were not able to definitively link outcomes to implementation of specific medical home elements in the period for which we had data.

**Table 3.** Trends in Rates of Health Screening and Meeting Chronic Disease Targets

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Mammography test rates, %	19 <sup>a</sup>	28	29 <sup>a</sup>	26	28 <sup>a</sup>	33	34 <sup>a</sup>	37 <sup>a</sup>	40
Colon cancer screening test rates, %	11 <sup>a</sup>	14 <sup>a</sup>	21 <sup>a</sup>	32 <sup>a</sup>	42	43 <sup>a</sup>	48	49	50
Hemoglobin A <sub>1c</sub> testing rates, % for patients with diabetes	55	53 <sup>a</sup>	70	73	75	77	78 <sup>a</sup>	75 <sup>a</sup>	71
LDL cholesterol screening rates, %	47	35 <sup>a</sup>	47 <sup>a</sup>	50 <sup>a</sup>	59 <sup>a</sup>	63 <sup>a</sup>	69	68 <sup>a</sup>	70
LDL cholesterol screening rates, % for patients with diabetes	53	51 <sup>a</sup>	65 <sup>a</sup>	70 <sup>a</sup>	73 <sup>a</sup>	79 <sup>a</sup>	82 <sup>a</sup>	79	78
LDL cholesterol screening rates, % for patients with ischemic heart disease	53	45 <sup>a</sup>	58 <sup>a</sup>	64 <sup>a</sup>	71 <sup>a</sup>	77	79 <sup>a</sup>	76	76
Blood pressure screening rates, %		38 <sup>a</sup>	50 <sup>a</sup>	74 <sup>a</sup>	83 <sup>a</sup>	80	80 <sup>a</sup>	76	
Blood pressure screening, % for patients with high blood pressure		46 <sup>a</sup>	58 <sup>a</sup>	85 <sup>a</sup>	92	91	91 <sup>a</sup>	88	
DM patients with hemoglobinA <sub>1c</sub> ≤ 7	81	84	87	90	92	93	93	93	93
DM patients with LDL ≤ 100	51	56	57 <sup>a</sup>	63	67 <sup>a</sup>	74 <sup>a</sup>	77	78 <sup>a</sup>	95
IHD patients with LDL ≤ 100	48 <sup>a</sup>	56	60	63	66 <sup>a</sup>	72 <sup>a</sup>	75	75 <sup>a</sup>	93
HBP patients with BP < 140/90		67	72 <sup>a</sup>	80 <sup>a</sup>	86 <sup>a</sup>	90 <sup>a</sup>	92 <sup>a</sup>	90	

Abbreviations: BP, blood pressure; DM, diabetes mellitus; HBP, high blood pressure; IHD, ischemic heart disease; LDL, low-density lipoprotein.  
<sup>a</sup> Rates for adjacent years are significantly different (no overlap in the 95% confidence levels).

**Table 4.** Trends in Health Outcomes<sup>a</sup>

	2000	2001	2002	2003	2004	2005	2006	2007	2008
ER visit rates, %	15.9	14.9	14.2	14.5	15.2	16.6	17.6	17.4	17.8
Hospitalization rates, %	13.9	12.9	12.0	11.8	11.9	12.7	13.9	13.7	14.4
Patients who were discharged from hospital alive	1892	2125	1913	1834	1928	2,152	2,333	2,370	2,578
Rehospitalization rates (30 d), %	13.8	12.6	14.1	12.4	14.2	14.4	12.7	13.6	13.4
Crude death rates, all causes (per 1000)	18.8	11.7	14.4	19.8	23.3	25.7	27.3	27.0	22.0
65-74 y	7.2	4.8	7.2	7.2	8.5	9.6	9.1	8.5	10.4
75-84 y	20.9	14.9	15.5	25.0	27.7	31.4	33.0	27.5	20.3
Older than 85 y	66.2	32.5	40.8	51.0	65.7	67.0	70.1	83.2	62.4
Female	18.1	9.9	13.7	18.9	22.1	23.8	24.9	25.5	20.2
Male	19.7	14.0	15.2	20.9	24.6	27.8	30.2	28.9	24.0
Adjusted death rates, all causes (per 1000)									
65-74 y	7.7	4.8	5.8	7.9	9.1	9.9	10.1	9.7	7.8
Older than 74 y	30.0	18.7	22.3	30.0	35.2	39.0	41.0	40.7	33.2
Texas age-adjusted mortality rate, 65-74 y		24.2	24.0	23.2	22.2	21.8	20.9	20.8	
Texas age-adjusted mortality rate, older than 75 y		84.0	83.1	80.3	77.7	78.6	76.9	77.3	

Abbreviation: ER, emergency room.

<sup>a</sup>From Texas Department of State Health Services. Vital Statistics Annual Reports (2001-2007). *Table 26a. Age-Adjusted Death Rates by Race/Ethnicity and Gender*. Retrieved November 1, 2010, from <http://www.dshs.state.tx.us/chs/vstat/annrpts.shtm>

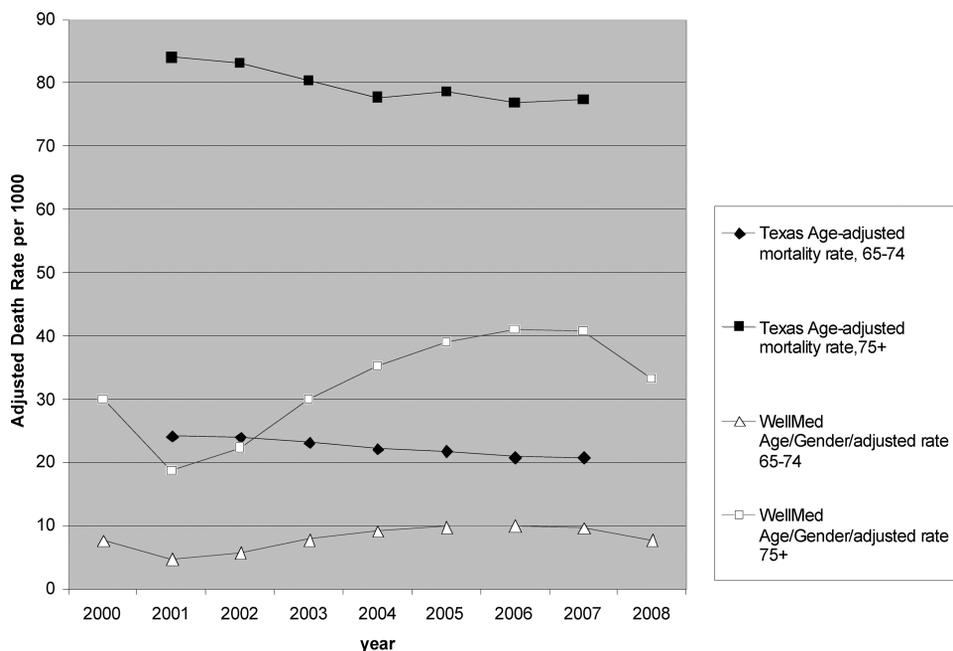
## DISCUSSION

Over a 20-year period, WellMed built a primary care-based ACO using capitated payment models including Medicare Advantage (Rittenhouse et al., 2009). This freed capital to invest in primary care infrastructure, reduce panel size, experiment with clinical teams, use data for quality improvement and strategic referrals, and build support services that individual practices could not otherwise afford. The incentives in Medicare Advantage led WellMed to dramatically improve coding of chronic diseases. This was related to payment incentives but leaders also indicate that this was essential for the capacity to develop registries and improve disease management.

WellMed improved preventive care for the conditions that we measured and achieved remarkably high guideline compliance for diabetes and blood pressure. Their mortality

rates remain well below the state average, but have not improved over the last decade leaving us to wonder that which services before 2000 helped them achieve lower rates, and why those implemented since 2000 have not reduced mortality, hospital admissions, or readmissions any further since 2000. Another potential explanation is that there is a selection process—by patients, Medicare Advantage plans, or both—that explains lower mortality and hospital utilization than the comparison population. WellMed patients are older and more likely to be male (features typically associated with worse outcomes) than the Texas Medicare population.

WellMed uses internal demonstration projects to implement PCMH elements, meaning that there is no systemwide implementation date for any given service, making it difficult to tie outcome improvements to specific elements. Although it is frustrating



**Figure 2.** Adjusted mortality per 1000, WellMed versus Texas. Texas mortality rates at: <http://www.dshs.state.tx.us/CHS/VSTAT>, Vital Statistics Table 26.

to not have distinct implementation points that permit clear evaluation, there is a lesson in that even an experienced organization like WellMed must facilitate and experiment with change rather than roll it out over a short time period. This lesson may support the proposed Primary Care Extension Program authorized by the Affordable Care Act. This extension program would facilitate change in practices, potentially shortening the time of PCMH transformation. One of the main experiments that WellMed has emphasized is testing which services operate better within practices and which are better provided centrally. For example, health coaches ultimately proved more effective if located within the clinic. Medical Home experiments like the Vermont Blueprint for Health Community Care Teams may need to likewise test more integration of community-based services with practices. Hospitals forming ACOs through alliances or purchases of community practices may also need to experiment with a variety of ways of providing primary care supports and service integration than they have done previously.

This arrangement, an ACO built out of PCMH components, is but one model consistent with the vision espoused by the Medicare Payment Advisory Commission (Medpac, 2009). Despite not having a hospital partner, WellMed gives its medical homes and their patients access to services that individual clinics might have difficulty affording. Unhappy with its outdated electronic record and unable to find a commercial product that met their needs, WellMed contracted with programmers to build a system to their specifications. Most clinics and clinic networks without hospital partners cannot afford such custom builds, and most with hospital partners have historically had difficulty configuring systems that meet both hospital and clinic needs. The robustness of its information management system and full access to all Medicare Advantage data allows WellMed to monitor patient and population outcomes and identify weaknesses in their system and patients at high risk. They also use it to monitor the quality of the hospitals and specialists they do use, and when they determine problems with access to particular specialty services, they

hire these services and put them on a circuit to service individual clinics. The organization also implemented pharmaceutical benefits to prevent patients from entering the Medicare part D “doughnut hole,” a transportation company to increase access and prevent missed appointments, have their own inpatient hospitalists and care management teams to improve continuity, and for treatment planning and transitions. These overarching features and culture speak to something larger than a medical home, approaching something akin to integrated service delivery networks but without owning hospitals or multispecialty groups.

This study has several limitations. First, we rely mainly on administrative data that were collected for purposes other than research. More importantly, these data are not available before 2000. Thus, trends in particular conditions and other outcomes reflect decisions about what to track. There were strong financial incentives to improve chronic disease diagnoses and coding. The underre-

porting of diagnosis codes in the earlier years precludes a meaningful risk adjustment of mortality rates. Finally, the incompleteness of laboratory data from WellMed limits the range of health outcomes that we were able to examine.

Next steps in our evaluation include further internal comparisons with archival data and disease-specific outcomes, a qualitative study focused on how WellMed arrived at its current model and the hurdles it had to overcome, an external comparison to other Medicare beneficiaries, and a financial assessment of the cost and returns of this model. At a recent White House roundtable, several PCMH demonstration projects reported on similar improvements in as little as 2 years (Grumbach et al., 2009). Even though we may not be able to discern which PCMH elements are most important, we hope to contribute to the understanding of which elements are collectively important, methods of implementation, and the costs/returns of operating a primary care ACO.

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