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If We Build It, Who Will Come?:

Working-Age Adults With Chronic Health Care Needs and the Medical Home

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Abstract

Background—Currently, there is a call to implement and test the patient-centered medical home in adult populations, particularly among those with chronic conditions. However, the size, composition, and service use of the population who might require this coordinated care model need to be assessed, as does the way they are defined and identified.

Objectives—Using nationally representative data from the 2002 to 2004 Medical Expenditure Panel Survey, we provide a preliminary profile of the population of working-age adults with chronic health care needs (ACHCN), including those with chronic health conditions and disabilities.

Results—ACHCN comprised the majority (52%) of the working-aged population. Relative to persons without chronic health care needs, they had significantly more service use, access problems, and 4 times more health care expenditures. Of the 2 disability groups within the larger population of ACHCN, those reporting need for help or supervision with activities of daily livings (ADLs) or instrumental ADLs (IADLs) had the highest rates/percentages of the following: mean chronic (3.5) and acute (4.4) conditions during the year, service use (all services), and access problems. The ADL/IADL-limited group reported annual medical expenditures totaling 100 billion dollars, more than what was spent on the entire working-age population without chronic health care needs.

Conclusions—These data reveal the drawbacks of selecting the potential population targeted for a medical home on the basis of diagnosis alone. New measurement approaches on the basis of shared need for ongoing health and related services are required to bridge the division between disability and chronic health conditions.

Keywords

patient-centered care; chronic illness; people with disabilities; health care reform

The US health care system is not adequately addressing the needs of people with chronic conditions.¹ This is disturbing because the majority of American adults have at least one chronic health condition.² The combined effects of dissatisfaction with the current system,

rising costs, and burdened health care payment systems have fueled a move toward broader application of coordinated care models, in which primary care and family medicine doctors will play a leading role.^{3–5} The American Academy of Family Practice, the American College of Physicians, and other organizations representing the major adult primary care specialties have endorsed the patient-centered medical home (PCMH), a practice model now being tested in adult demonstration projects across the country.^{5,6} The National Committee for Quality Assurance defines the PCMH as a model of care in which each patient has an ongoing relationship with a personal physician who leads a team responsible for meeting many of the patient's health care needs and for arranging appropriate care from other qualified physicians and providers as necessary.^{7,8}

The medical home model gained traction in the pediatric population during the mid-1990s, at a time when researchers defined children with special health care needs (CSHCN) principally upon the basis of their elevated needs for health services over time.⁹ Nationally representative estimates are now available relative to the size, composition, and service use of CSHCN. In turn, the medical home has become one important standard for care of children with either disabilities or chronic conditions which necessitate the frequent, ongoing use of medical or health-related services.^{10,11}

Unfortunately, such definitions and estimates have yet to be developed for adults. Policymakers and providers are thus moving forward to implement coordinated care models in adult populations without a full understanding of the distribution of service use, or the individual and system level characteristics which may drive it, among those with ongoing needs for care. For example, Congress recently charged CMS to aim efforts for their medical home demonstration program at “high-need populations.”¹² But, who are these populations, and what are their needs? Using existing national data, our goal is to provide a preliminary profile of working-age adults with chronic health care needs (ACHCN) as a foundation for more clearly articulated definitions and associated estimates of that portion of the population which might particularly benefit from the coordinated care the medical home promises to deliver. We focus specifically upon working-age adults (18–65 years) because of the large size of this age group, issues concerning lack of insurance, differences in role expectations compared with older adults, and to date, insufficient attention to their service needs.

METHODS

Data Source

There are several nationally representative health surveys that include data on chronic health conditions, disability, and health care utilization, such as the National Health Interview Survey, the National Health and Nutrition Examination Survey, or the Behavioral Risk Factor Surveillance System. However, the Medical Expenditure Panel Survey (MEPS, conducted by the Agency for Healthcare Research and Quality) is the only such survey that simultaneously provides a full enumeration of respondent medical conditions, a rich complement of disability measures and thorough coverage of health care service utilization including associated costs. We thus created a pooled annual file from the 2002–2004 MEPS-household component (HC)^{13,14} and the related files for medical conditions and medical events during those years. We obtained a final sample of 58,408 upon which we base our estimates of the approximately 177 million working-aged adults in the United States. The National Institutes of Health Office of human subjects research determined that federal regulations for the protection of human subjects do not apply to this work because these data are in the public domain.

Identifying ACHCN

To identify the potential ACHCN population, we adapted a list of chronic medical conditions created by Hwang et al¹⁵ and applied it to the International Classification of Disease (ICD-9-CM) codes provided in MEPS.^{2,16,17} This list includes each reported medical or mental health condition expected to last at least 12 months and to result in a need for ongoing intervention (including regularly prescribed medications, therapies from health professionals, specialized medical equipment or protocols affecting diet or physical activity) and/or limitations (including age appropriate task performance, activities of daily living [ADLs], instrumental activities of daily living [IADLs] or social interactions). Persons reporting one or more of the listed conditions were flagged as being ACHCN, whereas individuals without these conditions comprised the contrast group. Disability was assessed using the limitation measures in the MEPS-HC, including the following domains: physical functioning, sensory impairment, cognitive difficulties, activities such as work, housework or school, social limitations, use of assistive devices, and ADLs/IADLs (help or supervision with activities such as dressing, bathing, meals, taking medications). We categorized 4 groups of adults as follows: (1) those without chronic conditions (contrast group) and 3 subgroups of ACHCN with at least one chronic condition including the following: (i) those without self-reported limitations, (ii) those reporting limitations other than in ADLs or IADLs, and (iii) those receiving help or supervision with ADLs or IADLs.

Measures

We measured differences between the groups on the basis of age, gender, race/ethnicity, education, poverty, insurance coverage status, overall health, overall mental health, obesity, low exercise, and smoking status. We also measured the mean number of medical conditions, separately for chronic and acute conditions. Regarding service use, we first examined face-to-face ambulatory care visits to medical doctors (primary care and general practitioners were examined separately from other specialists). We then examined visits to non-MD providers, annual hospitalizations, emergency room visits, home health days, and prescription fills/refills. For general medical care services and for prescription medications, we examined the percentage reporting delay or nonreceipt during the year, reflecting access to care. Finally, we measured total annual medical expenditures by person and by total for each analytic group.

Statistical Analysis

We conducted a series of bivariate and multivariate analyses comparing the following: (1) ACHCN to the contrast group, (2) the 3 ACHCN subgroups to one another, and (3) the 3 ACHCN subgroups to the contrast group. For pairwise *t* tests of significance (Table 1 and Fig. 1), we adjusted the findings for multiple comparisons on the basis of the false discovery rate, a Bonferroni-like approach which controls falsely accepted hypotheses on the basis of the number of comparisons made and the rank order of their obtained *P* values.¹⁸ For comparisons involving service use, we fit 2-part models that controlled for age, gender, race/ethnicity, education, poverty, and insurance status and used logistic regression to predict any service use. Subsequently, log-link modeling was used to estimate average annual visits among those with at least one visit. We present predicted marginal estimates from these models in Table 2. We used logistic regression to control for these same covariates when estimating the percentage of persons reporting access problems. We present predicted marginal estimates from models fitted for all working-aged adults, and for just the uninsured among them (Fig. 2). Finally, we present Consumer Price Index inflation adjusted, average annual estimates of expenditures in 2002 dollars for the contrast group, for all ACHCN, and the 3 ACHCN subgroups (Fig. 3). All estimates, standard errors, tests of significance, and models are based on a Taylor series linearization which adjusts for the complex sampling plan in the MEPS-HC.

RESULTS

Sociodemographics, Resources, and Health Status Among ACHCN

Basic demographics and health status measures of the study groups are recorded in Table 1. The majority of working-age adults, 91 million individuals, were categorized as ACHCN. Although 67 million individuals (73% of ACHCN) had no limitations in functioning or activities, the remaining 25 million (27% of ACHCN) had at least some degree of limitation. Six million persons reported that they did need the help or supervision of another person in ADLs/IADLs.

ACHCN were a significantly older population, had a higher percentage of women, and included significantly lower percentages of racial and ethnic minorities than did those without chronic healthcare needs. Each of these measures also differed on the basis of limitation level; ACHCN with any level of limitation were older and more likely to be women than those who did not report limitations. The percentage of persons who were African American increased significantly with each rise in limitation level, leaving a higher percentage of African Americans in the ADL/IADL limitation group compared with the contrast group.

As limitation levels increased within the ACHCN group, both income and education levels decreased significantly such that 27% of persons with ADL/IADL limitations did not have a high school degree and 37% were poor or near poor. Although it is the contrast group which clearly reported the lowest rates of insurance coverage, it is critical to note that many ACHCN, even those with extensive limitations, struggled to maintain stable insurance coverage. Approximately 20% of ACHCN with ADL/IADL limitations had at least one month without coverage during the year.

ACHCN were significantly more likely to report that they were in fair to poor overall (29%) and mental health (18%). Meanwhile, it was ACHCN with limitations who reported the most compromised health status measurements, all the more so when those limitations affect ADLs/IADLs.

Health Conditions Among ACHCN

ACHCN live with not just one particular chronic condition during the year, but with multiple health conditions, both chronic and acute. Indeed, as shown in Figure 1, the mean annual number of acute conditions was twice as high among ACHCN as it was among the contrast group and increased significantly with limitation level. Some of the acute conditions most frequently reported by ACHCN included nasopharyngitis (12%), intestinal infection (10%), influenza (5%), bronchitis (5%), and gastrointestinal system symptoms (3%).

Multiple chronic conditions were not the exception, but the norm among ACHCN, who had an average of 2 such conditions. The number of chronic conditions again increased with each increase in limitation level. Hence, individuals reporting ADL or IADL limitations reported the highest numbers of both chronic (3.5) and acute (4.4) conditions for a total of 7.9 conditions on average during the year. A brief review of the most commonly reported chronic conditions among our sample of ACHCN includes hypertension (26%), allergies (19%), depression (17%), disorders of lipid metabolism (16%), arthropathies (11%), diabetes (10%), and asthma (8%). We also examined the prevalence of select pairs and triplets of these chronic conditions. For instance, despite the high single prevalence rates of hypertension, depression, and diabetes, less than 1% reported all 3 conditions simultaneously. Among those who did have all 3 conditions, an average of 3.6 additional chronic conditions was also reported, suggesting complex combinations of conditions in this population.

Service Use

Across virtually every type of care analyzed, we found that ACHCN had significantly higher visits/mean use rates than did adults without chronic health care needs, as shown in Table 2. Furthermore, within the ACHCN group we found that utilization rates were significantly higher among ACHCN with limitations than without, and highest of all for ACHCN who needed help with ADLs/IADLs. Among persons with at least one ambulatory visit to a given provider, the typical ACHCN with ADL/IADL limitations reported an estimated 4 primary care visits, 11 visits with specialty doctors, and 13 visits with non-MD providers during the year. Of the ADL/IADL-limited group, 26% reported at least 1 hospitalization and 33% reported at least 1 emergency room visit. Twenty percent used home health services and virtually all used prescription medications.

Access to Care

Relative to the contrast group, all 3 ACHCN subgroups reported significantly more problems in the delivery of general medical services and prescription medications (Fig. 2). Not surprisingly, persons without continuous insurance coverage reported much higher rates of access problems. Therefore, ACHCN with ADL/IADL limitations and with a gap in coverage reported the highest estimated rates of access problems, with 28% reporting a delay or nonreceipt of prescription medications and 35% reporting delay or nonreceipt of medical care services.

Expenditures for Care

On average, 4 times as much was spent on the ACHCN population (\$423 billion) than on the population without chronic health care needs (\$91 billion) despite the fact that these 2 groups are close to the same size among the working-aged (Fig. 3) adults. However, the bulk of the costs among ACHCN were spent on the 2 smaller groups with limitations, who together, accounted for some 224 billion in annual expenditures. The smallest of the groups, ACHCN with ADL/IADL limitations, represents only 3% of the working-aged, but with 100 billion in expenditures, accounted for more total dollars than did the entire non-ACHCN contrast group.

CONCLUSIONS

Some proponents view the PCMH as a vehicle for fundamental reform of how ambulatory care could be organized, provided, and financed in the United States. From this perspective, the medical home promises to counter the overspecialization and fragmentation of care in our system, enhance primary care and coordination of services, support behavioral changes necessary for preventive care, and rebalance expenditures toward a longer term vision of health.^{5,12,19,20} However, others argue that the medical home should more strictly target persons with complex extant health service needs, particularly at first. From this more incremental perspective, one size does not fit all, the patient should retain the choice of whether to join a medical home, the incentives for providers to coordinate their services may prove complex to align, and the expansion of the role of primary care doctors may be costly.^{3,4,8,21,22}

Except for the pediatric sector, the medical home remains more of a goal than a practical reality thus far. To continue moving forward, we need to establish who will most benefit from a medical home in order to know what to build. Our results show that the medical home should likely include more than just the elderly population. There are indeed large numbers of working-age Americans with chronic conditions and/or disabilities who use multiple health services from different provider types in a given year. Whether we turn our attention to their utilization of services, their access problems, or their costs, in theory, all

ACHCN might benefit from the medical home. However, since ACHCN are the majority of the working-aged, it is also important to identify subgroups where service use runs especially high, where access problems are most evident, and where costs are disproportionately large. This is precisely the case for the approximately 27% of ACHCN reporting limitations, who have the most compromised health, the highest levels of service use, and more importantly, the highest use of services which are most costly and difficult to coordinate, such as hospitalizations, emergency room visits, and home health. More specifically, it is ACHCN requiring help with ADLs or IADLs for whom the benefits could be the most direct, assuming that the medical home in question is both physically and programmatically accessible for people with disabilities.

The data presented here also reveal the difficulty of selecting individuals for a medical home or other care coordination activities on the basis of diagnosis alone. Complex, concurrent combinations of chronic and acute conditions are the norm among ACHCN. Hence, targeting patients for medical home benefits on the basis of a short list of health conditions will likely misallocate resources. One possible solution meriting further investigation is the use of patient-reported functional and activity limitations as a supplement to diagnoses when the time comes to identify patients needing a medical home. Alternatively, the choice of which patients to include and exclude could be based on elevated need(s) for particular health services that are expected to persist over time, as has been done in the pediatric realm. Appearing in Healthy People 2010, the CSHCN criteria have not only been adapted for use in clinical and health plan settings, but also have steered broader health policy discussions and health services research. The MEPS itself now contains a series of screening questions that researchers can use to identify and study the CSHCN population directly.

Such criteria and screeners are not yet available for the working-age population and so this study has several limitations. Ultimately, we can only present estimates of the distribution of current service use and not service need. Further, as the present analyses do remain contingent on respondent reports of medical conditions, these estimates may reflect some degree of undercount (particularly of undiagnosed health conditions).²³ On the other hand, relative to the medical viewpoint, respondents may also over-report some health conditions.²³ For 23 highly prevalent condition categories (some chronic, some acute), a recent study calculated an overall sensitivity rate of 74% when respondent reports in the MEPS were compared with medical provider reports.²⁴ In addition, we observed a range of health care utilization patterns among the groups we analyzed; not every person with a chronic condition is necessarily a “high-end” health care user. Finally, the data we analyzed cannot support conclusions about the potential cost savings (or expenses) of care coordination.

Despite these limitations, these figures do provide a place to start. They describe the likely breadth and scope of chronic health care needs among the working-aged, remind us of the importance of disability, and provide preliminary estimates that can help to inform more formal clinical and research definitions of a population looking for a medical home. Many further questions that concern how to build the PCMH for ACHCN remain to be addressed. Future research should consider such domains as universal design, organizational capacity, administrative issues, reimbursement, and marketing.

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FIGURE 1.

Mean number of chronic and acute health conditions among working-age ACHCN and 3 subgroups: Pooled, weighted annual estimates, MEPS 2002–2004. Significance (after controlling the false discovery rate): Acute conditions: All 3 subgroups of ACHCN differ significantly ($P < 0.05$) from one another and from the contrast group. ACHCN as a whole also have significantly higher mean acute conditions than do the contrast group. Chronic conditions: All 3 subgroups of ACHCN differ significantly from one another.

FIGURE 2.

Covariate-controlled marginal percentages reporting delay in or nonreceipt of medical care services and prescription medications: Pooled, weighted annual estimates for all working-age adults and for adults with one or more months uninsured, MEPS 2002–2004. Among all working-age adults, all possible pairwise marginal comparisons of the contrast and 3 ACHCN subgroups differed significantly ($P < 0.05$) after controlling covariates. This was the case for both the medical services and prescription medication models. Among only adults reporting one or more months uninsured, we again found that all possible pairwise marginal comparisons differed significantly after controlling covariates in both the medical services and prescription medication models.

FIGURE 3.

Medical care expenditures from all sources at the population (totals in billions of dollars) and individual (median in dollars) levels, by population group size (percentage of total working-age persons): Pooled, weighted annual estimates, MEPS 2002–2004. Dollar figures reflect inflation adjustment to 2002. We present person level expenditures as medians because the expenditure data are skewed. For reference, the mean total expenditures per person are as follows: Adults without chronic health care needs, \$1067.20; ACHCN (all), \$4624.33; ACHCN no limitation, \$2974.59; ACHCN with limitations not affecting ADLs/IADLs, \$6663.22; ACHCN with ADL/IADL limitations, \$16,869.49.

TABLE 1

Working-Age Adults With and Without Chronic Health Care Needs*

	ACHCN Subgroups				ADL/IADL Limitations [¶]
	Adults Without CHCN [†]	ACHCN (All) [‡]	No Limitation [§]	Limitation Not Affecting ADL/IADL [¶]	
Sample and population distributions					
N (unweighted sample sizes)	29,237	29,171	20,399	6472	2300
Weighted percent (SE)	48.24% (0.39)	51.76% (0.39)	37.85% (0.36)	10.57% (0.25)	3.34% (0.13)
ACHCN only, weighted percent (SE)	0%	100%	73.12% (0.53)	20.43% (0.43)	6.45% (0.24)
Weighted totals (millions per group)	85.30 (2.02)	91.52 (1.90)	66.92 (1.52)	18.70 (0.52)	5.90 (0.25)
Sociodemographics and resources					
Mean age (SE)	36.65 (0.12) ^{§¶}	44.58 (0.14) [‡]	43.18 (0.16) ^{‡¶¶}	48.47 (0.21) ^{‡§}	48.16 (0.35) ^{‡§}
Percent female (SE)	44.56% (0.45) ^{§¶¶}	56.99% (0.33) [‡]	56.19% (0.40) ^{‡¶¶}	58.76% (0.89) ^{‡§}	60.53% (1.44) ^{‡§}
Race/ethnicity					
Percent white, not Hispanic (SE)	61.48% (0.89) ^{§¶¶}	74.70% (0.71) [‡]	75.76% (0.72) ^{‡¶¶}	72.86% (1.04) ^{‡§¶}	68.53% (1.53) ^{‡§¶}
Percent black, not Hispanic (SE)	12.51% (0.57) ^{§¶}	10.77% (0.48) [‡]	9.74% (0.50) ^{‡¶¶}	12.79% (0.71) ^{§¶}	15.94% (1.14) ^{‡§¶}
Percent other/multiple race, not Hispanic (SE)	7.88% (0.42) ^{§¶}	5.52% (0.31) [‡]	5.35% (0.31) [‡]	5.83% (0.56) [‡]	6.50% (0.88)
Hispanic, any race(s) (SE)	18.12% (0.76) ^{§¶¶}	9.01% (0.46) [‡]	9.15% (0.48) [‡]	8.52% (0.57) [‡]	9.02% (0.83) [‡]
Percent no high school degree or GED (SE)	16.73% (0.48) ^{§¶}	12.50% (0.36) [‡]	9.70% (0.33) ^{‡¶¶}	17.83% (0.66) ^{§¶}	27.31% (1.41) ^{‡§¶}
Percent poor or near poor (<125% FPL) (SE)	14.00% (0.41) ^{§¶¶}	14.17% (0.43)	9.33% (0.32) ^{‡¶¶}	24.06% (0.89) ^{‡§¶}	37.80% (1.39) ^{‡§¶}
Insurance coverage status					
Insured all year (SE)	64.81% (0.56) ^{§¶¶}	79.05% (0.44) [‡]	79.89% (0.48) ^{‡¶}	75.98% (0.74) ^{‡§¶}	79.27% (1.24) ^{‡¶}
Uninsured part year (SE)	13.46% (0.29) ^{§¶¶}	10.56% (0.22) [‡]	10.19% (0.26) ^{‡¶}	11.62% (0.51) ^{‡§}	11.29% (0.95) [‡]
Uninsured all year (SE)	21.73% (0.49) ^{§¶¶}	10.39% (0.34) [‡]	9.92% (0.36) ^{‡¶}	12.40% (0.53) ^{‡§¶}	9.44% (0.75) ^{‡¶}
Health related measures, percent (SE)					
Poor or fair overall health at one or more rounds (SE)	8.77% (0.26) ^{§¶¶}	28.64% (0.52) [‡]	16.30% (0.34) ^{‡¶¶}	56.86% (0.92) ^{‡§¶}	79.43% (1.17) ^{‡§¶}
Poor or fair mental health at one or more rounds (SE)	4.89% (0.20) ^{§¶¶}	17.99% (0.42) [‡]	9.66% (0.26) ^{‡¶¶}	35.14% (1.00) ^{‡§¶}	58.32% (1.53) ^{‡§¶}
Body mass index 30 (SE)	19.64% (0.38) ^{§¶¶}	31.78% (0.41) [‡]	28.02% (0.45) ^{‡¶¶}	41.85% (0.87) ^{‡§}	42.60% (1.43) ^{‡§}
Moderate-vigorous physical activity <3x/wk (SE)	39.21% (0.58) ^{§¶¶}	45.05% (0.47) [‡]	40.42% (0.55) ^{‡¶¶}	54.11% (0.82) ^{‡§¶}	68.89% (1.35) ^{‡§¶}

	ACHCN Subgroups				
	Adults Without CHCN [†]	ACHCN (AID) [‡]	No Limitation [§]	Limitation Not Affecting ADL/IADL [¶]	ADL/IADL Limitations ^{//}
Currently smoke (SE)	23.60% (0.46) ^{§¶}	24.12% (0.45)	20.92% (0.48) ^{‡¶}	31.88% (0.82) ^{‡§}	35.76% (1.52) ^{‡§¶}

* Sample sizes, estimated population group sizes, sociodemographics, resources, and health status; pooled average annual estimates, MEPS 2002–2004.

Statistical significance on a given row after controlling the false discovery rate:

[†] Differs significantly ($P < 0.05$) from the estimate for adults without chronic healthcare needs (the contrast group).

[‡] All ACHCN (regardless of limitation) differ ($P < 0.05$) from the contrast group (adults without chronic healthcare needs).

[§] Differs significantly ($P < 0.05$) from the estimate for ACHCN with no limitations.

[¶] Differs significantly ($P < 0.05$) from the estimate for ACHCN with limitation(s) not affecting ADLs or IADLs.

^{//} Differs significantly ($P < 0.05$) from the estimate for ACHCN with ADL/IADL limitation(s).

SE indicates standard error; ADL, activities of daily living; IADLs, instrumental activities of daily living; ACHCN, adults with chronic health care needs; CHCN, chronic health care needs; GED, general educational development test; FPL, federal poverty level.

TABLE 2
Use of Health and Health-Related Services and Goods Among Working-Aged Adults With and Without Chronic Health Care Needs*

	Adults Without CHCN [†]	ACHCN [‡]	No Limitation [§]	ACHCN Subgroups	
				Limitation not Affecting ADL/IADL [¶]	ADL/IADL Limitations
Care received in ambulatory settings					
In total					
Percent with any ambulatory visit during year, (SEE)	56.98% (0.47) ^{\$}	85.89% (0.32) [‡]	83.77% (0.39) ^{‡¶}	91.41% (0.39) ^{‡\$}	93.83% (0.64) ^{‡\$¶}
Among persons with 1+ visit(s), mean visits, (SEE)	4.82 (0.10) ^{\$¶}	9.46 (0.13) [‡]	7.22 (0.11) ^{‡¶}	14.09 (0.34) ^{‡\$}	20.77 (0.75) ^{‡\$¶}
From physicians					
Primary care physician(s)					
Percent with 1+ visits, (SEE)	26.70% (0.39) ^{\$¶}	52.49% (0.53) [‡]	50.86% (0.59) ^{‡¶}	57.68% (0.83) ^{‡\$}	56.66% (1.58) ^{‡\$}
Among persons with 1+ visit(s), mean visits, (SEE)	1.86 (0.03) ^{\$¶}	2.73 (0.03) [‡]	2.41 (0.03) ^{‡¶}	3.32 (0.07) ^{‡\$}	4.03 (0.18) ^{‡\$¶}
Medical specialist(s)					
Percent with 1+ visits, (SEE)	32.79% (0.44) ^{\$¶}	58.28% (0.47) [‡]	54.05% (0.54) ^{‡¶}	68.58% (0.73) ^{‡\$}	78.95% (1.02) ^{‡\$¶}
Among persons with 1+ visit(s), mean visits, (SEE)	3.30 (0.06) ^{\$¶}	5.44 (0.09) [‡]	4.32 (0.08) ^{‡¶}	7.12 (0.18) ^{‡\$}	10.63 (0.44) ^{‡\$¶}
From non-MD providers					
Percent with 1+ visits, (SEE)	26.94% (0.51) ^{\$¶}	48.32% (0.57) [‡]	44.78% (0.62) ^{‡¶}	58.65% (0.86) ^{‡\$}	60.53% (1.38) ^{‡\$}
Among persons with 1+ visit(s), mean visits, (SEE)	4.17 (0.18) ^{\$¶}	6.65 (0.14) [‡]	5.04 (0.12) ^{‡¶}	9.55 (0.38) ^{‡\$}	13.48 (0.79) ^{‡\$¶}
Care and services received in other settings					
Hospitalizations					
Percent with any hospitalization during year, (SEE)	4.48% (0.17) ^{\$¶}	8.46% (0.20) [‡]	5.82% (0.18) ^{‡¶}	12.77% (0.47) ^{‡\$}	25.53% (1.14) ^{‡\$¶}
Among persons with 1+ hospitalizations, mean hospitalizations during year, (SEE)	1.11 (0.01) ^{\$¶}	1.31 (0.02) [‡]	1.18 (0.02) ^{‡¶}	1.30 (0.02) ^{‡\$}	1.63 (0.07) ^{‡\$¶}
Emergency room use					
Percent with any ER visit during year, (SEE)	8.74% (0.21) ^{\$¶}	16.98% (0.30) [‡]	13.74% (0.29) ^{‡¶}	24.37% (0.70) ^{‡\$}	32.91% (1.31) ^{‡\$¶}
Among persons with 1+ ER visits, mean ER visits during year, (SEE)	1.24 (0.02) ^{\$¶}	1.45 (0.02) [‡]	1.32 (0.02) ^{‡¶}	1.48 (0.03) ^{‡\$}	1.98 (0.08) ^{‡\$¶}
Home health ^{**}					
Percent with any home health during year, (SEE)	—	2.04% (0.11)	.37% (0.06) [¶]	2.34% (0.20) ^{\$}	20.06% (1.17) ^{\$¶}

	ACHCN Subgroups			
	Adults Without CHCN [†]	ACHCN [‡]	No Limitation [§]	Limitation not Affecting ADL/IADL [¶]
Among persons with any home health, mean provider days during year, (SEE)	—	74.51 (6.33)	11.15 (2.92)//	20.27 (3.53)//
Prescription medications				
Percent with any prescribed medicine past year, (SEE)	41.92% (0.46) ^{§¶//}	86.50% (0.32) [‡]	84.94% (0.35) ^{‡¶//}	90.21% (0.51) ^{‡§//}
Among persons with any prescribed medicine, mean number of fills/refills during year, (SEE)	5.32 (0.11) ^{§¶//}	17.51 (0.24) [‡]	13.33 (0.19) ^{‡¶//}	24.28 (0.47) ^{‡§//}

* Covariate-adjusted, predicted marginal estimates, standard errors of the estimates and pairwise significance tests, MEPS 2002–2004.

[†] Differs significantly ($P < 0.05$) from the estimate for adults without chronic healthcare needs (the contrast group).

[‡] Indicates a significant difference ($P < 0.05$) when the estimates for all ACHCN are compared with estimates for the contrast group of adults without chronic healthcare needs on the given row. These comparisons control for covariates (age, gender, race/ethnicity, education, income, and insurance status), but the variables used to measure limitation level are removed from the given model, and a single dichotomous variable (ACHCN vs. contrast group) is used to generate the estimates.

[§] Differs significantly ($P < 0.05$) from the estimate for ACHCN with no limitations.

[¶] Differs significantly ($P < 0.05$) from the estimate for ACHCN with limitation(s) not affecting ADLs or IADLs.

// Differs significantly ($P < 0.05$) from the estimate for ACHCN with ADL/IADL limitation(s).

** These estimates of home health use are strictly bivariate. In the contrast group and ACHCN without limitation group, the cell sizes were too small to support multivariate analysis, due to the very low use of home health services in these groups. In addition, the relative standard errors among the contrast group (adults without chronic health care needs) for home health use exceeded 30%, and so we suppressed these estimates accordingly.

SEE indicates standard error of the estimate; ADL, activities of daily living; IADLs, instrumental activities of daily living; ACHCN, adults with chronic health care needs; CHCN, chronic health care needs.