

OCCASIONAL NOTES

What's Keeping Us So Busy in Primary Care? A Snapshot from One Practice

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Primary care practices typically measure productivity according to the number of visits, which also drives payment. Work that does not involve a visit from a patient is invisible to those who support and purchase primary care. Several studies have estimated the amount of time that primary care physicians devote to nonvisit work.^{1,2} To provide a more detailed description, my colleagues and I used our electronic health record to count units of primary care work during the course of a year.

PRACTICE PROFILE

Greenhouse Internists is a community-based internal medicine practice employing five physicians in Philadelphia. In 2008, we had an active caseload of 8440 patients between 15 and 99 years of age. Of these patients, 68.6% were women; 59.5% were black, 29.8% were white, and 10.7% were another racial or ethnic group or were not identified. Our payer mix included 7.2% of payments from Medicaid (exclusively through Medicaid health maintenance organizations), 21.5% from Medicare (of which 14.0% were fee-for-service and 7.5% capitated), 64.7% from commercial insurers (34.5% fee-for-service and 30.2% capitated), and 6.5% from pay-for-performance programs. With the exclusion of copayments and fee-for-service payments received on behalf of patients in capitated plans, 35.2% of our total revenue came through capitation.

Throughout 2008, our physicians provided 118.5 scheduled visit-hours per week, ranging from 15 to 31 weekly hours each. We regard this schedule as equivalent to the work of four full-time physicians, with physicians typically working 50 to 60 hours per week. Our staff included four medical assistants, five front-desk staff, one business manager, one billing manager, one health educator (hired midyear), and two full-time clerical staff. Our staffing ratio was approx-

imately 3.5 full-time support staff per full-time physician. We had no nurses or midlevel practitioners. We saw patients from 7 a.m. to 7 or 8 p.m. on weekdays and from 8 a.m. to noon on Saturdays and did not provide hospital care.

METHODS

We use an electronic health record, which we adopted in July 2004³ and use exclusively to store, retrieve, and manage clinical information. Our electronic system came with 24 "document types" that function like tabs in a paper chart to organize documents, dividing clinical information into categories such as "office visit," "phone note," "lab report," and "imaging." Since all data about patients is stored in the electronic record (either as structured data or as scanned PDFs) and each document is signed electronically by a physician, we are able to measure accurately the volume of documents, which serve as proxies for clinical activities, in a given time period. We queried our electronic health record for the volume of various document types during the 2008 calendar year. We performed a detailed review of all telephone calls and e-mails during a 1-week convenience sample to describe the work, content, and actions associated with these activities.

THE WORK OF PRIMARY CARE

DOCUMENT TYPES

The volume and types of documents that we receive, process, and create are listed in Table 1, reported as the number of services per visit, per physician per day, and per patient per year. Some high-volume categories of documents are not reported, largely because they are not carefully indexed. Such documents include administrative forms (e.g., for physical examinations for work, camp, and school and Family Medical Leave Act forms), correspondence received from health plans

Table 1. Volume and Types of Services for an Active Caseload of 8440 Patients at Greenhouse Internists in 2008.*

Type of Service	Total No.	No. per Visit	No. per Physician per Day†	No. per Patient per Yr
Visit	16,640	NA	18.1	2.0
Telephone call	21,796	1.31	23.7	2.6
Prescription refill	11,145	0.67	12.1	1.3
E-mail message	15,499	0.93	16.8	1.8
Laboratory report	17,974	1.08	19.5	2.1
Imaging report	10,229	0.61	11.1	1.2
Consultation report	12,822	0.77	13.9	1.5

* Patients were included in the active caseload if they had any interaction with the practice in the listed categories of activities during calendar year 2008. NA denotes not applicable.

† The values are based on the work of four full-time-equivalent physicians who each worked 50 to 60 hours per week for 230 workdays per year.

(e.g., disease-management letters), and reports on home care and physical therapy. Although such documents are not reported here, they represent a substantial amount of work in a practice.⁴ It is illuminating to describe the work by physicians that is associated with taking responsibility for these documents.

TELEPHONE CALLS

Telephone calls that were determined to be of sufficient clinical import to engage a physician averaged 23.7 per physician per day, with 79.7% of such calls handled directly by physicians. Table 2 shows an analysis of telephone calls, according to which staff member handled the call, subject matter, and associated activity. Of these calls, 35.7% were for an acute problem, 26.0% were for administrative purposes (e.g., prior authorization for insurance or employer-required documents), 6.3% were for discussion with other members of the treatment team (e.g., emergency room physicians or specialists), 17.5% were for discussion or interpretation of test results (which is also performed by mail or e-mail), 9.5% were for discussion of advice from specialists or clinical decisions faced by patients, and 5.0% were for clinical follow-up. A total of 27.7% of calls resulted in the writing of a prescription, and 7.8% of calls resulted in the ordering of a test; 21.9% of calls involved an exchange of information with no change in management.

E-MAILS

Physicians averaged 16.8 e-mails per day. Of these electronic communications, 59.3% were for the interpretation of test results, 21.7% were for

response to patients (either initiated by patients through the practice's interactive Web site or as part of an e-mail dialogue with patients), 9.3% were for administrative problems, 5.0% were for acute problems, 2.8% were for proactive outreach to patients, and 1.9% were for discussions with consultants.

PRESCRIPTION REFILLS

Each physician processed 12.1 refills of prescriptions per day, not including refills that were handled during a visit or requested as part of a telephone call involving other issues; multiple medications that were refilled at the same time were counted as a single refill. Each refill request required some level of chart review (e.g., determining the patient's history with the drug and whether any required monitoring had been performed).

LABORATORY REPORTS

Each physician reviewed 19.5 laboratory reports per day, including those ordered through our office (which are delivered to us through an electronic interface and are automatically posted to the database of the electronic health record as numerical values) and those ordered outside our office (which enter our chart as scanned PDFs and are not posted as numerical values). The work cycle of responding to a laboratory result includes interpretation by telephone, letter, or e-mail. (Our office sent 12,541 letters communicating test results, about a third of which were sent by e-mail.) For noninterfaced laboratories, we must decide which values need to be entered manually into the electronic health record by a staff per-

Table 2. Sample of 462 Telephone Calls Logged at Greenhouse Internists for 1 Week in 2008.*

Variable	Example of Service	Proportion of Service within Category %
Staff member who participated in call		
Physician	Return call to acutely ill patient	79.7
Physician requested call by staff member	Check on patient ("Please call Ms. Jones to see how she is doing on her new medication.")	2.4
Staff handled call, physician reviewed results	Convey message to other staff ("Visiting nurse called to say they are closing the case.")	18.0
Subject of call		
Discussion with specialist or other member of the treatment team	Field call from emergency department about a patient	6.3
Acute illness	Advise a patient on evaluation and treatment of acute febrile illness	35.7
Consultation on treatment	Advise a patient on consultation ("My specialist has advised surgery; what do you think?")	9.5
Test interpretation	Interpret a test result for a patient ("The MRI report shows cysts on my kidneys; what does that mean?")	17.5
Administrative task	Handle paperwork for a patient ("Needs prescription to get mammogram." "Drug needs prior authorization.")	26.0
Follow-up or other subject	Seek follow-up information from patient ("Are you feeling any better?")	5.0
Action taken		
Appointment offered in our office	Advise a patient with painful rash to come to office today	5.0
Prescription written or medication modified	Advise a patient with increased blood-pressure reading at home to take an additional medication	27.7
Test ordered (e.g., laboratory or imaging)	Send a patient with persistent fever and cough for chest radiography	7.8
Patient referred to another physician	Refer a patient with abnormal laboratory results to a neurologist	7.8
Additional follow-up required (e.g., completion of form, call to specialist, leave message with anticipated future contact)	Fill out an emergency form to prevent shutoff of electricity for a frail elderly patient	23.8
Patient advised to take over-the-counter medication	Advise a patient with congestion, cough, and sore throat to take antihistamine and anti-inflammatory drugs	6.1
No action taken (e.g., exchange of information, advice to watch and wait, confirmation of previous plan)	Discuss workup results with a specialist; advise a patient to continue current medication; advise against further testing	21.9

* Each call was assigned to the first listed category that described the subject of the call and the action taken. The hierarchy of assignment was the order of categories that are listed. Percentages may not total 100 because of rounding.

son; the values of scanned results cannot be graphed or searched without this step. Laboratory results frequently trigger a review or adjustment of a medication, which requires access to accurate, current medication lists with doses.

IMAGING REPORTS

Each physician reviewed 11.1 imaging reports per day, which usually required communication with patients for interpretation. Such review may require updating problem lists (e.g., a new diag-

nosis of a pulmonary nodule) or further referral (e.g., fine-needle aspiration for a cold thyroid nodule), which generates additional work, since results and recommendations are communicated to patients and consultants.

CONSULTATION REPORTS

Each physician reviewed 13.9 consultation reports per day. Such reports from specialists may require adjustments to a medication list (if a specialist added or changed a medication), changes to a problem list, or a call or e-mail to a patient to explain or reinforce a specialist's recommendation. Some consultation or diagnostic reports relate to standard quality metrics (e.g., eye examinations for patients with diabetes) and need to be recorded in a different manner to support ongoing quality reporting and improvement.⁵

DISCUSSION

The core of primary care remains the longitudinal, trusted relationship with the patient, in which diagnostic skill, therapeutic understanding, and compassion come together for the benefit of the patient who seeks our help. Achieving that mission for patients with varying communication and computer skills is a daily challenge, even as our office faces a fragmented payment system and rapidly evolving technology. The work we describe arises from the needs of patients in a society that assigns many roles to physicians — from making diagnoses and providing treatment to ordering tests and filling out forms — and the practice must be organized to respond reliably. How and by whom the work is done is a continuing project of primary care redesign, dependent on both the skills of available nonphysician staff and the extent of information-technology support.

Before our practice had an electronic health record, we employed a registered nurse. After the implementation of the electronic health record system, much of the work that the nurse performed could be done by staff who did not have nursing skills, and by 2008, we no longer employed a registered nurse. However, on the basis of the analysis described here, we have hired a registered nurse to do “information triage” of incoming laboratory reports, telephone calls, and consultation notes — a completely different job description than what we had before. And we

have made a number of other changes. We have hired additional front-desk staff and medical assistants to handle the increased tasks associated with the comprehensive management of chronic diseases. We have redefined “full-time physician” as one who offers 24 scheduled visit-hours per week, and our internal compensation system now recognizes telephone calls and e-mails as part of our productivity metric.

With each doctor responding to a telephone call or laboratory result a combined average total of 43.2 times a day, we all rely on the availability of comprehensive, contemporaneous structured data. The purpose of documentation has shifted from billing to ongoing clinical care, and the focus of use of the electronic health record has moved from word processing and progress-note generation to information management and active support of clinical-practice activities.

Our percentage of capitated revenue is higher than that in the typical U.S. practice,⁶ but the physician productivity metric that we were using (and that determined approximately 35% of total compensation for associate physicians and the metric allocating compensation for partners) was based on total charges (arising largely from visits), so physicians faced the usual fee-for-service financial incentives. Our practice is participating in a multipayer Patient Centered Medical Home demonstration project⁷ (which allowed us to hire our health educator). This project is overseen by the Pennsylvania governor's office and funded by the three largest commercial insurers and all three Medicaid insurers in our region. Our practice achieved level 3 recognition from the National Committee for Quality Assurance for meeting a variety of criteria for a comprehensive level of advanced primary care services.⁸ No funds were actually received until the last quarter of 2008, however, so this snapshot of our practice perhaps embraces both the past and the future of primary care.

At a time when the primary care system is collapsing⁹ and U.S. medical-school graduates are avoiding the field,¹⁰ it is urgent that we understand the actual work of primary care and find ways to support it. Our snapshot reveals both the magnitude of the challenge and the need for radical change in practice design and payment structure.

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From Greenhouse Internists, Philadelphia.

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