

# Osteoporosis Often Untreated After Hip Fracture

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**T**rends in drug prescribing for osteoporosis following a hip fracture have changed dramatically over the last decade: The proportion of patients treated post fracture has increased, but fewer than one-third are ever prescribed drugs at all, according to a population-based study of nearly 16,000 fracture patients.

In an interview, lead author Suzanne M. Cadarette, Ph.D., said, "Many patients, following hip fracture, still do not receive adequate pharmacotherapy. While there have been some successful quality improvement interventions to address this gap in care, health systems must sit up and recognize that there is a problem."

A total of 15,685 hip fracture patients, all enrollees from the Pennsylvania Pharmaceutical Assistance Contract for the Elderly (PACE), met inclusion criteria. (PACE is a state-run program that provides unrestricted drug coverage for patients aged 65 or older whose income is too high for Medicaid, but below \$20,000. Dr. Cadarette conceded that the relatively low income status of this cohort, and the fact that the majority was white, means that "extrapolating the exact level of care to the rest of the U.S. population may be difficult, but I expect that the general trend of undertreatment holds nationwide.") Although Dr. Cadarette did not confirm the presence of osteoporosis in this cohort, she pointed to a recent Canadian trial that found that 21% of hip fracture patients aged 50

years or older had normal bone mass, but 45% had osteoporosis and were thus clear candidates for pharmacotherapy (Arch. Intern. Med. 2007;167:2110-5). "Our population was much older than the [randomized clinical trial] referenced here, and thus I expect that fewer hip fracture patients in our study would have normal bones and rather the majority had osteoporosis."

In 1995, 7% of patients received pharmacotherapy to treat osteoporosis within 6 months of fracture; this figure increased to 31% in 2002, and then remained stable through 2004, the study's cutoff date.

The study also found that the type of therapy patients receive varies according to what sort of physician treats them. The specialty of the prescribing physician was identified in 94% (3,038) of the total 3,231 treated cases. Rheumatologists and endocrinologists prescribed bisphosphonates in 59.5% of cases, calcitonin in 32.5%, hormone therapy in 3.5%, raloxifene in 3%, and teriparatide or a combination of drugs very rarely, in 1% or fewer of cases. Obstetricians and gynecologists most often prescribed hormone therapy, in 63.3% of patients, followed by bisphosphonates in 22.4%, calcitonin in 8.2%, raloxifene in 4%, and teriparatide or combination therapy hardly ever. Geriatricians prescribed calcitonin about half the time and for about the other half prescribed bisphosphonates.

Dr. Cadarette, of the Brigham and Women's Hospital, Boston, urged caution in interpreting this seemingly alarming finding. "Patients seeing specialists may have other chronic health conditions contraindicating bispho-

sphonate therapy, or may be more frail, making the complex bisphosphonate dosing difficult." She also said her findings did not reflect the time periods in which the different therapies were prescribed. For example, fracture patients seen by obstetricians and gynecologists were largely treated in 1995, before the 2002 Women's Health Initiative results showed the potential harm associated with hormone therapy.

Also significant was the finding that, over time, family physicians and general practitioners have become the prescribing physicians in a greater proportion of these cases. In 1995, general practitioners were the prescribers in about 71% of treated fracture patients, and in 2004, they were responsible for 80% of these cases. Rheumatologists and endocrinologists, on the other hand, dropped from being the treating physician in 15% of cases in 1995 to only 3.5% in 2004. A similar decline was seen among obstetrics/gynecology physicians and orthopedic surgeons.

Responding to this finding, Dr. Steven Petak, chancellor of the American College of Endocrinology, said in an interview, "There are a limited number of endocrinologists and rheumatologists in proportion to the number of patients with or at risk for osteoporosis."

Poorly responsive patients who have bone mineral density loss on DXA, continued fractures, intolerance of oral therapies, or secondary osteoporosis should have consultations with specialist, he said.

Dr. Cadarette reported no disclosures for herself or any of her fellow researchers in relation to this study. ■

## Patients Are Happier, Too

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involved a review of the existing DXA callback process in 100 patients.

Despite the fact that the process seemed logical, electronically savvy, and took advantage of Geisinger's electronic medical record system, the yield was low.

Dr. Newman and his associates then consulted Dr. Nancy M. Gilhooly, who is a family physician at Geisinger, to see how the situation could be improved. In her experience, she said, there are logistical difficulties in ordering the test. Because both she and the staff at the primary care front desk are very busy, tasks such as scheduling a follow-up DXA scan are sometimes deferred or left undone. Moreover, Dr. Gilhooly acknowledged that she might not consider scheduling a scan to be a high priority and therefore might not even send the scheduling order to the front desk at all.

In the second cycle—defined as the time during which the next 100 patients were referred for repeat DXA—small changes were made in the process to ease the burden on the primary care physician and staff. Instead of the having rheumatology department's secretary send a simple message to the primary care physician to ask for a repeat DXA, the secretary appended the order to the message, with instructions on the appropriate diagnostic code for billing purposes, Dr. Newman said. All the primary care physician had to do was sign the order electronically and send it to the primary care front desk for scheduling.

That change resulted in 54% of the patients undergoing repeat DXAs. "We were getting better, but we're still not where we wanted to be," he said.

In the third cycle, again involving 100 patients, the process was further streamlined: The secretary in the rheumatology department sent a message to the primary care physician with instructions to sign the appended order and click on "return to sender." The rheumatology front desk then scheduled the follow-up DXA. With this refinement, 88% of patients not only had their repeat scans scheduled, but also actually underwent the scans.

Moreover, cycle three resulted in a \$9,000 increase in net revenue for every 100 DXAs ordered.

"What we had done was redesign the process with the understanding that we work in a system of care, and we need to respect and understand all the players in that patient-centered system so we can deliver the best care possible," Dr. Newman said.

The impetus for projects such as this was the publication in 2001 of the Institute of Medicine's report, "Crossing the Quality Chasm: A New Health System for the 21st Century." This landmark publication pointed out a number of areas in which health care delivery in the United States falls short (see box). The DXA project improved efficiency, efficacy, and timeliness. "But our DXA project, ostensibly about improving the number of people who get a follow-up DXA scan for osteoporosis monitoring, actually represents a much larger concept—improving the overall quality of care we provide," he said.

Improvement in overall quality of care was a goal in a previous program in Dr. Newman's department, which focused on retooling the appointments process to cut

## 'Chasm' Report: Goals and Changes

**T**he Institute of Medicine's March 2001 report on shaping the health care system for the 21st century identified six aspects of health care that need improvement by all involved: physicians, policy makers, organization managers, and consumers. According to the report, health care must have the following characteristics:

- ▶ **Safe.** The care avoids injury to patients.
- ▶ **Effective.** The care provides services based on scientific knowledge.
- ▶ **Patient-centered.** The care is responsive to individual patient preferences and needs.
- ▶ **Timely.** The care reduces potentially harmful delays.
- ▶ **Efficient.** The care avoids waste.
- ▶ **Equitable.** The care is of consistent quality regardless of the patient's gender, ethnicity, geography, or socioeconomic status.

"The Institute of Medicine threw down the gauntlet, but most practices still are ill-prepared to improve care delivery because they do not have the

fundamental training needed to successfully redesign delivery of care," Dr. Newman said.

To meet this need, the American College of Rheumatology today focuses heavily on quality improvement by having a number of quality of care committees and by sponsoring an abstract session on redesign at the annual meeting. Dr. Newman and his colleague, Dr. J. Timothy Harrington, a rheumatologist at the University of Wisconsin, Madison, also present redesign workshops each year at the annual meeting to help their rheumatology colleagues meet the challenges laid down in the Institute of Medicine report, which states: "Americans can have a health care system of the quality they need, want, and deserve. But ... this higher level of quality cannot be achieved by further stressing current systems of care. The current care systems cannot do the job. Trying harder will not work. Changing systems of care will." The report can be found at [www.nap.edu/catalog/10027.html](http://www.nap.edu/catalog/10027.html).

down on the wait time before patients can be seen—an increasingly important concern today, as studies continue to show that early, aggressive treatment in rheumatoid arthritis is crucial for achieving remission and preventing disability.

In an earlier article, "Dr. Newman and his coauthors described a year-long cycle process that eliminated a backlog of patients awaiting appointments; streamlined and stratified appointment templates; and introduced "carve-out access," a term that refers to specified intervals of time reserved for last-minute appointments. The

result was a reduction in the time patients waited for an appointment from approximately 60-90 days to 48 hours.

The improvements also led to increased patient satisfaction, a decrease in cancellations from 40% to less than 20%, and an improvement in financial performance (Arthritis Rheum. 2004;51:253-7).

Another benefit of the PDSA cycle programs is that even failures yield lessons. For each small change being considered, Dr. Newman wrote, "Plan it as best you can, put it in place, observe the successes and failures, and adjust accordingly." ■