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## Commentary

# Too Much of a Good Thing?

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Not so many years ago, I practiced primary care internal medicine in a wonderful neighborhood health center in Dorchester, Massachusetts, in Boston's inner city. I still treasure that experience, the commitment of the health center's providers and staff, and my memories of the patients, many with hard lives and diverse needs, who I was privileged to care for.

But I also remember doing a lot of Pap smears.

I have nothing against Pap smears. Pap smear screening for cervical cancer is a model of successful cancer screening—it was the first systematic effort to detect cancer early and has been associated with a marked and sustained reduction in cervical cancer incidence and mortality wherever programs have been implemented.

But still, it seemed as if I were doing a *lot* of Pap smears. In fact, some days it seemed as if I were *mostly* doing Pap smears. Did this really reflect women's predominant health concern or the best use of our mutual time and resources? In some cases, Pap smear screening even seemed to *cause* problems. One middle-aged woman, whom I found to have alarmingly high blood pressure on her first visit to the health center, explained that although she knew she had hypertension, she had not seen a physician in five or ten years because "every time I go in, they want to do a Pap smear."[1]

Not surprisingly, given how consuming Pap smear screening had become—dominating the health care of many women and displacing

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other priorities and concerns—and the knowledge that some patients (at least anecdotally) were being harmed as a result (e.g. forgoing treatment for severe hypertension), I became curious: How effective was screening, and what was the right amount—or how much was too much?

Introduced in 1941, the Pap smear has never been held to the standard of a randomized trial to settle these questions. Habbema, De Kok, and Brown have, however, shed light on them—particularly the second question ("What is the right amount?")—in their article in this issue of *The Milbank Quarterly*. They are not the first to attempt to relate cancer-related outcomes to screening intensity (IARC 1986; Sawaya et al. 2003), but their study is powerful and elegant in its simplicity. In comparing Pap smear screening practices and outcomes in the United States and the Netherlands, the authors find that even though women in the United States undergo more than three times as much Pap smear screening as do women in the Netherlands, the drop in cervical cancer mortality over the past five decades has been nearly identical, particularly in the age group targeted by screening efforts in both countries (ages thirty to fifty-nine).

The comparison is, of course, imperfect. The prevalence of risk factors for cervical cancer—number of lifetime sexual partners, age at first intercourse, smoking, and high-risk HPV infection patterns—is likely to vary across countries and over time. Independent secular trends may underlie the decline in cervical cancer mortality in both countries—in fact, cervical cancer mortality was declining in both well before Pap smear screening was implemented (Jemal et al. 2010; Van der Graaf, Zielhuis, and Vooijs 1988). And Pap smear intensity is counted more accurately in the Netherlands (by cytopathology registry) than in the United States (by survey self-report). The authors acknowledge limitations. Yet this is a natural experiment that should not be ignored. We took the high (intensity) road, and they took the low road, and yet we both have arrived at the same place at the same time: cervical cancer mortality of approximately two per 100,000 women in 2005.

The implication is clear: women in the United States typically undergo far too much screening (as well as too many false positives, colposcopies, and other downstream consequences). The unanswered question is, why? And what can we do about it?

Readers will recognize that Pap smear screening is not unique among health care interventions in being overutilized in the United States.

In our recent survey of U.S. primary care physicians, we found nearly half reporting that their own patients were receiving too much medical care (6% said too little) (Sirovich, Woloshin, and Schwartz 2011). More than one quarter (28%) said they themselves were practicing more aggressively than they would like.

Habbema and colleagues touch on factors that underlie the intensity of cervical cancer screening practiced by U.S. physicians. They point to the multitude of guidelines as emblematic of the muddled state of Pap smear guidance for U.S. physicians, and they observe that physicians tend to adhere to, or exceed, the most intensive of the multiple guidelines available. OB-GYNs, who perform most Pap smears in the United States, report that they screen intensively because, in the words of several captured in a focus group, "that is what OB-GYNs do" (Cooper et al. 2005).

And why shouldn't they? Powerful incentives in the U.S. health care system nourish the "more is better" philosophy of health care, including a medical liability climate, reimbursement systems, and clinical performance measures that send a clear message to physicians that they will be rewarded for doing more and risk punishment for doing less.

While medical liability and fee-for-service effects are widely recognized, clinical performance measures, typically rooted in clinical guidelines, tend to be viewed as rational and evidence based. But nearly every performance measure—the gauge by which the quality of care provided by physicians, practices, and health systems is judged—asks whether *enough*, rather than the *right amount* (of testing, screening, treatment), is being performed; physicians are penalized for restraint and rewarded for excess. This is true even as guidelines (particularly those for cervical cancer screening) are conspicuously beginning to specify what constitutes too much screening (e.g., women with negative combined Pap and HPV testing "should be rescreened no sooner than 3 years"; see American College of Obstetricians and Gynecologists 2009).

The message is both overt and subliminal: for physicians, the surest route to failure is to risk not doing enough. The effect is entirely predictable: we do too much.

For patients, however, things are not so simple. Any health care intervention carries the expectation of harm to some. Especially for screening tests, which have the potential to benefit only a small fraction of those undergoing screening (those destined to develop symptomatic cancer), the consideration of harms is particularly important because they can affect *all* who undergo screening. For my patient in Dorchester,

the Pap smear itself was a misery. For others, harm may relate to anxiety over abnormal results, downstream health consequences of subsequent procedures, or a lost or delayed opportunity to address another health concern because of time devoted to Pap screening. Except for the very small fraction of American women who are underscreened, screening women more intensively will not appreciably increase the likelihood they will benefit, but the harms will multiply (Sawaya 2009). For the individual patient, most cancer screening is, at best, a close call (Welch 2010); too much screening can threaten the balance of benefit and harm.

These ideas need to be part of the conversation, in the office, nationally, and globally. We need to talk about why more is not always better when it comes to health care, and we in the United States must work to reform systemic incentives that consistently tell us otherwise. We have to discuss the harms implicit in exposure to medical care. And we need to make sure that all patients have the opportunity to discuss options and make informed choices when it comes to their own health and health care.

I suspect my hypertensive patient in Dorchester wishes that she had been invited into that conversation earlier.

## Endnote

1. For the substantial fraction of readers who may never have performed or undergone a Pap smear, I'll add that, although not major surgery, a Pap smear is no walk in the park. In general the provider leaves the exam room, the patient undresses and waits in a flimsy robe; the provider returns usually with a required chaperone or assistant; the speculum (cool metal or rickety plastic) is inserted and the cervix located, sometimes requiring pressure or repositioning; brushed samples are taken from the surface and the opening of the cervix, and then preserved in fixative; and the speculum is removed. From start to finish, it takes at least five to ten minutes; most women find it uncomfortable; for some, it is miserable.

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