

Paul Manganiello, M.D.: Commitment to community

By Laura Stephenson Carter

My uncle wanted me to go to a vocational school and do auto mechanics," recalls Paul Manganiello, M.D. Now a reproductive endocrinologist at Dartmouth, Manganiello grew up in a working-class neighborhood in Jersey City, N.J. But he had his heart set on becoming a doctor, so he decided to ignore his uncle's advice. He wanted to be a neurosurgeon, like the ones who'd tried to save the life of President John F. Kennedy in 1963.

Manganiello carried that dream through Seton Hall University in South Orange, N.J., and on to Jefferson Medical College. Whenever he had free time in medical school, he'd go watch neurosurgeons in action. But he soon realized he didn't want to be a neurosurgeon after all. He'd found something that excited him even more. When he got to spend a night on the hospital's maternity floor, he discovered that he loved the excitement of babies being born. So he decided to specialize in obstetrics and gynecology.

He completed his M.D. in 1973, stayed at Jefferson for his residency, and went on for a fellowship in reproductive endocrinology and infertility at the Medical College of Georgia. There, he trained under internationally known infertility and genetics specialist Paul McDonough, M.D.—a "demanding" but "wonderful" mentor.

In turn, McDonough, who went on to become president of the American Society of Reproductive Medicine (1989-1990), was impressed by Manganiello. "He did not have to be out front filling a stage with his presence," McDonough says. "He was and has always been a 'giver,'" to his patients, his students, and his community.

As busy as Manganiello is as medical director of DHMC's Office of Women's Health Research and as head of the Division of Reproductive Endocrinology and Infertility, he feels that it is important to also devote some of his energies to the community. In fact, he was the driving force behind the establishment of Vermont's first free primary-care clinic and he still volunteers there.

But that's just one of several commitments outside of work for Manganiello. Both he and his wife, Wendy, whom he met when she was a nursing student at Jefferson, have long been devoted to serving the community. Even though they have two busy careers (she as a medical-surgical nurse at DHMC) and have raised two children (Marc, a Boston College graduate who's now a research assistant in the psychiatry department at UCLA, and Lisa, a junior at Loyola Marymount University in Los Angeles), they have always been active in their church and in other community endeavors.

In 1989, the Manganiellos spearheaded a fund-raising campaign for Hannah House, a social service agency that provides residential and outreach services for pregnant and parenting teens in Vermont and

New Hampshire. Manganiello sees problems associated with teen pregnancy almost every day in his practice. "Many times, they come from obviously broken homes," he says of teen mothers. "A lot of these girls are physically and sexually abused by parents or stepparents." Hannah House's program "not only gives [teen mothers] transitional housing, but it also gives them an opportunity to learn how to do normal activities of daily living, like doing a checkbook, and helps them learn to parent. . . . It's really a wonderful program."

Through their church, the Manganiellos (including Marc and Lisa)

have also been active in the Upper Valley's Interfaith Coalition Against Homelessness. In fact, it was a forum on homelessness in 1990 that led to the founding of the free clinic. "Someone in the

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audience asked me, 'Where do the homeless get their health care around here?'" Manganiello recalls. "I said, 'I don't know.'"

But he didn't drop the question there. He and some friends took it up in early 1991 and soon formed a study group of medical professionals and other concerned citizens. Before long, they realized that inadequate medical care was a problem not only for homeless people, but also for thousands of other Upper Valley residents—most of whom were employed, but at jobs that did not provide insurance and that paid so little they couldn't afford the most basic care. The study group turned into a steering committee, headed by Manganiello and Peter Mason, M.D., a physician at the local Alice Peck Day Hospital.

The result was the opening of the Good Neighbor Health Clinic in White River Junction, Vt., in 1992. The community has rallied behind the effort. DHMC and Alice Peck Day have provided financial support, furnishings, medical equipment, and liability coverage for the clinic's volunteer physicians and nurses. In addition to working there regularly, Manganiello still serves on its board.

But Manganiello would be happy if there didn't need to be a free clinic at all. "This was supposed to be just a band-aid," he explains. Back in 1992, "Clinton was proposing his universal health-care plan and we thought . . . we were going to have universal health care. It never worked out that way. I'm not a big proponent [of free clinics]. I want universal health care, a single-payer health plan."

In his community work, Manganiello is committed to providing basic health care to people who don't have access to it. But at DHMC, he works on the leading edge of a specialty—infertility medicine—that has become increasingly high-tech during his career.

His decision to come to DHMC in the first place was facilitated by McDonough, who had spent the summer of 1964 working for John Lyle, M.D., then chief of obstetrics and gynecology at Hitchcock. Over a decade later, when Lyle was expanding the section, he asked McDonough to recommend a reproductive endocrinologist from his pro-

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gram. Without hesitation, McDonough gave him Manganiello's name.

Manganiello arrived at DHMC in 1979. "That was right around the time when the first American IVF [*in vitro* fertilization] baby was born," he says. "Up until that point, the specialty was really in its infancy."

During the 1970s, IVF was so complicated—and the success rate so low—that even some infertility specialists wondered if it would catch on. At the time, IVF was done in an operating room using general anesthesia. The eggs were harvested at night to coincide with the body's natural cycles. Two incisions were made in the abdomen—one for a laparoscope and one for an aspirating needle to suck out the eggs. An egg was then placed in a Petri dish with live sperm, and, once fertilized, it was inserted back into the woman's uterus.

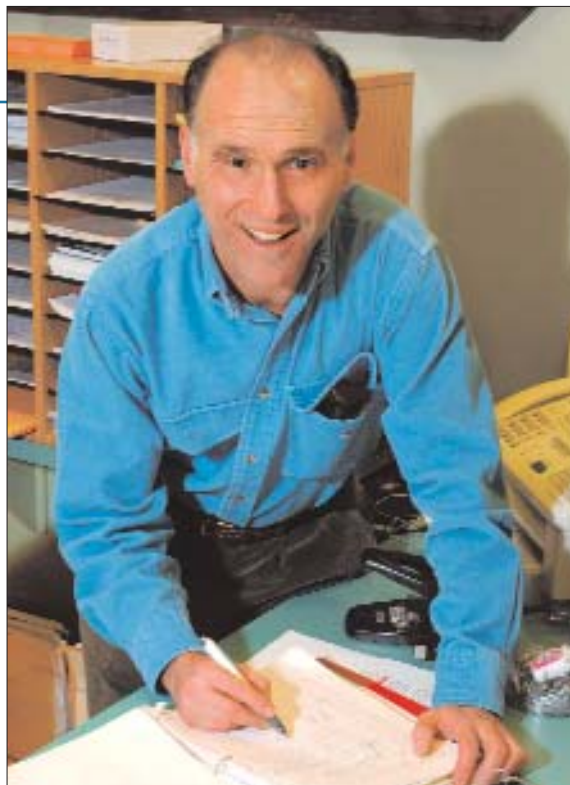
"I personally never really thought that IVF was going to be clinically applicable," Manganiello says. "I thought it was just too labor intense." He figured women who did get pregnant using IVF were just lucky. "But I was wrong," he admits with a laugh. "Obviously it took off."

In the early 1980s, infertility drugs were introduced; they stimulate the ovaries to produce many eggs at once. Still, U.S. doctors continued to rely on laparoscopy to collect the eggs, while "in Scandinavia, they were retrieving eggs under ultrasound direction," Manganiello says. So in 1985, he took a sabbatical in Göteborg, Sweden, to work with Matts Wikland, M.D., Ph.D., one of the world pioneers in ultrasound-directed oocyte retrieval.

When Manganiello returned to the U.S., he started using the new technique, which eliminated the need for laparoscopy and general anesthesia. Instead, he could watch on an ultrasound monitor as he guided the needle, attached to an ultrasound transducer, into the abdomen, through the bladder, and into the ovary to harvest the eggs. "I think DHMC was one of the first medical centers in the U.S. to be doing ultrasound retrieval," he says. "Within a year, we had our first pregnancy." Katherine Nopper, the daughter of sheep farmers from Poultney, Vt., was born on August 31, 1987.

Soon another advance came along that meant no incisions at all—a device that permits eggs to be retrieved through the vagina.

Then, in the late 1980s, a procedure called intracytoplasmic sperm injection (ICSI) was developed, whereby sperm could be injected into an egg. Before ICSI, if a couple had trouble conceiving because the



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When he's not at work at DHMC, Manganiello is likely to be volunteering, as here, at the free Good Neighbor Clinic, which he cofounded.

male had a low sperm count, the eggs had to be fertilized with donor semen. "Now, in many cases, you can use ICSI to fertilize the eggs. That's been a major boon for male infertility," explains Manganiello.

Freezing techniques have improved, too. All the harvested eggs are fertilized and some are transferred to the uterus, but the majority are frozen. "You can use them in later cycles," Manganiello points out.

DHMC's infertility experts have also been refining techniques to improve IVF pregnancy rates as well as to reduce the risk of multiple births. At DHMC, about 20% to 30% of women who get pregnant using IVF have a multiple pregnancy, usually twins. "We certainly aren't seeing quads or quints or sextuplets or septuplets," says Manganiello. "I've been here 20 years, and we've probably had five couples like

that." Fertility specialists are always eager, he adds, "to avoid the complications associated with higher-order pregnancies."

Manganiello's own collaborative research has included projects on tubal sterilization, testosterone therapy to treat fibromyalgia, and a number of other projects. Currently, he and several DMS colleagues are working with researchers at Dartmouth's Thayer School of Engineering to develop a novel technique for female sterilization—a small microwave antenna that can be used on an outpatient basis to occlude a woman's fallopian tubes. The device, if it is successful, may replace the current surgical method of occlusion.

Some may think it remarkable that Manganiello sees patients, does research, teaches medical students and residents, is regularly invited to give presentations, and serves on regional and national panels (such as a New Hampshire committee that wrote the state's surrogate mother bill and a U.S. Department of Health and Human Services subcommittee that explored infertility drugs), and yet still manages to find time to volunteer, too. But he *makes* the time because, he says, "I think it's really important."

Yet he never figured when he started studying health care for the homeless that he'd help found a free clinic, much less still work in it a dozen years later. "It wasn't as if I had this ultimate vision," he says. "It just developed." Just as his life has developed, starting in that Jersey City neighborhood. "I don't know if there's any one decision that was really significant," he reflects. "They were all critical." ■