Graham. "Can we get rid of that residual infection by adding an antibody, and would it work well enough to be cost-effective and logistically feasible?" he asks. The trial is designed to answer that question by giving the mother–baby pairs oral ARV therapy while half of the infants also receive monthly injections of VRC01. A control group would get a placebo.

The study will proceed only if VRC01 is approved as an investigational drug by the US Food and Drug Administration, and it would first be safety-tested in adults and infants in the United States. Investigators then hope to move to trial sites in Botswana, Malawi, South Africa, Tanzania, Uganda, Zambia and Zimbabwe. But the critics say that even if the antibody reduces the HIV infection rate, it is unlikely to be widely used in Africa. Whereas ARV therapy is delivered as oral tablets that cost less than US$200 per patient per year in poor and middle-income countries, the antibody must be injected by trained staff. In the United States, monoclonal antibody treatments commonly cost thousands of dollars per year.

Physician and AIDS expert David Ho of the Aaron Diamond AIDS Research Center in New York City is also planning to test an anti-HIV monoclonal antibody, but says that his group decided against running their trial in newborns after working in a poor area in southern China. There, he found that using ARV therapy as well as providing clean water and formula so that women do not have to breastfeed reduced mother-to-child HIV transmission to 1% (Z. Zhou *et al. J. Acquir. Immune Defic. Syndr.* **53** (suppl. 1), S15–S22; 2010). With a transmission rate that low, Ho says, "you are not going to be able to do a meaningful study". Instead, he is planning to conduct his group's prevention study in men who have sex with men.

But Graham says that discouraging breastfeeding, with its many health benefits, is not an acceptable route for reducing infection risk. And Catherine Hankins, deputy director of science at the Amsterdam Institute for Global Health and Development, says that it is premature to worry about cost. She points out that the basic ARV tablets used in Africa dropped in price from more than $10,000 to as little $140 annually in the past decade. "To say up front that something is too expensive, forget it — there are a lot of things we wouldn't have today if people had said that." ■

FINANCE

Insider trading sparks concerns

Universities indulge researchers' ties to finance industry.

BY HEIDI LEDFORD

It is as predictable as a heartbeat: when crucial medical results are at hand, cardiologist Jean-Luc Vachiery knows that the hedge-fund managers will come calling. Vachiery, who tests experimental therapies for a rare condition called pulmonary arterial hypertension at the Free University of Brussels, is privy to confidential information about clinical trials that could be valuable if used — illegally — to guide investments. As such, his conversations with the financial sector can be tense. "They tell you, 'don't say anything that's confidential'," says Vachiery. "And then they ask you for confidential information."

"This is not something that doctors or researchers should be involved in."

Vachiery, like about 35,000 academics, is a member of the Gerson Lehrman Group, based in New York, one of about 40 'expert network' companies proliferating in the United States and elsewhere that connect clients, often from the financial industry, with experts who can provide technical information. The company recruits heavily from academia and was reluctantly thrust into the limelight last year when one of its most prestigious experts — Sidney Gilman, a neurologist then at the University of Michigan at Ann Arbor — admitted to tipping off a hedge-fund manager about clinical-trial data before they were made public. The result: US$276 million in illicit gains for the hedge fund, the largest insider-trading case the US Securities and Exchange Commission (SEC) has ever handled.

The case is just one in a string of SEC probes launched since 2009 into whether expert networks are trafficking insider information to the financial industry (see 'Trading on expertise'). That investigation has already led to charges against nearly 30 people with connections to expert networks, and is continuing to yield fresh targets, particularly in the healthcare industry. It also highlights the tightrope that researchers walk when they consult for the financial industry, for rates that can reach $1,000 per hour. "The only reason anybody wants to talk to you from a financial company is for insider information," says Arthur Caplan, a bioethicist at New York University's Langone Medical Center. "That's the start of the story and that's the end of the story."

Despite the risks, few research institutions have enacted policies to limit staff consultations for the financial industry. Many universities, as well as the US National Institutes of Health, require investigators to disclose consulting income above a given threshold, but few distinguish financial consulting from consulting for drug companies. That's an important distinction, argues Eric Campbell, who studies conflicts of interest at Massachusetts General Hospital in Boston. "This is just a short-term bet for a very select group of people to make a whole lot of money," says Campbell. "This is not something that doctors or researchers should be involved in."

Even so, the networks and the experts they employ maintain that they are doing nothing illegal. Gerson Lehrman, like many other expert networks, has policies to prevent the exchange of confidential information, including a mandatory online training course, and pre-interview questionnaires to prevent experts with insider information from being matched with clients seeking information about that particular field. "All of this makes us a bad place to break the law,"

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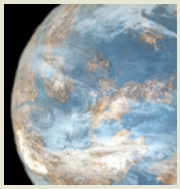

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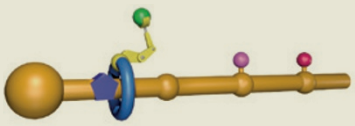

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MIRIAM WILSON

says Alexander Saint-Amand, chief executive of Gerson Lehrman. Experts contacted by *Nature* say that they are often asked for mundane medical information, and are only sometimes asked to divulge secrets. All of them, including Vachiery, say that they never have. "Probably 99% of the use of expert networks has to be considered legitimate," says Michael Mayhew, chief executive of Integrity Research, an investment research firm in New York that tracks the expert network industry.

Yet Vachiery says that he is acutely aware of the techniques that sophisticated hedge-fund managers use to dissect his answers. Even as he deflects the questions in face-to-face meetings and teleconferences, he knows that his clients might gather small clues from his body language or his demeanour, patching those clues together with crumbs they've garnered from other experts. "With these bits and pieces they build their story," he says. "They even gauge your nonreaction."

With the risks so high, Mayhew says that he is surprised that hospitals and universities haven't banned participation in expert networks. "If you are afraid that sensitive information might get out, you probably should be proactive."

One of the few medical institutions to monitor financial consulting closely is the Cleveland Clinic in Ohio, which since 2005 has required that all such relationships be reviewed by a lawyer and is now considering an outright ban. Caplan says that professional associations should take a lead role in discouraging members from financial consulting. But Heather Pierce, a director of science policy at the Association of American Medical Colleges in Washington DC, says that she does not know of any professional societies that do.

Marcia Boumil, who oversees conflicts of interest at Tufts University Medical School in Boston, says that the school has no plans to create separate financial consulting disclosure requirements, nor does it plan to limit researchers' ability to consult. "We're talking about highly respected professionals and we're not really in the business of policing what they do." Nevertheless, Boumil notes that her office might well have noted something odd about Gilman, had he worked at Tufts. Gilman earned $1,000 an hour for his consultations, and made more than $100,000 a year from them — two details that he would have been required to report at Tufts — and that would have raised a red flag.

But David Wazer, a radiation oncologist at Tufts, defends the $1,000 per hour consultations Gerson Lehrman arranges for him. "I'm worth it," he says, adding that, although he often does not know who his clients work for, he has never been asked to give up confidential information. The most he has ever made in one year is $4,000, "not the sort of compensation that would drive me to do anything peculiar", he says.

JOHN MARSHALL MANTEL/*THE NEW YORK TIMES*/REDUX/EYEVINE

TRADING ON EXPERTISE

Since 2009, the US Securities and Exchange Commission (SEC) has been cracking down on insider trading by participants in expert networks.

20 NOVEMBER 2012 The SEC charges hedge-fund manager Mathew Martoma (pictured) with insider trading on confidential data gleaned from neurologist Sidney Gilman, whom he met through Gerson Lehrman.
Illicit gains: **US$276 million**.

17 FEBRUARY 2012 The SEC charges Oregon-based expert network firm Broadband Research Corporation and its owner John Kinnucan with trading inside information about 12 technology firms.
Illicit gains: **$110 million**.

3 FEBRUARY 2011 The SEC charges six consultants and employees of Primary Global Research in Mountain View, California, with illegally tipping off hedge funds about technology companies.
Illicit gains: **$6 million**.

2 NOVEMBER 2010 The SEC charges French hepatologist Yves Benhamou with revealing clinical-trial details to a hedge-fund manager he met through an expert network.
Illicit gains: **$30 million**.

16 OCTOBER 2009 The SEC charges Raj Rajaratnam and his hedge-fund advisory firm Galleon Management in New York of insider trading in the first of a series of cases that eventually implicated people with connections to expert networks.
Illicit gains: **$53 million**.

Instead, Wazer says that his motivation is to advance the development of radiation therapies by influencing investment. "The technologies that move forward are very much a function of where capital flows," he says. "And let's face it, these guys in financial firms determine the flow of capital." Others offer a different explanation: "The pay is good," says Donald Tsai, an oncologist at the University of Pennsylvania's Abramson Cancer Center in Philadelphia, who charges around $300 per hour and says that his clients typically ask him for "kindergarten-grade medical information". "It's fun and easy to do in my free time."

But in the wake of the SEC investigations, some researchers have decided that the stigma attached to expert networks outweighs the pay. Mark Ratain, an oncologist at the University of Chicago in Illinois, severed ties with Gerson Lehrman when the SEC announced its investigation of expert networks. "I didn't want my name associated with this," he says.

And some of those who continue to participate say that they have become wary. Vachiery refuses repeat invitations from those who have prompted him for confidential information. Although he has enjoyed his conversations with some clients, the pressure has made him sour about the whole process. "I'm weighing each word I'm giving to these people and my level of trust is getting lower," he says. "Each time I receive a request now I'm thinking, 'Why am I doing this?'" ■ SEE EDITORIAL P.271