

Business

NEW LAW HELPS BANKS FLAG FRAUD AGAINST SENIORS

BY ELIZABETH OLSON

Dawn Shaw, a retired legal secretary in northern Maine, made two stops weekly without fail. One was her church. The other was her local bank, where she swapped stories about her children and their families with the branch manager.

Gradually, Shaw, a widow, began showing signs of confusion, prompting the manager to check her account. The manager found an automatic monthly withdrawal had recently been set up. She knew Shaw did her banking in person, not electronically, so she notified Shaw's nearest daughter, Cathy. They discovered someone had used Shaw's banking information to steal her money.

"It wasn't a lot of money," said Shaw's other daughter, Judith Shaw, who is the administrator of the Maine Office of Securities. "But it made me realize why it is important for front-line bank employees to identify red flags early."

It was not only her meticulous mother who was being defrauded. In the last decade, Judith Shaw said, there has been a steady rise in financial fraud against older people in Maine. Her mother's experience a few years ago prompted this idea: Encourage state officials to start a pilot program that would train bank employees to recognize suspicious activity, like sudden large transfers, in exchange for greater protection from legal liability for reporting it.

In early 2014, hundreds of employees at Maine's banks and other financial institutions began learning how to recognize unusual account activity that might indicate fraud or financial exploitation.

The pilot program went so well that one of Maine's senators, Susan Collins, introduced legislation to take it national. The result, the Senior Safe Act, which became law in May, gives banks that accept such training more certainty that they would not be punished for disclosing account information to the authorities. Without that protection, banks and their employees run the risk of being sued by clients, or fined or penalized by regulators.

"As baby boomers hit their milestones and retire, there's been a growing focus on what we can report," said Robert G. Rowe, associate chief counsel for the American Bankers Association. "The law gives us safe harbor to report suspicious activity."

The act is too new to have a national track record, but in Maine, Shaw said that since 2014, reports to her office about seniors being exploited financially jumped to a total of 70 — from zero.

"That may not seem like much nationally," she said, "but it's a lot for a small state like Maine."

Retirees across the country are increasingly the targets of various financial frauds. One in five older consumers say they have been the victim of some form of financial abuse, according to the Consumer Financial Protection Bureau.

Despite efforts to combat it, instances of fraud abound. The Federal Trade Commission, for example, received 2.7 million reports of it in 2017. That figure covers only some of the varied kinds of fraud that can drain a person's bank account, and makes it impossible to know the overall amount of victims' losses.

True Link Financial, a financial services firm for older people, pins the cost to older consumers at \$36.5 billion annually.

As customers age, they become a prime target for fraud, experts say, because they can have a lifetime of savings sitting in their accounts. SEE SENIORS • C2

"All of a sudden we can create these chips with injection molding. We can produce them like CDs." Rolf Muller • BioFluidica CEO



BioFluidica's CEO Rolf Muller (left) and COO Judy Muller-Cohn. Behind them are the the company's liquid scanners, which work in conjunction with the microfluidic chips to isolate cancer cells. BILL WECHTER

BIOFLUIDICA CHIP EXPOSES CANCER CELLS IN BLOODWORK

Technology that could prevent expensive, painful biopsies being tested in leukemia patients

BY BRADLEY J. FIKES

Blood is hard to beat for detecting disease. This liquid tissue circulates throughout the body, picking up chemicals, cell fragments and whole cells. But signs of disease may be exceedingly rare, and reliably picking them out has spawned an industry devoted to the task.

La Jolla's BioFluidica says it has greatly improved upon existing technology with its own method to find circulating cancer cells, which it is testing in leukemia patients. The goal is to replace invasive and painful bone marrow biopsies for detecting when the cancer reoccurs.

BioFluidica is now moving toward commercialization of what could be an even bigger invention. The privately held company has embedded its



A microfluidic chip, recently developed by BioFluidica to capture abnormal cells, is held up to a computer image of breast cancer cells that were isolated by the chip.

technology into a small, clear plastic chip. This microfluidics chip is etched with microscopic channels through which blood samples flow.

Importantly, the chip can be cheaply mass-produced, allowing for more frequent testing at a lower cost, said CEO Rolf Muller. The chip could supersede existing systems that require trained, expensive staff to manually process samples.

A number of manufacturers said they couldn't make the chips to the exacting specifications required, Muller said. Finally, BioFluidica found a company in Austria that could do so.

"We never could achieve high-throughput processing of the samples. It was always a very laborious and difficult process which took a long time, can't be scaled," Muller said. "And now SEE CHIP • C2



Marcelo Kertesz is owner of Mesteeso, which runs a coffee cart at Del Mar's Viewpoint Brewing Co. BILL WECHTER

BRAZILIAN MARKETS COUNTRY'S BREW TO COFFEE LOVERS IN S.D.

BY HANG NGUYEN

Marcelo Kertesz turned 40 and was ready for something new.

So he, his wife and two young girls moved from Sao Paulo to Encinitas.

"I lived in Brazil for 40 years and Sao Paulo for 20 years," Kertesz said. "I turned 40 and wanted to have a different experience in life. We decided to try a different lifestyle and come to a small town. Encinitas was a good size and close

enough to San Diego."

A few years after moving to the U.S., he came up with an idea to start a business selling coffee just from Brazil where he had lived almost all of his life. This past June, about a year after Kertesz came up with the plan, he and a local coffee expert launched Encinitas-based Mesteeso, which imports high-end coffee beans from Brazil that are roasted in San Diego.

His products, including a \$3.50 es- SEE BREW • C2

WALMART OFFERING SERVICES FROM HANDY ON ITS WEBSITE

BLOOMBERG NEWS

Walmart is betting the kind of shopper who doesn't want to visit a physical store to purchase a TV probably doesn't want to mount it, either.

So the world's largest retailer is expanding its partnership with on-demand home-services company Handy to sell installation and assembly packages right on its website.

Rolling out across the U.S. through September, Walmart's online customers will be able to tack on Handy services at checkout, including television mounting for \$79 or shelf-hanging for \$64.

For now, the services will be limited to indoor projects, like putting together a desk or installing an air-conditioner unit, though Handy Chief Executive Officer Oisin Hanrahan said it could be expanded to more categories.

Walmart, which already offers Handy installation services at 2,000 physical stores, will reach a much wider swath of consumers with the web expansion.

That will give it a new leg up in the e-commerce battle, where value-added services are increasingly making

their way into consumers' shopping carts. Amazon.com has been quietly building its own in-house services division, while furniture retailer Ikea bought assembly-provider TaskRabbit last year in a bid that today's customers will pay for convenience. Services are also a key component of Best Buy's turnaround plans.

"You're seeing Walmart — which is traditionally known for a price competitive approach — thinking they need to compete on services," Hanrahan said in an interview.

"We've got a convenience-based economy where people value their time a lot, but it's also just a raw reality that the skills you need to do this work are in decline."

Other Handy services like house-cleaning won't be available on Walmart's site, though Hanrahan said the startup "is not 100 percent against" adding those services to a third-party seller in the future.

Hanrahan declined to say how many more customers he thought Handy would reach with the digital Walmart rollout.

A Walmart spokesman declined to comment.

BREW

FROM C1
presso and a \$16 12-ounce bag of Cafézinho beans, sell online and out of a cart at Del Mar's Viewpoint Brewing Co.

For his new coffee business, Kertesz applies his background in advertising, an industry the 44-year-old has worked in his entire professional career and still does.

"I always wanted to put my skills to the test," he said. "The ultimate test is when you do the branding" for your own company. "Everything I did for my clients for all those years, I now have a chance to do for myself."

Below, Kertesz talks about why it's important to create a business that uses skills from previous jobs, why he settled on a coffee business and advice to folks

thinking about going down a new professional path.

The interview was edited and condensed.

Q. How long have you worked in advertising?

A. I've worked in advertising my whole professional career. For the past few years, I've been working for myself. But before that, I was working for companies. My clients have included Fiat,

Nokia, Budweiser, Honda, Johnson & Johnson, Microsoft, Procter & Gamble and Suzuki. Even in my advertising career, I ended up doing a lot of different things. I (owned) a branding company (with clients like a) public water service company, magazines, newspapers and websites. (I did) advertising and graphic design for presidential election campaigns. I owned a production company where I

produced and directed commercials and small documentaries.

Q. Why did you start a coffee business?

A. We were always discussing new ideas, possibilities, ventures and because I came from Brazil, doing something with Brazil was always in the back of my mind. It's a country that's under-celebrated.

The thing is, Brazil is the No. 1 producer of coffee in the world. But Brazil for most coffee companies in the U.S. is just one of many sources of coffee. I'm proposing something different. (Mesteoso coffee is only from Brazil.) You can find extremely good coffee in Brazil. We have over 300,000 coffee farms in Brazil.

Q. Many people have business ideas but don't act on them immedi-

ately, if at all. Why did you?

A. In December 2014, I moved to the U.S., specifically Encinitas. I came here to study product design to expand my skills and take a break from my line of work in Brazil. At that time, I was open to new ideas, initiatives, things I could do. What made me move rather fast was that I was in a new country with no pre-established conditions that prevented me from trying this new venture. The further we discussed the idea, the stronger we felt about it and the more momentum we had.

Q. Do you think one day, you'll focus on just the coffee business?

A. I think it's very possible. As this coffee brand grows, I look forward to that day where I can dedicate 100 percent of my time to that. Everything you've

learned working for clients for 20-some years, you suddenly have the chance to do it for yourself. It's a cool and scary situation at the same time. It's easy to recommend something to a client, but when you are the client and have to put money on what you're recommending, it puts it to the test. You really have to believe in what you're doing. It's a super interesting situation.

Q. What's your advice to someone thinking about starting a new business?

A. If you love to learn new things, then it's not a problem. If you have difficulty learning, then you have to rethink starting a new business.

Also, it's a lot easier to start a new business where your skills are relevant and important to the success of that business. Your skills are

50 percent of that new venture. My skills (for the coffee business) include branding, advertising, graphic design and website and film (creation). Things that I knew how to do before helped me a lot in this new venture. And I found a partner that knows a lot about coffee, such as roasting and coffee pricing. The combination of our skills make us a strong viable company. If I was doing something that had nothing to do with what I did before, I think it would be much harder.

And, I have the benefit of having family and friends as investors. Family and friends trust you and support you and don't demand the same feedback as a professional investor that can be hard for a startup to achieve.

Nguyen is a freelance writer based in Los Angeles.

CHIP

FROM C1
all of a sudden we can create these chips with injection molding. We can produce them like CDs."

BioFluidica is also working on other cancers, including lung, breast, prostate, ovarian and multiple myeloma. The technology is being developed for early detection as well as monitoring.

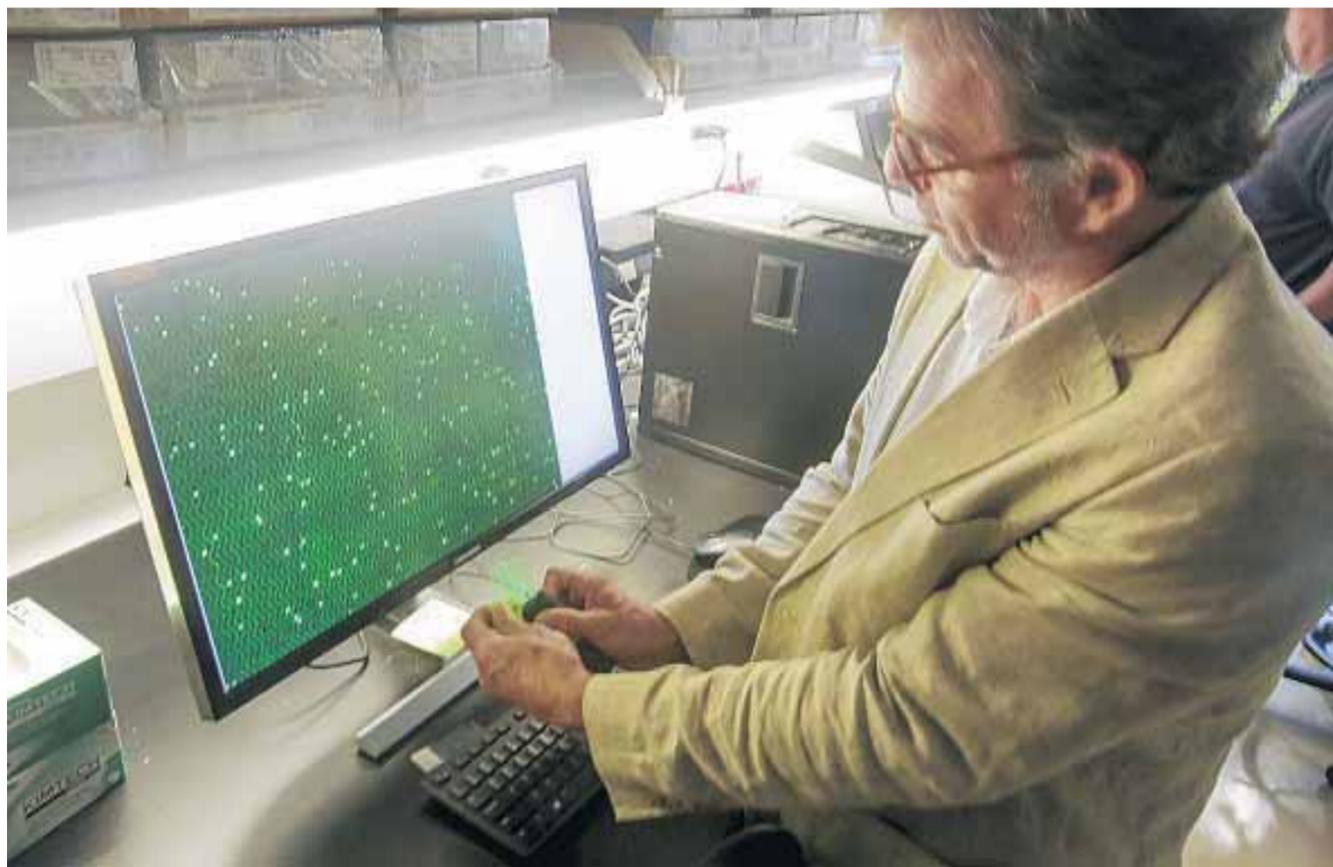
The savings to the health care system will be considerable, although exact numbers aren't yet available, Muller said. As a very rough guide, a lung biopsy that costs \$10,000 could be replaced with a BioFluidica test costing half that, he said.

Lung and bone marrow biopsies are the main targets right now because of the cost, he said. Patients may require hospitalization and anesthesia, along with an operating team. Replacing this with a simple blood draw promises great savings and reduced inconvenience to patients.

"We're proposing to eliminate the most expensive procedures," Muller said.

The company is far from alone in the field of blood testing, especially the use of "liquid biopsies" to detect cancer. Local companies in the field include Carlsbad's Genoptix and San Diego's Genalyte.

The entire blood-testing industry has struggled to escape the pall cast by Theranos, a Silicon Valley company that falsely claimed it could reliably perform hundreds of tests on just a few drops of blood. So other companies have taken pains to show objective evidence their tests work.



BioFluidica CEO Rolf Muller looks at a computer image of breast cancer cells that were isolated by the microfluidic chip.

BILL WECHTER

It's a lot to take on for a company with just 20 employees, 12 in San Diego. The company operates screening centers in North Carolina and Kansas as well as in San Diego.

BioFluidica is testing its Liquid Scan technology with leukemia patients, funded by the National Cancer Institute. The results of bone marrow biopsies are compared with BioFluidica's blood test.

"We have demonstrated in a small clinical trial with eight patients that we can find those recurrences earlier," Muller said. Now the company is expanding testing to 40 patients with acute myeloid leukemia, or AML.

There's no room for error, Muller said, because a false negative can be catastrophic. AML flare-ups can take place suddenly, when a mutation occurs in a quiescent cell that turns it aggressive. This mutant cell quickly proliferates, so fast detection of the event is critical.

"If you miss it, you're dead," Muller said.

The chip can capture as few as 10 cancer cells per 7 billion blood cells, in about 90 minutes, he said.

BioFluidica has also been awarded a contract from the National Cancer

Institute to perform a 100-patient study in childhood acute lymphoblastic leukemia, or ALL. Replacing painful bone marrow biopsies for this population is even more important than for adults, he said. Patients range in age from 18 years to infants.

In addition, BioFluidica performs lab work for other companies that are running their own clinical trials.

Work on the chip began several years ago, before Muller joined the company with Judy Muller-Cohn, chief operating officer and his wife. Muller succeeded founder Steven A. Soper, who is at the University of Kansas. Soper remains with the company as chief scientific officer.

Soper received \$10 million from the National Institutes of Health to create a

blood-testing chip. A few years ago, Soper was introduced to Muller and Muller-Cohn, who were impressed by the chip's ability to isolate circulating tumor cells.

The chip contains entrance and exit channels for the blood. In between are 150 microscopic channels, each one-quarter of the width of a human hair.

Blood is inserted through a machine BioFluidica customized for the purpose, supplying blood through the intake and taking it out the other end.

Normal blood cells pass through, leaving behind abnormal cells that are hooked by antibodies. These cells can then be examined microscopically for signs of cancer, and their DNA sequenced for malignant mutations.

And the chip can be

"programmed" to look for other forms of cancer, or other diseases, by attaching the corresponding antibodies, Muller said. The company plans to extend testing to solid tumors.

Getting this technology onto a small plastic chip wasn't the hard part. The true challenge was mass-producing it inexpensively.

The tolerances are narrow, because irregularities could rupture tumor cells, which are often delicate. Capturing the intact cell allows for a much more comprehensive test than is possible by examining cell fragments, Muller said.

Clinical trial information is available by emailing BioFluidica at info@biofluidica.com.

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SENIORS

FROM C1
counts. More than 60 percent of bank customers are older than 50, and they hold 70 percent of deposit bal-

ances, according to a 2017 survey by the American Bankers Association.

Frauds involving bank accounts come in many forms, including check washing, the practice of erasing and substituting dif-

ferent information on a check; duplicating checks; unauthorized debit charges; and submitting fake checks for deposit, said Laurel Sykes, chief risk officer at Montecito Bank & Trust, a large private bank in California.

As they encounter more fraud directed at older customers, banks are stepping up their warnings, monitoring and education efforts. First Financial Bank in Abilene, Texas, for example, certifies its employees as "fraud busters" after they are trained to recognize potentially fraudulent actions.

More active steps, including the education of customers, are likely to spread under the Senior Safe Act as banks tackle the reluctance that many older people have to report fraud. Noel A. DeSantis, an assistant district attorney in Philadelphia who specializes in financial crimes against seniors, said older people can be ashamed and afraid to admit they are victims.

"Bankers are often the first to recognize the signs of fraud or financial exploitation," said Larry Santucci, who follows the issue for the Federal Reserve Bank of Philadelphia. Unexplained withdrawals, wire transfers or debit transactions, certain transfers to new accounts or checks issued to new and unusual recipients can all be telltale behaviors, he said.

Montecito Bank & Trust and other large institutions try to thwart frauds that empty accounts by using automatic tools and software to flag problematic

THE ARAMCO REPORT

How extra mortgage payments can go a long way

By Mehran Aram, Real Estate and Mortgage Analyst

Buying a home is generally a 30-year commitment. For some, this can feel like a life sentence. But according to financial experts, adding just a little extra to your mortgage payment each month can shave off years and thousands of dollars in interest.

Mortgage professionals generally have two ways of accomplishing this. Some suggest making a 13th payment each year while others advise adding 1/12th of the monthly amount to each month's regular payment. At the end of the year, this should total

13 equal payments over a 12-month period.

These extra payments can reduce the overall loan balance and thus the interest owed while also aiding homeowners in building equity at a much faster rate. Discussions with lenders and financial advisers can help borrowers calculate the precise savings they can expect.

As for mortgage rates today, conforming no-point 30-year fixed mortgage rates are averaging 4.5 percent, 15-year rates are near 4.0 percent and the 5-year ARM is averaging 4.0 percent.

Do you have a question for Real Estate and Mortgage Analyst Mehran Aram? Submit your queries about a home purchase, refinance or reverse mortgage via aramco.biz, social media (#AramcoReport), or over the phone at (866) 381-8888 and your question could be featured in an upcoming article.



GRETTA RYBUS NYT

Judith Shaw called for training of bank employees to recognize suspicious activity.

transactions, like account balances that suddenly decline.

But for many banks, personal relationships with clients are still crucial. Only 38 percent of baby boomers bank online, according to the banking association's 2017 survey data. The older segment of customers routinely makes their own deposits and withdrawals or visit their safe deposit boxes, so they get to know bank personnel.

More banks are holding events to tell customers about the newest approaches that thieves use. In Montana, the Bank of the Rockies regularly holds "Conversations About Cons" at community centers, nursing homes and assisted living homes.

Even so, said Sykes in California, "Sometimes such scams can be difficult for people to accept."

Olson writes for The New York Times.