

## Harvard Medical Labcast

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Chew on This

The benefits and challenges of reintegrating dental and medical care

**Guest:** Lisa Simon

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**STEPHANIE DUTCHEN:** Hello, and welcome to the February 2017 Harvard Medical Labcast. This podcast is brought to you by Harvard Medical School's Office of Communications in Boston. I'm Stephanie Dutchen.

**RICK GROLEAU:** And I'm Rick Groleau.

**DUTCHEN:** So Rick, we have dentists who take care of our mouths, and doctors who take care of the rest of our bodies. Did you ever stop to think about why that is?

**GROLEAU:** Not really.

[Laughter]

**GROLEAU:** They seem like a natural separation to me, but my wife is a dental hygienist—

**DUTCHEN:** That's why your teeth are so clean.

**GROLEAU:** Well, that's not what she says. Anyway, she helped me to appreciate that there is a connection between oral health and overall health.

**DUTCHEN:** Like what?

**GROLEAU:** Well there's a connection between gum disease and heart disease. And gum disease and diabetes. And many diseases first manifest in the mouth.

**DUTCHEN:** That's right. So in this episode, we speak with dentist and future doctor Lisa Simon about how this separation of dentistry from medicine can obscure some of those connections. And Lisa also tells us about the potential benefits and challenges of bringing the two fields closer together.

**GROLEAU:** Nice.

**DUTCHEN:** It's actually a large part of her job because she's the fellow in oral health and medicine integration at the Harvard School of Dental Medicine. And she's a medical student here at HMS.

**GROLEAU:** I don't think I've heard of many dentists who are also physicians.

**DUTCHEN:** Well, maybe we're getting a glimpse of the future.

**GROLEAU:** Sounds interesting. I'd like to hear more. Let's go to the interview.

**DUTCHEN:** Let's.

[MUSIC PLAYING]

**DUTCHEN:** So, Lisa, thank you so much for joining us today.

**LISA SIMON:** Thanks. I'm so happy to be here.

**DUTCHEN:** I have never been so self-conscious about my teeth when conducting a podcast interview as I am right now.

**SIMON:** Well, as a public health and safety net dentist, I usually tell people that as long as they have teeth, I'm happy. So I'm not the kind of dentist that's going to care about that sort of thing.

**DUTCHEN:** Well, that takes some of the pressure off.

So you have a dental degree from Harvard School of Dental Medicine from 2014.

**SIMON:** That's true.

**DUTCHEN:** You joined the faculty in 2015, and now you're also a student here at HMS. So I feel like you're a case study in the very thing that you are a proponent of, which is integrating, or re-integrating, oral care and medical care.

**SIMON:** That's what I'm trying to be. On a good day, I feel like I'm a case study. On a bad day, I feel a little like a masochist for going to grad school for so long.

[Laughter]

**SIMON:** But obviously I'm really passionate about this stuff. And just as importantly, I think that Harvard, both the medical school and the dental school, are hugely supportive of this kind of work, too.

**DUTCHEN:** Now I've heard you say before that it's only through a quirk of history that dental care and medical care sort of split.

**SIMON:** Well, one great example, just to prove that it's a quirk, is that this is not a quirk that's universal in the world. So people who want to become dentists in many of the former Soviet Union countries actually go to medical school. And then they do a residency in dentistry the same way people do residencies in ophthalmology or dermatology or what have you.

And there's absolutely no reason why that couldn't be the way things happen here, except for the fact that in the 1840s, when the first dental school in the United States was being built by physicians, we built a dental school. And, of course, once you have a school that's separate from medical school, it's its own thing.

**DUTCHEN:** So how did you get interested in integrating these two fields?

**SIMON:** Well, I was very lucky in that the dental school and the medical school [at Harvard] are already integrated to a certain extent. So without even having to think about it, I got to take the first two years of medical school alongside my medical school and dental school classmates. And I think that that introductory philosophy, that naturally we should learn alongside each other and work together, really went a long way towards helping me understand what we could achieve. Which only made the crash when I realized what the current practice of dentistry, and how isolated it is from medicine, really looks like.

After graduating from dental school, I started a one-year residency at a community health center. But even in the incredibly progressive, really caring setting that I was working in, I saw patients who had needs that I just couldn't meet. And it was hugely frustrating and, frankly, tragic.

So for every patient that I was able to make a denture for which would change their life, I'd have a patient who would tell me that they were afraid that their spouse was stealing their narcotic medication. And I wouldn't be able to access their social worker. Or I would have a patient who was having horrific pain who was afraid to call their medical provider because their front desk didn't speak Spanish. And I wasn't able to contact them either.

And when I prescribed antibiotics for someone with a toothache, I was not able to tell a patient's primary care physician that I put them on this medication. Which very well could interact with other medications, and they should be monitored while taking. And seeing all these very real, very concrete ways that this was impacting my ability to practice the way I wanted to, and most importantly, impacting the ability of my patients to get the care that they needed, was really painful.

And through that, I kind of realized that maybe there was a way to use education to unite both these things. And try and really break down these walls that the health care system has been very good at building for the last 150 years.

**DUTCHEN:** So what are some of the ways that oral and overall health are interconnected? Or the ways that they manifest in our bodies?

**SIMON:** I think there are more and more ways that we're starting to understand these connections. And they can get pretty complex and sophisticated the farther you go. So some of the big ones that are really well studied involve chronic and prevalent conditions like diabetes or hypertension, which are both chronic inflammatory conditions. Which do both impact, and are impacted by, specifically, people's periodontal disease.

**DUTCHEN:** Gum disease, right?

**SIMON:** Exactly. And, of course, there are also links to other health outcomes. So, for example, patients who have chronic kidney disease and are on dialysis have a higher mortality rate if they have periodontal disease than if they don't. Periodontal disease is also associated with pre-term birth and low birth weight in pregnant women.

And then, of course, there are the outcomes we look at in people who don't have any teeth. Which, in addition to being a health condition, can also feel really isolating. So patients who are older and don't have teeth are less likely to eat healthy diets; are more likely to have nutritional deficiencies; and also to feel isolated.

But the other thing that I think is maybe a little bit of a hallmark of this separation that we experience in the health care system is that we only think about teeth in terms of what they can do for the rest of our bodies. And I feel like if I was a nephrologist, I wouldn't have to come on every time I talk to someone and tell them that the kidneys are important because they are connected to the heart or the lungs.

And teeth are important because teeth are important. Because dental disease keeps people out of work and school, and causes untold suffering, especially in vulnerable communities. And because whether we like it or not, teeth, especially in the United States, are something that we judge people on. And it can be an entry into specific kinds of education or feeling comfortable in the world. And I think those are important things for people's health and wellbeing, as well.

**DUTCHEN:** Right. So then what are some of the challenges to bringing these two fields or practices back together?

**SIMON:** There are a lot of challenges. And I think that there are some amazing people who are doing a lot of work to try and kind of break down these barriers in a lot of different ways.

I think one of the biggest challenges, just in terms of having people think about this, is that there's been a 150-year separation. And people go to different schools, and may not always interact.

And most importantly, the people who make decisions don't really have a problem calling their dentist twice a year and getting an appointment. So for most people who are relatively privileged or have a lot of resources within the world, they don't have a problem with the separation of the system. It's usually only people who struggle to access any health care, or who might be particularly challenged, or live in resource-poor communities, that are really suffering as a result of this separation.

**DUTCHEN:** So is the onus then on doctors, on dentists, on patients, on payers and insurance companies? Who needs to do the work to fix the problem?

**SIMON:** Oh, man. I think everyone should step up and do it. Though I think patients, generally, are the ones that we should be working to protect. Maybe I would say they have the least responsibility. The fact of the matter is that most patients who really need to see me will see a physician before they manage to get through a dentist's door.

And so I do think it's really important to engage not just physicians but the broader health care system, so mid-level providers like physician assistants and nurse practitioners. Even people like medical assistants and nursing assistants who can provide oral care for people in nursing homes or in the hospital. We need that whole army of hardworking people within the conventional health care system to take this on as an issue.

When it comes to the health care system more broadly, we're seeing that a lot of private insurers are actually finding what they believe to be health care expenditure savings when they provide dental care to patients. So some pretty big studies out of United Concordia, among others, actually found savings of about \$1,000 to \$5,500 per person for patients who have diseases like diabetes or who have had a stroke who get dental care. So perhaps not responsibility, but a pretty strong incentive to integrate into our health care system is probably coming on the payer side.

And it's worth noting that Medicare actually doesn't cover any dental care. So the fact that one of the biggest payers who's responsible for the health of millions of older adults is not really a stakeholder in this conversation yet is partly why things are developing the way they are. And I think if Medicare decided, perhaps not in this administration, to take this on, that would be a big change to how we provide dental care, and to whom.

**DUTCHEN:** How do you see the future of integration? Or how do others who are studying and hoping see this working out one day?

**SIMON:** Well, I think that integration is kind of like a two-way spectrum. So there's the integration that's my physician and nurse taking care of my teeth and having a stake in doing that. And then there's the other side of integration, which could be my dentist giving me a flu shot, or checking my blood pressure, or doing all sorts of primary care procedures.

And I think both those things are actually happening right now here in the Longwood medical area. We have a full-time nurse practitioner who works in our student dental clinic, so she works with our dental students. And if patients say that they don't have a primary care provider or if something comes up like a patient has hypertension, she can come in and help advise the patient and connect them with primary care.

On the other side, we're also working to train medical students to perform oral examinations, and possibly even more. So there could very well be a day when doctors learn how to pull teeth.

**DUTCHEN:** Uh-oh.

**SIMON:** And, of course, infrastructure plays a big role in this as well. And I think that's really the piece that's going to make the biggest difference. That's infrastructure including things like interoperable electronic medical records.

**DUTCHEN:** That's a lot of syllables.

**SIMON:** Yeah, "interoperable" is a tough word. But basically it means electronic health records that can talk to each other. And most medical records don't do this very well between hospital to hospital. But dental records are their own beast, and pretty much no one talks to them.

So even having something where if a dentist and a doctor are in different locations, at least they can talk to each other, and share important information about a patient, that's going to make a big difference.

There's also infrastructure when it comes to how we pay for dental care compared to how we pay for medical care. So medical care is shifting away from the fee-for-service model. And instead is really focusing on paying for health outcomes, and how we take care of people, and making sure they stay healthy.

In dentistry, we're still in the Stone Ages [in] getting paid for what we do. And, of course, that means that as a dentist in a practice, it's in my financial interest for you to have more dental disease and not less. And it also means that sharing responsibility with my physician colleagues is really tough because we're being paid in different ways.

So modeling, for example, accountable care organizations that actually include risk pooling for dental care, or [that] might prioritize preventive care for people's teeth in addition to people's overall health, all of those things can go a long way towards incentivizing the kind of innovation we want to see, which is really getting both doctors and dentists and patients on the same team.

**DUTCHEN:** What do you wish doctors knew, or did, about dentistry?

**SIMON:** I think that, through no fault of their own, doctors don't get a lot of education on oral health. I once had a friend who was about a week away from graduating from medical school proudly tell me that he knew that patients had 46 teeth in their mouths. Which is the number of chromosomes we have. Not the number of teeth, which is 32.

So generally, medical schools offer less than 10 hours, if at all, of oral health coverage.

**DUTCHEN:** During four years?

**SIMON:** During all four years, which is not exactly a priority compared to other topics that students are trying to cram into their brains in that time. And then in hospitals, patients aren't really offered a lot of oral health care services, so it's not something that's being reinforced as students are training.

So I think providing medical education that will, one, make students care about oral health, and keep it at the forefront of their mind when they're encountering patients, and then, two, give them the skills to do it—that's really the one-two punch.

So in terms of skills that patients would actually benefit from, these things can be as simple as training physicians to just look at people's teeth, which happens almost never. Even though, of course, physicians look at the back of people's throats all the time. They just forget the teeth are in front of it.

Or doing something like an oral cancer screening. So for patients who are on Medicare who are diagnosed with oral cancer that was metastatic, 90 percent had visited at least one physician, and 50 percent had visited at least 11 physicians, in the year before they were diagnosed with cancer.

**DUTCHEN:** Eleven physicians.

**SIMON:** Eleven highly trained physicians who just didn't know to look in someone's mouth.

**DUTCHEN:** Wow.

**SIMON:** So doing little things like that can go a long way. And then if people are more interested or find that they're working with a population where they'd like more savvy, I'd love to see inter-professional training programs. Or perhaps even medical school electives where people could learn things like dental anesthesia in case someone comes in with a toothache. Or even things like pulling very loose teeth, which is within the scope of practice of a physician to do. It's just not something a lot of them know how.

**DUTCHEN:** So that's what we wish doctors knew about dentistry. Is there anything that you wish dentists knew about medicine?

**SIMON:** Oh, yes. I feel like as a dentist who went to Harvard, I'm a little bit spoiled because I took it for granted that I'd have this body of medical knowledge that meant I was able to keep my patients safe. And that I was comfortable asking them about health conditions, even ones that might be more sensitive. So I wish that dentists all over the country were provided with the kind of training that let them more carefully and competently manage the kind of complex medical conditions that more and more Americans have.

And that can be something as simple as understanding the mechanism of action of a drug that a patient is taking. Or more complicated and even more beneficial, noting if a patient is taking two drugs that might have harmful interactions. Those sorts of little things that just come from having more exposure to the medical system in general can make a big difference for patient safety.

**DUTCHEN:** So what is your ideal imagined future of how all of this is going to shake out?

**SIMON:** So I always envision this imaginary patient—a patient who's probably never had a cavity, because maybe they were able to get a vaccine that prevented them from catching the bacteria that causes dental caries, or just because their pediatrician was so savvy at getting them to the dentist, who was able to put fluoride varnish on their teeth—who comes to their primary care doctor's office.

And while they're being seated, the medical assistant will ask them when their last dental visit was, and if they have any dental concerns. And then, of course, the physician will confirm this in the electronic medical record. And perhaps if a question comes up about something dental, then the dentist who works in a room right next door to the physician's room can come in and say hi.

On the flip side, let's say a patient is coming in for their dental appointment and the dentist knows that the patient just started a new antidepressant or a new anti-hypertensive. They'll be able to not only ask the patient about this and perhaps have a nurse practitioner or physician assistant stop in to check the person's blood pressure or perform a depression score index, they'll also be able to let the physician know what they found out and share that information. And all of that would also be accessible for the patient through a patient portal that all the providers were sharing.

And then, of course, the patient would go home without having paid anything, because all of this would be funded through universal insurance that incentivized providers to provide preventative services instead of fee for service.

**DUTCHEN:** I would like to live in that world.



**SIMON:** I would like to live in that world, too. But I do think it's closer than it's ever been. And there is even talk of modeling this kind of practice, including students, in the area in the near future. So you can sign up to be a patient in five years or so, hopefully.

**DUTCHEN:** Note to self.

Now, I know medicine is notorious for being slow to adopt change, for reasons that are usually connected to wanting patients to be safe, but I imagine that also means there might be some professional pushback to changing what has historically been these distinct roles or distinct degrees and practices. Do you see that?

**SIMON:** I definitely do. And some kinds of innovation are easy and some kinds are hard. The kind of innovation that means that a dentist might make more money is often an easier sell than the kind of innovation that might mean they're getting paid in a new way that they're not used to.

Primary care physicians and nurse practitioners are super-overworked. And asking them to put something new on their docket for every patient they see is not much of an incentive. If instead we can build infrastructure that makes it easy to do that, then maybe that's a sell. Or if we can, say, offer them a "free" dental hygienist that can just lurk around their practice and make their day easier, maybe that's something that people are more into.

But generally what I find interesting is that the people who work with patients for whom this is a big issue, almost never have these kinds of complaints. I train, as you know, at a community health center. And I worked and continue to work at a jail. And for my patients, their oral health is often the number one thing that's causing them pain and suffering and affecting their lives.

And even on the medical side, I think that's really true. Emergency room physicians who see tons and tons of people coming into their emergency department trying to get treatment for dental pain—or in primary care doctors' offices where people might not have access to a dentist and be begging for narcotics or antibiotics from their primary care doctors—these folks are savvy to what's going on. And I think they would do almost anything to change it.

**DUTCHEN:** That's good to hear.

**SIMON:** We need all the allies that we can get.

**DUTCHEN:** So to change gears a little bit, what are you the most excited about about what's going on right now kind of at the forefront of dental research and care?

**SIMON:** That's a great question. So as we talked about before, Medicare doesn't cover any dental care right now, but there are some organizations that provide care

to a lot of people who have both Medicare and Medicaid. Folks who are called “dual eligibles,” often. Or who offer Medicare Advantage plans, which is a special kind of Medicare. Who’ve realized that perhaps providing oral health services might actually make a difference for their patient population.

And so there are some really cool experiments that the School of Dental Medicine is collaborating with these large care providers on to see what will happen to patients’ health when we give them dental care and start integrating it into their health experience. That’s a big-picture excitement.

On a smaller scale, what I’m really excited about every day is seeing that my students and my medical school classmates both no longer assume that dental care is separate for a reason. Or that dental care should be separate. And instead, they’ve started to understand that not only does this hurt lots and lots of people who can’t get the care they need, but it’s also something that they can take a stand to improve and to fix.

And so even one or two years ago, I felt like I was spending most of my energy just trying to convince people to care about this. And now, instead, we can have these amazing, nuanced conversations where we figure out how. And I feel like I have hundreds of allies to make oral health integration actually happen.

**DUTCHEN:** That’s great. Well, thank you for sharing this optimistic view of the future and for explaining the importance of combining these things that a lot of us think of as not quite being super related to each other.

**SIMON:** Thanks so much, Stephanie. It was really fun to talk to you.

**DUTCHEN:** Thank you.

[MUSIC PLAYING]

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