

## Q&A with DJ Patil

### Interviewed by Susan Straight

This is Susan Straight, editor of *Dimensions* magazine, and I'm delighted to be speaking today with DJ Patil. DJ is the head of technology at Devoted Health and a senior fellow at the Harvard Kennedy School. During the Obama administration, he was appointed by President Obama to be the first U.S. chief data scientist and in that role, his efforts led to the establishment of nearly 40 chief data officer roles across the federal government.

**DJ, you were the first person ever appointed as U.S. chief data scientist and now there are scores of chief data officer roles across the federal government. What's the most important impact these roles are having—or could have—on how government uses data?**

DJ: So the amazing thing about these chief data scientists, chief data officers, and all the people that are combined working on data is that they're fundamentally thinking about the new ways we get benefits from data. Some of that is by opening up data in new, novel ways. Some of it is how do different departments collaborate and use data in other ways? You have people who are opening up data from the health system, so we have visibility into where our costs are and you can understand things like opioids and over-prescription rates and where people are doing a good job and bad job on these things. And then on the other side you have data sets that are being used and combined in really novel ways, particularly between the National Institutes of Health and the FDA and the Veterans Administration, to address the question of how we can get ahead of problems like cancer or find new drug treatment plans and other insights to improve healthcare across the country.

**You've been at the forefront of building some great products with technology, data, and design. Where do you see room for improvement in any one of these areas?**

Well the first area I think we have to ask ourselves these days is: Is the technology working for us or against us? Is it working also for every single person? The assertion I would put out there is that we should think of the technology as neither radical nor revolutionary unless it benefits every single person. Right now, one of the most incredible parts of technology we have is the mobile phone. The ability for it to connect us through the Internet. Yet, not everybody has that. Just outside Chicago, there's the largest single site jail, Cook County Jail, and it's just a short drive outside of Chicago, but cell phones don't work for miles around that facility. And so the public and the kids that are there don't even have basic access to content like education information or other things. So we have to ask ourselves is that technology really accessible by everyone. On the other side, we have this very healthy discussion right now of ethics and how do we want to make sure these data

products and ideas really are actually benefitting everybody rather than being used to hinder or limit the potential of people.

**You've fought the bad guys in cyberspace. Are we winning more of those battles than we're losing and what does the future hold?**

I think there's a challenge that we have right now which is we actually have to admit to ourselves that we are at war. And that war that is happening is in cyberspace. And there's two types of attacks that are happening—many types—the two big ones are people who are trying to get access to data. And so there are all these attacks that you hear about where somebody has broken into some system and stolen large amounts of data. And that can be financial data, healthcare data, all sorts of things.

There is another dimension of the attack that is where people are using information to create discord or to put fake information out there—to put false content out there. And that's largely what we've had the discussion of around social media platforms and people in Russia and others using that information to influence our election. The problem that's happening right now is on the side of cybersecurity and defending our system. There's a lot that's good there but we have to make sure all these systems are ready for the next wave of attack, the next level of sophistication as computers get faster and algorithms get smarter and we start to have more machine learning and AI happening.

And on the other side of this we have to get ready for this idea of how do we establish truth? How do we establish that this content has really happened? Because we live in a world in which I can completely fake a situation with the words and the audio, and the video, and the surroundings; I can completely manufacture a false narrative that looks so real. And the ability for that to catch wildfire and to sow discord is extremely powerful. We have to make sure that it is not being weaponized against us.

**You say you are "on a mission to change our healthcare system." What's your vision?**

One of the big things we realized is when anybody gets into any problems where they need a healthcare professional, the first thing you start to do is to reach out to see who in your network has access or connection with the hospital system. When that happens, what you're really looking for is the person that fundamentally is going to help treat you or your family member like they were their own family.

So why don't we have a healthcare system that treats every member like they were part of a family of a physician? What would it take to build that? We decided that's what we're going to do. The mission of Devoted Health is to take care of every member like they were our own family. And we're starting with the most vulnerable people, which are those that are 65 and older. We have a silver tsunami coming. All the baby boomers are retiring and who's going to be there to make sure that their care is awesome? We

really fundamentally believe that we have to find new ways in which to make this actually work and that's a combination of great science, clinical support, as well as using data technology to get you the right care at the right time and in a way that is deeply compassionate.

**What's your favorite science center?**

The Tech Museum. I've been involved with it since I was a kid. In fact, one of the most important classes I ever took in high school, which I had to sneak my way into because I didn't have the grades to actually qualify (because I wasn't a very good student). This class literally changed my way of thinking about the world. You got to basically do an exploration around DNA and forensics and you ran the gel and you got to use micropipettes and centrifuges and we ran the gels and we got to look under a UV light and compare results.

It just changed my whole way of thinking: This is what real science is versus just playing with small, simple things. We got to wear the real lab coats and everything else. I am grateful to the Tech for doing that.

Just two weekends ago we were over there, and they had this amazing set of makerspace meets competition and things like egg drop competition but there's an accelerometer so everyone gets to do it so we had this event of dads and moms versus the kids. So we just had a field day with that.

It's an unbelievable place and I love what Tim is doing there. They have the Tech Challenge: They invite kids get to participate in the competition by building. This year's competition is you've got to build a hovercraft. And you've got to figure out how to make the hovercraft go through a bunch of obstacles. I am proud to say that my son and his team won the competition two years ago, a very different one, a ravine crossing. They won first place, which was a surprise and awesome. And this year my daughter is participating in the competition, so we're excited to do that. So we get to spend a lot of time at the Tech Museum. I am grateful and feel that it is such a blessing to have a space like the Tech Museum in our backyard.

**Congratulations on your kids' success. That's fantastic.**

Yeah, it's awesome. It just changes the whole way they think. These centers are critical force multipliers for any child. And I just watch how all these kids that participate from every walk of life just blossom.

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