PHILIPS

Informed Perspectives

A discussion with Dr. David Jackman

Dr. David Jackman is a physician, and the medical director of Clinical Pathways at the Dana-Farber Cancer Institute in Boston, Massachusetts. He is a medical oncologist in the Lowe Center for Thoracic Oncology, Dana-Farber, where he specializes in the clinical care of lung cancer, mesothelioma, thymoma, and bronchial carcinoids. In addition to that, he is the medical director for the Clinical Pathways program at Dana-Farber.

Q: Dr. Jackman, tell us a little about the Clinical Pathways program at Dana-Farber.

Dr. Jackman: What we've done, is we've asked our world-class faculty to come together and think about, for any given situation, if a patient with certain condition, and genomics, and concerns, and preferences, what's the best care we could provide that patient? And then we've partnered with Philips to put that all into a cloud-based platform, so that doctors anywhere can access this, tell us, "I've got this kind of patient," and it spits back, "Here's what doctors at Dana-Farber would recommend, and here are some clinical trials that you might be interested in, that this patient would be eligible for.

Q: What do operationally and clinically efficient workflows mean to you?

Dr. Jackman: When we think about operational and clinical efficiency and workflow, I think we have to take a step back. What we all want as patients, as physicians, as leaders, is we want to provide the right care, the best care. We want it to be thoughtful and compassionate always. We want it to be fast when it can be, and slower and more measured when it has to be. And ultimately, when I think about efficiency through this, it's about the seamlessness. How do we ensure that along every step of the way, we're empowering patients, we're empowering physicians, to do all the right things, and as, as expediently as possible, to move care along in the best way? How do we get to that? That's a hard one. I think that ultimately, for me, there's three overriding themes that we need to think about: standardization, communication, and culture.

For standardization, it's this notion of, in any given situation, can we define what the best care is and can we make sure that we provide that care consistently to everyone? When we think about communication, how do we make sure that we put the right people in the right place, with the right information, to come to decision-making, to come to bringing their expertise forward for a patient? The more complex the case, the more talking we need to do. How do we take people, sometimes across institutions or larger distances, and be able to put them in a virtual room, in a way that's meaningful?

Finally, and I think this is the hardest piece, this notion of culture. How do we move away from where we used to be? This notion of, this doctor that knows all and can do all? That can't be the motto anymore. Healthcare is more complex, and requires more people, and more expertise, all working together. We need to create a culture where we embrace that interdependence, where we embrace communication. Moving into the future, is recognizing that, that we need to be working together in as optimally a way as we can, to truly put our best foot forward.

Q: What area of workflow has traditionally posed the greatest challenge for you or your teams?

Dr. Jackman: One of the greatest challenges we face in healthcare, is the oceans of data before us. And much of it, unexplored. Figuring out how to capture that data, how to correlate and analyze it, and how to present it back to physicians and institutions, I think is one of the great challenges of our time, and something that we need to continually improve. Doing this in healthcare, is further challenged by the fact that we have to do it in a way that still protects patient privacy, and protects the rights and time of the people, the physicians and the institutions, that are providing that data. They have to know that it's being protected, that it's not being sold without their consent. Doing all of this in a way that is safe, yet transparent and trustworthy, is, I think, one of the greatest challenges for our time in healthcare.

Q: What do you think could improve getting those outside records for patients who are traveling a distance?

Dr. Jackman: A we try to make sense of all of this data, I think there're two ways for improvement. One is, interfacing systems. We have so many clinical systems trying to do different things - imaging, genomic testing, medical record systems - how do we make them talk to each other to reduce error and to enable learning? Beyond interfacing systems, I think the other piece is, how can we better capture data in a way that will allow even more robust analysis? For my Pathways Program, what this has meant, above and beyond so much else, is the creation of a robust data model. A meta set, if you will, that takes standards from other places like AJCC staging system, ICD-O-3 histology system, or ECOG's Performance Status, and bring them all into one place. Then, add on unique data elements for our cancer patients in a way that can then improve the capture of data, and subsequent granular analysis of outcomes and other aspects of care.

Q: How has your department or programs workflow changed in response to COVID-19?

Dr. Jackman: How do we think about changing our workflows to meet this pandemic? So much of it has had to do with moving some things into the virtual sphere when we can, while retaining what we need to retain in person. When we think about our patient care - what meetings can happen in the virtual space? What meetings happen better in the virtual space? Having certain visits with patients in the virtual space suddenly allows their sons and daughters, who might live across the other side of the country, participate in a way that they couldn't before.
How do we think about some of these things not just as adequate alternatives, but potentially as improvements? I think that has been one of the pieces we've taken from COVID. How do we think more about virtual visits? How do we apply them appropriately? What's appropriate in the virtual space, and what's not? How do we amplify that in ways that can improve patient care, and not just help it along?

Q: Telemedicine and telehealth - how much of that has been adopted by you or your teams? How has that changed since before COVID?

Dr. Jackman: For the Dana-Farber Pathways team, the biggest change has been moving into the virtual world. This has presented challenges, but also opportunities. From an opportunity standpoint, it forced all of our meetings into the virtual space, and this has been, in some ways, a good thing. When we think about our review meetings, where we're bringing experts from across our institution, and from other institutions into the same space, no longer is there a dichotomy between the people who are literally in the room, or outside of it and on the phone. Everybody's on Zoom, and it democratizes the discussion. It's easier to see each other, it's easier to see the data when it's presented on your screen instead of squinting from the back of the room. So in some ways, those discussions have gotten better, have gotten more robust.

I think one of the challenges for us, and I think this is a challenge for so many teams across the world, and across so many fields, is, how do we move people into working from home, yet retain the same motivation, retain the same team spirit, retain the sense of sanity when folks are having to work from their offices or their bedrooms? I think in addition to the challenges, that we lose out on the real benefit of human communication, the accidental conversations - at the water coolers, or running into people in the elevator, where a lot of synergies really happen. How can we recreate that when, in the virtual world, everything is a scheduled meeting? I think some of the challenges are trying to reproduce some of those accidental, but yet still really meaningful conversations.

Q: How do you see care virtualization (telehealth, remote work, remote reading, case reviews/prep, remote consultations, etc.) impacting the future of cancer care?

Dr. Jackman: Telehealth is here to stay. There have been so many opportunities and realizations about the benefits that it can provide in the right situations that it is something that we can't and shouldn't walk back from. However, there are going to be a lot of moving pieces on this. What, and not just what patients and physicians find useful, but what are payer's going to be willing to reimburse for Telehealth visits in the future? What are state's going to allow in this country in terms of borders and medical licenses, which is done on a per state basis. Some of these policy decision, are going to need to be worked out in the future.

Q: What's driving those priorities?

Dr. Jackman: We've clearly found a role for Telehealth, both in our communication with our patients, but also our communication with each other. I think one of the best concrete examples I can think of, in my own daily practice is, our virtual consults with our radiologists. In the pre-COVID world, whenever one of my patients had a scan, I would walk over to radiology so that I could look at a scan with the radiologist. All of that takes time. Not just the time spent with the radiologist, but the physical time of walking, the physical time of waiting in line.
All of that is made operationally more efficient in this new virtual space, when I just have to click on a button on my computer, and, poof, there's a radiologist. It seems very Jetsons' in some way, but it allows us to get the same medical benefit; to still be able to look at scans together with a radiologist, and get her thoughts about things, but in a much more efficient manner.

Q: As we think about healthcare more broadly, COVID-19 represents a defining moment. What do you think is pivotal to turn this defining moment into a change for the better?

Dr. Jackman: Medicine has always been about doing better. As we think about the urgency of the moment with COVID, it's pushed us in ways that we couldn't before imagine. In addition, it's also pushed us apart from each other, in a real sense, but yet made the world smaller in a virtual sense.

One of the things that I hope we look back on when we are through all of this, is the amazing power that we can have when we collaborate. I have never seen hospitals and physicians and countries collaborate more than they are now. How can we retain that sense even when the urgency of the pandemic is past? How can we use our systems to empower that collaboration? How can we think about the distance that has had to be bridged, both physically and virtually? How do we shrink that down - how do we make the world smaller? How do we make it more efficient using some of these tools that we've either developed in the midst of the pandemic, or that we've pulled off of the shelf and recognized some of their new powers?

The COVID-19 pandemic has been one of the scariest and most challenging things that we, globally and individually, will ever face. That having been said, I have never been prouder to be a physician, and never been prouder to be part of the healthcare system that is standing up to this terrible disease, working together to fight it, to protect our patients, and to protect each other. I think the lessons that we're learning this year will carry us forward into a future that will only improve healthcare. Once we get through this difficult time, I think we are all going to be better for it.

Q: How can health technology help you standardize and improve the quality of care across your practice and your hospital?

Dr. Jackman: At Dana-Faber, generally, and in our Pathways Program, more specifically, we've embraced this notion of standardization. That is to say, can we bring our experts together in a way that helps to define best care for a given person, and a given situation? And then, partner with Phillips to provide a cloud-based platform, so that doctors throughout our enterprise, and other places across the country, and across the world, can access this system in a way that can help to reduce error, in a way that can try to eliminate waste, in a way that can make sure that all patients are provided the same care in the same way however and whenever appropriate - in a way that makes sure that opportunities aren't missed.

Wouldn't it be a shame if a patient didn't know that a clinical trial was available? How do we make sure that their doctor knows about this particular trial? Wouldn't it be a shame if a physician wasn't aware of these particular steps that one had to take when starting on a specific complex medication regiment?
How can we use our system to empower, to educate, and standardize across all of those different levels? That's what we've been trying to do with our Pathways Platform.

Q: How did the AI and deep data integrations specifically help in oncology, or radiation oncology from a diagnosis, clear pathway decision making and therapy planning delivery perspective?

Dr. Jackman:: AI is a complex notion, and I think one that has a lot of questions or concerns around it. I think it's useful to back up a step and recognize what it is and what it isn't, what it can be and what it shouldn't be.

I think we start by asking, what can computers do better than humans, but the reverse also, what do humans do better than computers? And make sure we retain the best elements of both. Computers and technology are incredible at scale, while humans are much better at nuance. What I think we want to get away from, is we don't want to teach computers how to be better humans and take the human element out.

We want doctors and nurses and pharmacists to be talking with and looking at patients, and making adjustments and noticing elements that a computer might not be able to make. We want to retain that. Then we want computers to be able to capture data, and put it in front of physicians and nurses in ways that can enable learning, so that ultimately, the decision-making for a patient is a combination of both.

What we've strived to do is to not necessarily go with artificial intelligence, so much as adaptive intelligence. That is, how can we use computers to capture data better? How can we use computers to present data better? How can we use computers to enhance information that is made available to physicians in the moment? Then, allow physicians and his or her nurses and pharmacists to, all together, make decisions based on the recommendations that were provided by humans based on what a computer is able to scale.

Q: How can health technology help you standardize and improve the quality of care across your health system/hospital/practice?

Dr. Jackman: When we instituted Dana-Farber Pathways back in 2014 in our lung cancer group, we sought to think about the best care we could provide in a way that would optimize effectiveness, minimize toxicity, but also, think about costs and what was necessary, what was useful, and what wasn't.

When we looked at the care we were providing prior to the implementation of Pathways, and subsequent to the implementation of our Pathways, what we found was, there was actually a cost savings in the patients who were treated once we implemented Pathways in our metastatic lung cancer patients. A cost savings that was, on average, about $17,000 a year for our metastatic lung cancer patients.
Where did this come from? Primarily it came from lower chemotherapy costs. Not because we were choosing what the cheapest things were, but because the Pathways discussions really forced us to think about -- were we doing things that weren't adding a whole lot of bang for the buck, and where could we eliminate some of those medications? In doing so, we retained quality of care. There was no drop in efficacy, in fact, there was some improvement, and there was a trend towards improvement and survival, and yet, at a cheaper cost.

Q: What solutions would you like to see that can help you navigate the additional complexities of combination therapies both by making decisions and then in the delivery stages?

Dr. Jackman: When I think about the complexity of cancer care there's so many pieces to it. There is obviously being with the patient and understanding their fears and their needs. There is genomic testing, and searching for alterations in cancer cell DNA that might lend themselves to targeting with specific therapies. There is talking to radiologists. There is talking with surgeons, and medical oncologists, and radiation oncologists, to together come to appropriate decision-making.

When we think about the future of healthcare, and how we make all of this more efficient, again, it's this notion of how do we improve collaboration and communication? How do we bring the right people together with the right information? And how do we do this all in a seamless a way as possible? This is an important part of where healthcare is going to go and an important piece of what we need to continually improve upon, with our existing systems. Part of that is through telecommunication systems, but part of it is also thinking about, one of the pieces I alluded to, the right information. For a community oncologist who has to face 30 patients in a day with different diagnosis, and keep up with the medical literature across all of these different diagnosis, that's almost an impossibility.

How do we put information at their fingertips, instead of them having to go to a myriad of different resources, and textbooks, and online sites, to try to come with the right decisions? This is part of what Dana-Farber's Pathways are trying to do. How do we obviate the need to go to multiple different places because we've put it all in one place? Here's what Dana-Farber would recommend in this situation, but in addition, here's why, and here's a link to the publications, or presentations, on which these decisions are based, so that it's really one-stop shopping to improve and expedite medical decision-making.

Q: How can COVID-19 make changes for the better with respect to cancer care and radiation oncology?

Dr. Jackman: When we think about collaboration in the time of COVID, I think an important piece has been learning from our peers at other institutions. As Boston began to hit our COVID surge in April and May, it was very important that we were able to reach out to colleagues in China, Italy, New York, and in Seattle, where the pandemic had already hit hard. They were willing and able to share with us the lessons that they had learned, so that we could optimize our own care delivery. That's something that's been an integral part of our initial response, and then thinking about how we and others adapt along the way, as we continue to learn new things.

Our response has to grow and change. We've been lucky that we've been able to do that, and it's that kind of global communication and collaboration, that has been so much a part of how hospitals, how physicians have responded to this. I truly look forward to that being part of how we think about care in other non-COVID aspects of medicine going forward.

Q: What does the future of healthcare look like specifically in oncology?

Dr. Jackman: The future of oncology care is going to be one that's marked by a greater accessibility. It's going to be one that's marked by discovery. It's going to be marked by collaboration. Everything that's happened over the last decade in cancer care speaks to this. The pace of discovery, the development of new clinical agents - these are all things that are incredibly powerful and meaningful, and will only take us further in the years to come.

When we think about what we've learned in COVID, and bringing resources to bear that we didn't have before, in terms of our ability to look at cancer cell genomes, our ability to run clinical trials in a more targeted and efficient way – all of these things are only going to improve the quality and speed of discovery going forward.

In addition, we know that our future within healthcare in general, and oncology specifically, is going to be one where we need to think meaningfully about resource management. As we see drugs being brought forward at cost of $20 to $30,000 a month for patients, we know that this can't continue to be the future. We need to acknowledge that a problem exists. We need to create a culture where we actively think about cost. We need to create spaces where we can have discussions about what truly is being brought to the table with an individual drug, or regiment. With our Pathways conversations, we've created a space in our review meetings, where doctors not only look at the improvements and survival and the side effects, but also the cost that comes with each of these.

In one of our lymphoma meetings for T-cell lymphoma, they saw that there was a therapy that cost thousands of dollars more than an older treatment, but didn't really offer any additional benefit in terms of survival, or side effects. So they stood up and said, "No, we're not going to do this." While that feels like an easy example, it's one where it shows that we have to create a space to at least have these conversations. We have to ask better questions. We have to recognize when a treatment is only benefiting a small number of patients, rather than a larger number of patients, and when that's the case, we need to better define who those patients are. Can we find biomarkers? Can we find clinical characteristics that can define that population, so that we make sure they get those treatments? Then for the rest of the patients, can we say, "You know what? This treatment isn't really that good for them." We need to find something better, something else for this group. We need to expand our minds in all of these different ways over the coming years and that's what I see for oncology care over the next few years.

Q: How do you collaborate with a patient's multi-disciplinary care team today and where can you see improvements moving into the future?

Dr. Jackman: Multi-disciplinary care is something that's so incredibly important to cancer care. Pre-COVID, we were very lucky at Dana-Farber, that the organization, and the physicians within it, made this commitment to making sure that we saw patients together. How do we put radiation oncologists, and surgeons, and medical oncologists in the same work room, and go and see patients together, and have meaningful discussions on the spot there?

Obviously, with COVID, that has changed, and so we can't physically be together, but we're working incredibly hard to maintain that same sort of collaborative and communicative spirit, doing that virtually. As we go forward, I think that the lessons that we and so many people are learning are, how do we make sure that we retain that element of collaboration, and enable us to do it across distances?

As we're getting better at our virtual communication, I think it's also enabling us to do this more across a broader enterprise. In really meaningful ways we're able to think about the scope of our enterprise and use this time in COVID, to make sure that our collaboration at different sites within the Dana-Farber family is improving that much more, so that the care we deliver at our satellite in Milford, is the same care that we deliver at our academic campus in Boston.

That's been meaningful, it's been cross-disciplinary, and it's something that I hope that we and others take into the future.

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