The Human Touch in Driving the Future of Medicine

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Mister Speaker, Madam President, members of the Board, delegates, and guests:

Last year, Elon Musk - Tesla's founder and a leading innovator - made a remarkable observation.

His Tesla Model 3 had fallen significantly behind its production schedule. Musk concluded the underlying reason was related to the near complete reliance on automation.

Robots were doing all the work – from soup to nuts.

Musk realized there were specific tasks on the line that required actual people for optimization, and so he tweeted … "excessive automation at Tesla was a mistake … humans are underrated."

This story captures two principles:

The first is that to produce something of value, one needs to perform a complicated series of discrete actions … in a highly coordinated way.

And second … the best outcomes may require powerful technologies optimally mixed with distinctively human capabilities.

Both principles are embedded in the work of the AMA. So, let's explore these a bit further.

Illustrating the first principle … something of value the AMA is producing for physicians through separate but coordinated actions … consider our work in chronic disease.

To understand the scope of this work, we have to go back five years – and to the incremental steps along the way. But we'll also look a year ahead to see where we're going.

We started with House policies and Council reports around the widespread and significant health burdens of diabetes and hypertension.

These diseases are strong drivers of our nation's health care spending, and impediments to national productivity.

So the AMA developed tools that physician offices could deploy in order to accurately measure blood pressure and improve rates of blood pressure control.

Pilots showed remarkable success - so we began to scale them in partnership with the American Heart Association.

To further enhance and broaden understanding of blood pressure control - including how to mitigate the factors that result in measurement inaccuracies - we created electronic learning modules in our Steps Forward program.

In parallel, we developed a robust physician learning platform -- the AMA Ed Hub – to disseminate these blood pressure modules, as well as a host of other educational assets. I'll say more about the Ed Hub in a moment.

Our national Target BP initiative now connects with more than twelve hundred nodes – some entire health systems, others…. individual physician offices. By the end of 2021, our goal is to have 22 million patients with hypertension enrolled, 2.5 million of which will already have systolic pressures lessened by at least 10 mmHg – which projects a significant decline in serious adverse events.

Integrated with this work will be our health equity efforts. Not only do we want to control hypertension, but we want to ensure improvements are shared equally across income, gender, ethnicity and race.

In fact, early next year we'll announce a social impact investment on the West Side of Chicago through our new Center for Health Equity that will help address the upstream social and living inequities that can impact health and contribute to chronic disease.

During all of this, our JAMA Network continues to deepen our understanding of hypertension, for example in younger populations.

In our medical school consortium, our Health Systems Science curriculum includes such things as cultural competency, predictive analytics, and longitudinal care – all important in hypertensive populations.

We know that blood pressure measured in the office can be misleading due to factors like the white-coat effect, not to mention the hustle and bustle of the clinical environment.

Self-measured blood pressures taken at home can be more reliable, provided they are taken correctly. But it's not particularly helpful to have patients showing up in the exam room with scraps of paper, or hand-written notes trying to recall their numbers.

Enter IHMI -- the AMA's Integrated Health Model Initiative – which has recently developed an electronic means of capturing remote blood pressure without cumbersome paper flow.

This new tool, using HL7 and FIHR standards, can automatically collect and digitally embed and organize such remote measurements in the electronic health record. It will be tested in large systems – that is, in the wild – in 2020.

This IHMI product will confirm – by patient attestation -- that blood pressure was taken under the correct conditions … that the patient was rested, bladder empty, back supported, and so forth.

Further, our tool has methods of essentially separating signal from noise over multiple measurements. Thus, in the near future, accurate and verified remote blood pressures will able to be entered and organized into a patient's EHR without physician offices needing to do anything.

Well-organized clinical data is critically needed by physicians; but so too is recognizing the time required to evaluate such data.

This is where our AMA-convened CPT and RUC processes come into play.

The CPT editorial panel created codes for remote self-monitored blood pressures … codes that have been valuated by RUC, and now accepted by CMS for recognition next year.

This ensures new revenue will be available to physicians as they evaluate these life-saving data.

When complete, our collective work will have ushered in more accurate and organized measures of blood pressure … better insights into how to better control blood pressure … no paperwork … and added revenue to physicians for evaluating and acting on hypertension – the number one killer in our society.

This blood pressure story is but one example of how we're harnessing the power of the AMA – expertise across our many units cross-leveraging our many strengths – and doing so in a systematic and coordinated fashion.

There are other examples I could have chosen to highlight the AMA's well-coordinated efforts, such as right-sizing prior authorization.

But since I mentioned the AMA Ed Hub, let's fill that out a bit. After two years in development, the Ed Hub launched in May with broad AMA content, as well as content sourced in collaboration with the American College of Radiology.

And other specialties have indicated they, too, are attracted to this platform as have major institutions.

The Ed Hub has additionally begun electronically syncing CME offerings with boards, such as those represented by internal medicine and pediatrics … and it has the capability of electronically connecting with state licensing processes. The Ed Hub CME automatic tracking is now piloting in North Carolina, Tennessee, and Maine, with more states to follow.

AMA's Ed Hub is also piloting a program in partnership with our Silicon Valley innovation company, Health2047. If successful, the result will introduce an augmented intelligence arm to further enrich and personalize physician training and education. A prototype is already being tested.

Imagine a future where your CME choices are crafted as a bespoke menu, customized to what you actually see in your practice … and where the hassles of filling out forms for credentialing and licensing disappear.

That's the pathway we're building.

As for the second principle related to the tongue-in-cheek quote that "humans are underrated" … I'd like to conclude with a brief thought on the dynamic that occurs when physicians deploy and interact with the powerful new tools and machines of the future.

Tools and machines – such as AI - that are already showing such promise in many of our fields.

As a medical student, I, like many of you, counted blood cell types in the standard way of the time.

I diluted samples by a known amount and put them on a slide with etched squares and covered with a special coverslip … allowing known volumes to be viewed in each square.

I held a clicker in my hand and clicked while counting the number of cells of this or that type – one cell, two cells, three cells, four cells – you get the picture. Then I did the calculation to correct for dilution and volume … and voila! I had a blood count.

Those under 40 in this room are probably wondering … "what on earth is Jim talking about?" Many of the older crowd know well.

My subsequent career included laboratory medicine and such rudimentary tasks had been replaced by machines. But each time a machine replaced a task, some new more interesting and meaningful task that advanced clinical care would be created. Then that new task would be replaced by even newer machines … rinse and repeat.

Going from clickers … to coulter counters … to flow cytometers … to cell separators … and each time the old task was replaced by a new and more interesting task, allowing advances in diagnosis and therapy.

Now if you think the simple blood cell counts now performed in the office or on the floor are boring, try a hand clicker and get back to me.

My point is this: when it comes to powerful new tools and machines … it's important to remember these replace tasks, not jobs.

It's our role to imagine new frontiers – new tasks – that further advance our fields with yesterday's brute labor now taken up by the machines.

A recent study by the Brookings Institute examining how various industries will be affected by AI-like approaches estimated that those in health care will have plenty of room to create exciting new tasks.

Estimates are that, on average, about one quarter of our tasks can be automated … with a range from 10 to 50 percent. Now, if you add removing administrative burdens, these numbers may even be far too low.

So, I'm confident that, as technology automates the old tasks we now muddle through, we will generate more precious time with patients on one hand while also creating new tasks that will be more intellectually fulfilling.

Even an innovator like Musk will occasionally need to remind us that, when it comes to machines, they make great partners.

They'll never replace human touch or human ingenuity.

Count me among those excited about the future of medicine, and the powerful new tools that will define the new era of personalized patient care, and also personalized physician education driven by the AMA Ed Hub.

I'm confident in the physicians' ability to always reach the next future state – in part because physicians will always have the AMA as their powerful ally in patient care … and because we will forever strive to "promote the art and science of medicine and the betterment of public health".

Thank you … and best for this Interim Meeting.

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