“Day One”

When it comes to the world’s toughest problems, how do we go forward?

You don’t need much backstory. You’re living the backstory. You can’t find a family doctor. People near your town drowned recently in flash floods – and that’s never happened. You’re encountering people living on the streets in numbers you’ve never seen before. Your groceries are costing double what they did last year. You communicate with people daily via social media, but somehow you still feel lonely and depressed.

Health care. The environment. Homelessness. Food insecurity. How we connect (or disconnect) with one another. The world is beset and bewildered and suffering from wicked problems. Issues that are perennial, but current times have put their own nasty spin on them.

But what if we could stop everything and start over? What could be done? Not in a pie-in-the-sky way, but in terms of feasible steps forward?

We asked five writers to explore a brighter future with Western researchers, scholars and alumni who are working on these very problems. What do they think?

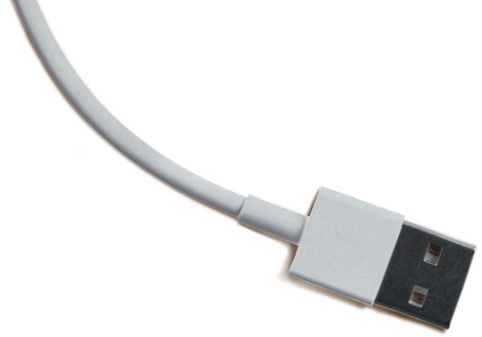
Read on. →

Intro by Paul Fraumeni and Marcia Steyaert
Illustrations by Nikki Ernst

CONNECT AND DIVIDE

The good and bad of online social platforms and the coming wave of AI

Story by Patchen Barss with additional reporting from Marcia Steyaert and comment from Julie Aitken Schermer, Mark Daley, Kaitlynn Mendes and Luke Stark



On Jan. 1, 1983, the U.S. Department of Defense's Advanced Research Projects Agency deployed a "transmission control protocol/ internet protocol," which allowed distant computers to communicate easily with each other. Universities and other research institutions quickly adopted TCP/IP, and the "Internet" was born.

Early users found the experience breathtaking. Despite glitchy connections, text-only interfaces, slow data speeds and many other dehumanizing factors, online communities, friendships and romances sprang up. Interactions could be intimate, liberating and intense.

The combination of anonymity and the ability to connect with likeminded people anywhere in the world was a boon for queer people, activists, cultural diasporas, and members of other scattered or discriminated-against groups.

Unfortunately, it was just as freeing for fascists, terrorists, predators and other perpetrators of violence and bigotry.

"The idea of bringing people together has been a trope that boosters of every electronic media technology of the last 200 years have used. Somebody says, 'This technology is going to bring the world together. It's going to produce world peace. It's going to create understanding,'" says Luke Stark, a historian of computer-mediated social interactions in Western's Faculty of Information & Media Studies. "And it just doesn't. For instance, one of the ways digital media technologies bring people together is through fostering extremely strong 'negative affinity bonds' against other groups."

Forty years later, technology and society have both evolved nearly beyond recognition. Yet the same conflicts linger. Can the billions of devices now connected to a planet-wide mesh of cable and satellite signals knit people together into stronger social fabric? Or are technology-mediated social interactions inherently divisive and dangerous?

People going online for the first time tend to be optimistic they will feel less alone, not more.

"If you look at the way young people are adopting digital technologies and social media apps, they're still energetic and hopeful," says Kaitlynn Mendes, associate professor of sociology and Canada Research Chair in Inequality and Gender. But unalloyed excitement doesn't last long. "Often they're like, 'Yeah, I joined Instagram or Snapchat and I thought it was going to be amazing. And then all of a sudden, I started getting dick pics or weird messages.' They often seem genuinely surprised that the Internet isn't a safe, open, welcoming space."

Some users tune out the worst aspects of their online experience, while others instinctively fade into the background, lurking online rather than risking attention.

Withdrawing, though, comes with its own risks.

"Simply scrolling through social media will not help reduce loneliness. People who use their cellular telephones for the purpose of actually communicating with others, are less lonely," says Julie Aitken Schermer, BA'92, professor of psychology and management and organizational studies. She researches how personality, intelligence and other factors influence technology-related loneliness.

"The problem with online situations is that an individual can easily avoid interacting with others. True, an individual can stay in a corner of a room at an in-person gathering, but it is easier to hide online."

With seemingly every online interaction carrying the risk of unwanted attention, it's not easy to build the trust and safety needed for meaningful connections.

Mendes is currently working on a book for parents about preparing kids for digital life. She says the mitigation should start long before a child's first day online and carry on long after.

"Think of digital technologies as you would a car. It's an incredibly powerful device. But you have to recognize as soon as you introduce this technology, you're introducing risk. Not necessarily harm, but risk," she says. "You would never just hand over your car keys to your kids. We spend years preparing them before they're fully autonomous and driving on their own."

The systems and the structures are set up in a way that it makes it difficult for anyone to just have an unfiltered, positive experience①

And while cars keep introducing new safety features, navigating the information superhighway seems to come with continual new threats.

Mendes sees the challenges as daunting and complex, but not intractable.

"Right now my focus is on talking to young people. What support are they getting and what kind of support do they want? We don't even have that basic level of information. We need to involve them and make sure their lived experience is reflected in the curriculum, in conversations with parents or teachers and with legislators and policy makers. We start from there and build up."

While systemic changes such as structural improvements, regulation and moderation come slowly, individuals and communities still try to make the most of these flawed online communities.

"The systems and the structures are set up in a way that it makes it difficult for anyone to just have an unfiltered, positive experience," Mendes says.① Some people use anonymized "alt" accounts or private messaging to shield themselves from personal attacks. Some tune out or laugh off the onslaught of bots and creeps. Others harness the technology to create more positive connections.

"In terms of loneliness, I actually think many of these experiences can bring people together. You can find lots of groups like Bye Felipe where girls and women can share and call out hostile men on dating sites. People still look for—and find—community despite negative online experiences. I have seen both the good and the bad—and I am not yet ready to give up."

Then there is artificial intelligence, better known as AI. Once something only computer scientists understood and science fiction writers imagined, now AI's capabilities and possibilities are fascinating—and causing anxiety.

This tsunami-like transformation is at the root of why Western appointed Mark Daley as its first-ever chief AI officer in October 2023.

"Comparing the onset of AI to the internet or even the steam engine is legitimate, but I think it's even bigger. It's more like the discovery of fire," says Daley, a Western professor and alum (BSc'99, PhD'03) whose position is also the first of its kind at an academic institution in North America.

The debut of OpenAI's ChatGPT chatbot in November 2022 was a game changer on a number of fronts, but how will AI impact the ways in which we connect with one another?

"Sooner than anyone thinks, we're going to be dealing with AI entities that are functionally indistinguishable from humans. Even with the current immature state of this technology, people are forming serious attachments to chatbots," says Daley, who is also an AI researcher and respected leader in neural computation, a branch of computer science focused on AI where computers are taught to process information based on how the human brain works.

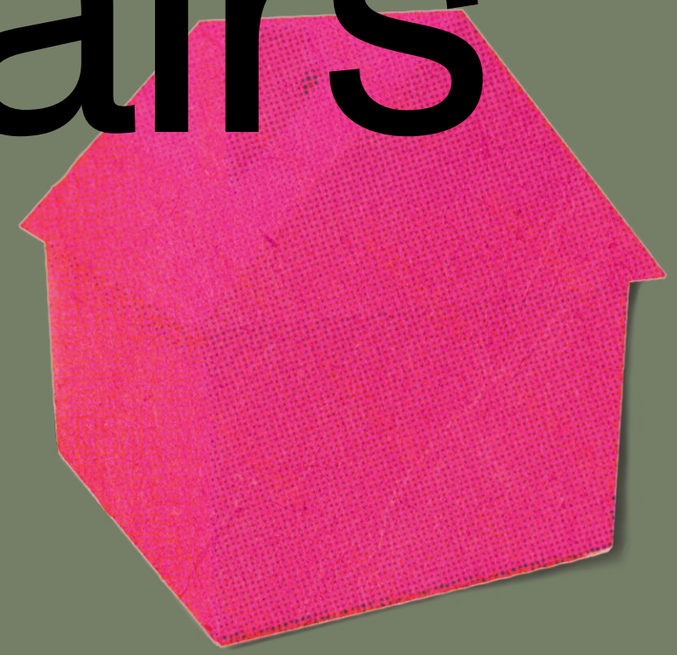
He looks at the development of human-AI relationships as a two-sided coin.

"Sure, AIs may be friendly, fun to interact with, and compliant, but what if they subtly bias the human towards the views of the AI's creators? That is a slippery slope. On the other hand, there is an epidemic of loneliness in much of the world. So, what if these technologies can offer compassion, support and joy to those who would not otherwise have it?"

This technology is here, it's progressing at warp speed, and it's changing our lives. So how can society ensure these changes are as positive as possible?

"We—universities, governments, businesses and users—need to continue to step back, consider, judge, decide what is useful and good and restrict when we need to. There is a lot of AI fear and doom generated in the media, but I'm an optimist. This is an important moment in history and we—all of us—have an opportunity to help push toward making good decisions for humanity when it comes to AI and all digital technology. We have a responsibility to constantly explore how we use it to do good and how we can keep it from causing harm." ●

Homelessness: the game of musical chairs



Supportive housing, anti-poverty strategies and community integration offer keys to change

Story by Keri Ferguson with comment from Cheryl Forchuk, Carrie Anne Marshall and Abe Oudshoorn

When Western nursing professor Abe Oudshoorn, BScN'04, PhD'11, started working with people experiencing homelessness nearly 20 years ago, he'd often have to convince Londoners the problem existed. Today, that's no longer the case.

Increased visibility has brought the issue to the forefront, with the number of people experiencing homelessness rising in urban and rural areas across the country. Yet, individuals living rough remain largely unseen when it comes to housing options.

"If we want to address homelessness in Canada, we need to change our systems," Oudshoorn says. He points to the National Housing Strategy, currently under review.

"It identifies homelessness as a priority, but it primarily supports the development of more rental units at market rates, not genuinely affordable housing that provides support for those most at risk of chronic homelessness—a group deeply and perpetually excluded from the housing market."

Oudshoorn's ongoing research shows permanent supportive housing—affordable units with on-site supports to meet individual needs—has been transformational for those who have spent years or decades experiencing homelessness or in mental health-care facilities.

Delivering these supports on a continual basis, however, is beyond the budgets of the non-profit organizations providing these services, with no straightforward ways to access public funding.

Western experts say Canada's homelessness crisis demands a national response, with support from provincial governments to cross broader systems—housing, criminal justice, child welfare, health care and education—and municipal action to implement programs best suited to their communities.

A willingness of London to loosen zoning restrictions, along with an ambitious plan to address the housing crisis, led the federal government to recently choose the city as the first municipality in Canada to access a $4-billion federal housing fund, with an investment of $74 million earmarked to build more than 2,000 housing units.

"This is a step in the right direction in increasing the overall supply of housing," Oudshoorn says. "I hope that affordability criteria will be attached to all uses of these new federal dollars."

Cheryl Forchuk, a Distinguished University Professor in the Arthur Labatt Family School of Nursing, says the answer to the homelessness crisis is actually "quite simple," using a metaphor to drive her point home.

"If you understand the game of musical chairs, you understand homelessness. The chairs represent the affordable housing available and the people circling are experiencing poverty. The more people circling the dwindling chairs, the greater the number of people experiencing homelessness.

"We need strategies to increase the number of chairs and to decrease the discrepancies between them, as well as the number of people circling. We also have to pay attention when the music stops abruptly during periods of transition—leaving foster care, hospitals or incarceration—when people are most vulnerable. If we don't, we'll continue to have a homelessness problem."

It's important to first know the true scope of homelessness, to shape policy and identify success.

The federal government reports approximately 230,000 people experience homelessness across Canada in a given year. But relying on shelter data alone leaves the number seriously underestimated—and many uncounted, including rural, Indigenous and young people.

> I've visited shelters and encampments under bridges and in the woods, and I can tell you, after decades in this field, homelessness has become worse everywhere[2]

To get a more accurate picture to effectively deliver and measure services, Forchuk and nursing professor Richard Booth, MScN'07, PhD'14, are integrating provincial health data to get a better grasp on the numbers. Early indicators show they're three times the current estimate.

Forchuk and her team have also travelled across the country, talking to more than 400 homeless individuals, to understand the specific needs of individuals living in different regions.

"I've visited shelters and encampments under bridges and in the woods, and I can tell you, after decades in this field, homelessness has become worse everywhere," Forchuk says. "Sixteen per cent of the people we interviewed first experienced homelessness during the pandemic."[2]

People living on low incomes are most at risk of homelessness, regardless of whether they've been unhoused before.

Most are living on social assistance, with disabilities, mental illness or substance abuse challenges.

"We need to reevaluate our social assistance programs and implement policies that increase the incomes of these individuals, so we aren't leaving them in a constant state of lack," says Carrie Anne Marshall, a professor in Western's School of Occupational Therapy and director of the Social Justice in Mental Health Research Lab.

For those living on support from Ontario Works or Ontario Disability Support Program (ODSP) funding, at approximately $700 or $1,200 a month, respectively, Marshall says safe and dignified housing is often out of reach.

"Often the only housing available to individuals leaving homelessness has bed bugs, vermin and cockroaches—or it's poorly maintained. Or they feel unsafe there. But it's all they can afford."

On an extremely limited budget, food is also less available than when they were unhoused and could access it through shelters.

"People leaving homelessness are not 'lazy,' but rather excluded from employment opportunities due to a range of factors, including their health," Marshall stresses. "They've faced a lot of disadvantages in their lives. If they're on ODSP, they've been identified as unable to work by a medical professional. Now they're in a situation where they're constantly trying to manage their own survival following homelessness. And survival takes all day long."

In addition to secure tenancy and daily, affordable living, a recent study led by Marshall showed there's a need to support individuals to attain more than just survival following homelessness. Community integration and engaging in meaningful activity are key to helping them thrive.

"Human beings are social animals. We need to interact with other people and feel included in social groups. That's where services can help people who've only known people in the shelter or on the street find connections with their broader community."

Marshall and her team are currently working on a Peer to Community (P2C) model, co-designed with persons with lived experiences of homelessness, service providers and policy makers.

The model includes an occupational therapist and peer support specialist collaborating to help a person identify and participate in meaningful activities and build relationships in their community following homelessness.

Citing her observation of a group run by a peer support specialist who organized an outing at a driving range, Marshall says, "it was heartwarming seeing people who've just been housed and faced multiple barriers to social inclusion being welcomed. One person had been all over the world golfing prior to losing his housing. To return to that activity, and be seen for his strengths, rather than his deficits, was incredibly meaningful for him."

Integral to the success of the P2C model is including people from the broader community. Not only does it help restore dignity and citizenship to individuals who experience homelessness, but "it helps shift society's lens," Marshall says, "and we start to really see people with histories of homelessness as individual human beings with strengths and challenges like the rest of us." ●

FOOD LOCAL

For those without enough to eat, answers may be closer than we think

Story by Alice Taylor with comment from Richie Bloomfield, Isaac Luginaah, Janan McNaughton and Peggy O'Neil

As you are reading this, the number of people worldwide who don't have enough to eat is growing.

The formal term is food insecurity. And it's happening everywhere—even in high-income countries like Canada.

Peggy O'Neil acknowledges food insecurity is an enormous, highly complex problem, but she also believes there are feasible ways to tackle it. We all, she contends, can improve our small corners of the world.

"As food prices rise and more people experience food insecurity, we're seeing more of a push for innovation and back-to-basics approaches," says O'Neil, PhD'16, who holds four Western degrees and is an assistant professor of food and nutritional sciences at Western-affiliated Brescia University College.

"People are reinventing spaces, re-establishing local markets and getting to know the people who produce what we eat."

Only a 15-minute drive south of Western's campus, what O'Neil is talking about is happening.

On a warm August afternoon, a dozen or so people are lined up on the side of a residential street, reusable bags in hand, waiting for the vegetable stand run by Urban Roots London—co-founded by Ivey MBA graduate Richie Bloomfield in 2017—to open.

A couple is comparing bunches of carrots, an older man and his daughter are deliberating over four varieties of kale and a young woman is thumbing through a "free seeds" box.

A proudly local operation, Urban Roots lives up to its name. Garden plots and greenhouses are sandwiched between a quiet dead-end street and one of the city's busiest thoroughfares. Giant power towers loom over rows of organic vegetables tended by volunteers who plant and harvest the crops, prune plants to increase production, weed out invasive species and fight what seems to be a never-ending battle against thistle.

The non-profit has grown and distributed tens of thousands of kilograms of produce, a portion of which is sold to cover its operating costs and the rest is distributed and donated. Miniscule by comparison to the yields of conventional factory farms, this localized strategy for food production could nevertheless hold the answer to addressing one of the most challenging global issues.

And the need for this kind of intervention is greater than ever. In March 2022, food bank usage in Canada hit an all-time high, with nearly 1.5 million visits—a 35 per cent increase from 2020. Yet measuring food bank use alone greatly underestimates the magnitude of the crisis happening in this country.

Food insecurity is about not having enough food, but hunger is only part of it. It's also about not having reliable access to culturally suitable and nourishing food for every household member to live a healthy and active life.

Measured this way, new data from Statistics Canada's *Canadian Income Survey* reveals nearly seven million people across 10 Canadian provinces, including one in four children, live in food-insecure households. Indigenous and Black households experience two to three times the food insecurity rates of white households, and a staggering 57 per cent of residents of Nunavut lack consistent and adequate access to food.

Globally, the picture is even starker. According to the United Nations (UN), more than 2.4 billion people worldwide experienced food insecurity last year, and these numbers are predicted to rise as our global food supply becomes increasingly unstable and unpredictable.

Experts point to a convergence of threats—extreme weather, geopolitical tensions and trade protectionism— creating a "new normal" of increased volatility in food production, distribution and cost. "The world is moving backward in its efforts to end hunger, food insecurity and malnutrition in all its forms," the UN states in its recent report on global food security and nutrition.

A community-led, culturally informed approach tailored to local needs and conditions is where we must begin to solve this problem, says Isaac Luginaah, a Distinguished University Professor in the department of geography and environment at Western.

"We know traditional food systems are the best for every contextual environment," says Luginaah. His collaborative research in Malawi employs agroecological farming practices to grow sustainable produce and provides rural households with income-generating opportunities and community-based nutrition education focused on social equity and crop diversity. "It's working," he says. And Luginaah and his collaborators are using the findings to teach other farmers how to do it elsewhere.

Land, water, plants and animals are not distinct entities, but parts of an interconnected system[3]

In Canada, more and more larger-scale farms are also adopting culturally informed, ecologically minded approaches to food production. Co-owner of Proof Line Farm just outside London, Western graduate Janan McNaughton, BA'08 (Anthropology) and her husband and brother-in-law employ a systems-based farming approach.

"We see land, water, plants and animals not as distinct entities but as parts of an interconnected system," says McNaughton.[9] For example, they let their chickens forage through empty cow pastures, which minimizes pests when cows return. Diverse grasses sustain their cows in the warmer months and contribute to hay production for use in winter. And they rotate crops to keep the soil strong. "These small decisions create a healthier and more sustainable environment that benefits all—us, animals and consumers alike."

The critical importance of family farms—like Proof Line—in maintaining stable food production and supply is why, O'Neil argues, "we need more policies, at all levels, to safeguard family farms and farmers."

McNaughton, who also chairs Middlesex London Food Policy Council, stresses food insecurity involves more than providing basic sustenance, locally produced or otherwise—it also means ensuring people have access to healthy, affordable and culturally appropriate food choices. "Even in tough times, individual food preferences persist. Conversations about food insecurity must address survival needs alongside emotional, cultural and belief-related aspects of food."

All of which, she says, ties back to preserving local farmland and ensuring we have ample, accessible spaces to grow, prepare and distribute adequate and appropriate food options to all members of our communities.

O'Neil sees a tangible way forward in narrowing our scope to ensure every person within a particular city or region can access affordable and appropriate food choices.

"If we were, for example, to keep our focus on London or even Southwestern Ontario, we could quantify the population, multiply it by three daily meals and then multiply that by 365 days. Then we could quantify the required resources, funding, expertise and volunteer efforts to ensure everyone in this city or region is food secure. Then we step back, evaluate what worked and didn't, and openly share our blueprint with other cities and regions."

And, emphasizes Luginaah, the key is starting small and having everyone do their part.

"We're all overwhelmed, right? But as we can see clearly with climate change, our actions are tied together. We can all do something to improve this world. It's really that simple. We just have to do it." ●

The fish were first to tell the story

A healthier planet is possible if communities can contribute to solutions

Story by Siddhartha Sarma with comment from Joshua Pearce and Chantelle Richmond

From the 1950s to the 1980s, industries along the St. Lawrence River dumped chemicals into the water. These chemicals included polychlorinated biphenyls (PCBs). Insidious, carcinogenic and ubiquitous across industries, PCBs entered the water near the Mohawk Nation at Akwesasne on the Canada-U.S. border, just south of Cornwall, Ont.

Subsistence fishing was an important cultural and lifestyle activity of the community. By the 1980s, the fish being consumed by Akwesasne residents were found laced with PCBs. The community confronted a terrible choice: continue with their traditional lifestyle and face severe health consequences, or be uprooted from their traditional land and waters.

The contamination of the river and neighbouring waterways was so dangerous that there are still parts of Akwesasne where fish from these waters should not be consumed. Long after the polluting industries were closed down, the fish of the St. Lawrence continue to tell a story of environmental degradation and cultural uprooting.

And, there was another, equally dire problem.

"A 200 per cent greater concentration of PCBs was found in the breastmilk of women who continued consuming fish from the river. Here, contamination not only restricted the ability to fish, but also severed a link between mother and child by reducing her capacity to breastfeed safely," wrote Western's Chantelle Richmond, professor in the department of geography and environment, in a joint paper published in *Health & Place*, in 2014.

This was seven years before a research paper published in *Environment International* documented the discovery of microplastics in human placentas at a hospital in Rome, Italy. This was a distressing finding, but the fact is Indigenous communities with closer connections to land and water have experienced the devastating impact of environmental degradation and climate change in more intimate ways than other communities — and for a much longer time.

For Richmond, Canada Research Chair in Indigenous Health and Environment, the path to saving the natural world lies in understanding Indigenous relations to the environment, and in greater recognition of Indigenous knowledge systems.

This is a holistic model that recognizes what Indigenous communities have long known and what the rest of the world is realizing now: the deterioration of the environment is also the demise of the community and often a blow to mental and physical health. At the Indigenous Health Lab in the Faculty of Social Science, Richmond and her team of researchers work on community-based projects that address major concerns about the environment and public health.

The research, as well as solutions to these concerns, are based on a consultative approach grounded in the knowledge and perspectives of communities.

"I am often called into communities, including my own (Biigtigong Anishinabe) who suggest an idea for research. It's the community that informs my work and the work of my students," said Richmond.

That collaborative approach, which places the views and perspectives of Indigenous people first, helps build learning spaces and active solutions to help communities deal with the environmental impact of climate change.

The same old perspective and the same old approaches are not working④

"We are trying to create spaces of learning that target climate change, food insecurity and all these big problems, in ways that actually encompass and build from Indigenous knowledge systems. This approach brings in the people who know best how to address these concerns," says Richmond.

She offers the example of land-based learning or "bush" camps, which she wrote about in a co-authored paper published in *Environment Research and Public Health* in 2022. The camps emphasize reconnecting the community with the land, and with one another, and promoting the idea among youth. There is also an emphasis on moving away from a worldview that sees the land as a resource to be exploited to a more balanced, respectful approach to the environment.

"The work that we do is about healing, restoring and responding to the needs of communities. We need to realize that the same old perspective and the same old approaches are not working.④ And that means sharing leadership and opening the forms of knowledge available to us," says Richmond.

Sharing innovation to accelerate positive change

Elsewhere on campus, Western Engineering researchers are taking a new approach to easing the environmental crisis. They're making their designs and discoveries available to anyone and everyone to use, modify and distribute — at no cost.

The Free Appropriate Sustainability Technology (FAST) research group, led by world-renowned engineer Joshua Pearce, is driven by open-source (free to use and re-use) technology and strives to find globally relevant, collaborative solutions to problems in sustainability, food security, global health and the reduction of poverty.

Predominantly using 3-D printing and readily available machines and materials, Pearce and his team have designed dozens, if not hundreds, of solar technology advancements and frugal biomedical innovations — all just a click away. (Learn more about frugal biomedical innovations on page 15.)

Pearce's latest book, *To Catch the Sun*, which he has made available to people for free, shows step-by-step how to set up a photovoltaics system (solar cell panels) for their home or business.

"We're starting to turn the wealth generation model on its head. The model used to be: If you wanted to make a product, the cheapest method was to manufacture at one location using low-wage labour and polluting fossil-fuel power to make and ship it all over the world," says Pearce, the John M. Thompson Chair in Information Technology and Innovation at Western Engineering and the Ivey Business School. "Now, you can download a free design, make it yourself or send it to a local manufacturer."

Pearce and the FAST research group have led countless studies showing consumers and companies save millions working this way, but the big bonus is open source pays huge dividends for the environment.

"The solution to our environmental challenges ultimately lies with people, and with restructuring the production system so local communities can find greater autonomy, both in economic terms and in their access to knowledge, technology and innovation," says Pearce.

FAST team members are currently setting up a solar technology testing station north of campus, specifically agrivoltaics, to increase food production by protecting crops with partially transparent solar panels. The team is using open-source and 3-D-printed technologies to develop lower-cost, more sustainable wood-based racks for solar panels that will allow conventional farming and solar revenue at the same time.

"Canada could produce all of its electrical needs with no carbon emissions using less than one per cent of our farm area, all while making more food," says Pearce.

Pearce and his team are also working with Kenyatta University in Nairobi to make calibration devices for light therapy beds to help jaundiced newborns, and with Makerere University in Kampala, Uganda to make operating tables for 1/100th of the cost of conventional systems.

"We believe work like ours is an excellent start, but what the world really needs now are citizens to get involved, adopt affordable, sustainable technologies and share. Using open-source technologies enables people to read, learn and get to work on their own," says Pearce. ●

BACK TO THE FUTURE OF HEALTH CARE

A focus on primary care will repair a broken model

Story by Kurt Kleiner with comment from Lauren Cipriano, Dr. Danielle Martin and Maria Mathews

The health-care system quarterback: Primary care providers are supposed to know the patient well, understand their individual circumstances and take a patient-centred approach[5]

Fixing health care in Canada doesn't require building more hospitals, or investing in sophisticated new technology, or expensive breakthrough drugs.

The most important thing, according to some Western University experts, is to make sure every Canadian has easy and regular access to a primary health-care provider. And we could make it happen tomorrow with the resources we're already using today.

"There is extremely strong evidence, hard medical evidence, that this relationship, that connection over time with a trusted health-care provider, produces better health outcomes and saves money," says Dr. Danielle Martin, MD'03, DSc'22, chair of the department of family and community medicine at the University of Toronto and a practicing family doctor at Women's College Hospital in Toronto.

A founder of Canadian Doctors for Medicare, Martin is a well-known advocate of Canada's universal health-care system. She's also a reformer and has joined with others who say Canada needs to concentrate on fixing our primary care model—the routine, day-to-day care offered to a patient by a family doctor or other health-care provider.

The problems in Canadian health care are well known. One in five Canadian adults don't have a regular family doctor. More than one-third of patients who needed a joint replacement had to wait more than six months for surgery. Hospital emergency rooms are overrun, to the point some doctors have written open letters warning of imminent collapse.

And yet Canada doesn't skimp on health care spending. At an average of $8,563 per person per year, Canada spends more than most other wealthy countries.

Our real problem, say Martin and others, is in how we organize—or fail to organize—health care. They believe we need to reshape our system around primary care.

"Primary care is the foundation for the rest of the health-care system," says Maria Mathews, a professor in the department of family medicine at the Schulich School of Medicine & Dentistry.

"The primary care provider is supposed to know the patient well, is supposed to understand their individual circumstances and take a really patient-centred approach. Primary care is like the quarterback in the health-care system."[6]

With adequate primary care, a lot of the stress on the rest of the system is reduced. People don't crowd emergency rooms looking for treatment a family doctor could give them—and they stay healthier longer.

"When people's preventive care and the management of their chronic diseases are deferred and delayed, they end up in the hospital with more acute issues, and it's more expensive," Martin says.

But fewer doctors are deciding to practice family medicine than ever. "We would like 50 per cent of Canadian medical school graduates to go into family medicine. Only 30 per cent do, with the rest becoming specialists," says Mathews, who holds a Canada Research Chair in Primary Health Care and Health Equity.

She adds that fewer of them are attracted by the old lone practitioner model, in which an individual doctor hung out a shingle and practiced solo. Many working under that system have felt increasingly burned out by the lack of support, the demands of an aging patient population and ballooning time requirements for paperwork and electronic medical records.

An increasing number of advocates are calling for a different model for family medicine—a team-based approach that makes it easier for doctors to work in groups with other doctors, as well as with nurses and nurse practitioners, pharmacists, and even educators and social workers.

The idea is that doctors will get more support from colleagues, and the teams can provide more care, more efficiently. A nurse practitioner on the team might see patients for routine vaccinations and medical tests, for instance, and refer them to the doctor only for something that requires an MD's skills.

The team-based approach could help get every Canadian a primary care spot within 30 minutes of their home. That's a goal set by the Taking Back Health Care project, a group of reformers to which Martin belongs.

The group says Canadians should expect access to primary care the same way we expect access to primary education for our children.

"If you move into a neighbourhood, anywhere in this country, your kid has a right to go to the local public school," Martin says. "You don't have to go and beg the principal to let them in, you don't have to ask around if anybody knows of a Grade 3 teacher who's taking students."

Lauren Cipriano, BSc'03, HBA'05, is also in favour of integrated primary care teams. She is an associate professor in management science at the Ivey Business School, and Canada Research Chair in Healthcare Analytics, Management, and Policy.

Cipriano thinks integrated teams would help Canadian medicine return to the ideal of delivering compassionate care centered on the individual patient.

"As we've emphasized technology and expensive drugs, that's something that's been lost. When we think that technologies will treat patients, we've missed an opportunity for patient-centred care," she says.

Cipriano says the government should spend less money on expensive drugs and technologies that don't give as much value for the money as basic care.

"Our system is often attracted to the new, and sometimes new technologies are really revolutionizing health care and the health of patients. But some are just marketed well to physicians and to patients," she says.

There are many other reforms that should be made, she says. A public drug plan would make sure people can afford the medications they need. Canadians currently pay the third highest drug prices in the world. Cipriano says more aggressive price negotiations by the pan-Canadian Pharmaceutical Alliance would ensure resources are available for other types of health care including surgeries and mental health support for which there are long waits.

But the emphasis should be on reforming how primary care is delivered, Martin says.

The changes don't require lots of new spending or big technological breakthroughs—only commitment and strong leadership from government and medical leaders.

"If we declare a national goal and then we take all of the existing resources in our systems and we put them in service of that goal, I think we can do it." ●