



Family doctors in the field

Environmental stories from across the globe

Editors: Grant Blashki
Alan Abelsohn
Karen M Flegg
& Margot W Parkes



Wonca

World family doctors. Caring for people.

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Edited by

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President's Foreword

Our World Organization of Family Doctors (WONCA) takes environmental health seriously. We are committed to supporting the leadership role family doctors can play as part of the global transformation towards environmental sustainability that must take place over the coming few years.

As family doctors we see the direct links between the environment and the health of our patients and our communities every day. We also appreciate that what is good for the environment is good for our patients' health, including access to clean water, clean air, fresh locally grown food, and the benefits of physical activity, such as walking and cycling, rather than relying on motorized transportation. Our work in tackling obesity among our patients can have a positive impact on the environment as well.

As family doctors we also need to lead by example, ensuring that we provide our medical services in an environmentally sustainable manner, conscious of the environmental impact of our family practices.

And as family doctors we know that, in addition to our clinical responsibilities, we have social responsibilities. We are credible public health advocates and there are times when we need to be vocal for the sake of the health of our communities, to speak out for what is right, to say "this is not OK". As family doctors we can be advocates for the health of our planet as well as the health of our patients.

This is a publication that captures the voices and viewpoints of family doctors from around the world. Each of the contributing authors is a dedicated family doctor and, at the same time, an environmental warrior, battling to ensure their communities are healthy places that nurture the lives of each of their citizens. I

congratulate and thank all the authors and the editorial team of Grant Blashki, Alan Abelsohn, Karen Flegg and Margot Parkes from WONCA's Working Party on the Environment.

In her address on World Health Day in 2008, Director-General of the World Health Organization, Dr Margaret Chan said, "Climate change is one of the greatest challenges of our time. Climate change will affect, in profoundly adverse ways, some of the most fundamental determinants of health: food, air, water. In the face of this challenge, we need champions throughout the world who will work to put protecting human health at the centre of the climate change agenda." This is a book written by champions and I commend it to you.

I urge you to read these individual stories and be inspired about the contributions each of us can make to the health and wellbeing of our patients and our communities. Our future depends on it.

Professor Michael Kidd AM

President, World Organization of Family Doctors (WONCA)

Executive Dean, Faculty of Medicine, Nursing and Health Sciences, Flinders University

Introduction

This century has highlighted awareness among the medical profession that environmental issues are increasingly urgent, with the life support systems for healthy human life being stretched to breaking point. Clean water, a safe atmosphere, and food security are increasingly at risk, with dire repercussions for current and future generations. Indeed if our planet was a patient, we would recommend it go straight to the family doctor for an urgent check up!

While environmental issues play out differently across the globe, one thing they have in common is their potential to harm human health, both now and in the future. And it is local family doctors, whether in developed or developing countries, who encounter these health impacts first hand. Family doctors are often the first point of call when people get sick, and they know their communities and their local habitat intimately. So whether it be overt environmental impacts on health, such as exposure to toxic substances or air pollutants; or the more diffuse health impacts associated with climate change or land degradation; local family doctors play a key role in recognising and responding to local health and environmental problems. Family doctors are entrusted by communities with scientific credibility; bring a unique perspective and set of values to environmental challenges; and are comfortable with the sorts of systems thinking that such complex problems require.

Family doctors are increasingly expressing their concern about the impact of environmental change on health. A recent survey of WONCA family doctors regarding climate change, found that they overwhelmingly agreed with the science of climate change and the likely health impacts, and that they recognised a broad range of roles for family doctors, including education, advocacy and making changes

to the organisation of clinics. Only a minority rated the current responses of our profession to climate change as adequate.

The contributors to this collection are also family doctors who have taken a step beyond concern into action. Their stories detail their involvement in addressing the environment as a context for health: whether they are working at the coalface, leading by example, shifting our paradigm of environment and health, advocating for change, educating the next generation or stepping into leadership roles themselves. They have all maintained their role as family doctors. Some have formal training that has focused their attention on health and environmental issues. But for many, their work addressing environment and health has not involved years of formal study or additional qualifications. Rather, their enthusiasm, passion and commitment to taking notice, has led them to become informal “experts”, and allowed them to make important and lasting contributions to the health of individuals, communities and their environments.

We hope that this collection strengthens the growing international network of family doctors who are engaged with environmental issues, allowing us to gain strength from each other, and inspiring others to action, in their own way and in their own communities. We also envision this book as a living document and so extend our invitation to others to submit their stories, which would be published on the website of the World Organization of Family Doctors (WONCA).

Most of all, we hope that you enjoy and are inspired by these wonderful stories.

Editors

*Grant Blashki, Alan Abelsohn, Karen M Flegg,
Margot W Parkes*

Part 1 Leaders at the Coal Face



Gulnaz MOHAMOUD

MMed (Fam Med) SA

Country: **Kenya**

Notables: **Water and sanitation activist**

About the author

I have been working in Nairobi, which is the capital city of Kenya, for the last 23 years. I have two private practices and am also working part time in the Faculty at the Department of Family Medicine at the Aga Khan University Hospital, Nairobi. My main Primary Care clinic is located in a semi-urban suburb of Nairobi, which serves the lower wage earners of the labour sector. The majority of this community works in the industries that adjoin this suburb. The residents in these many communities number well over 100,000.

Therefore my interest and experience relate more to the environmental factors affecting the employees of these industries and their residential communities and the compromises that are made from the perspective of a developing country.

People living in this area have moved from rural Kenya in search of work leaving their families “back home”. Most of the employed work as labourers in the industrial area and are not very well paid and maintain two homes, one of them being in the city.

How did you become interested in environmental issues?

As a family physician, one of my most profound learnings was the need to practice holistic medicine that takes into consideration the individual, the family, the communities in which they reside (in the city), as well as their nuclear family and community (at their rural home setting).

In developing countries, four-fifths of all illness is caused by water-borne diseases with diarrhoea being the leading cause of childhood deaths.

In Kenya, there is water supply to between 25% and 50% of all people. So even though sanitization is much higher (between 75% and 90%), the sources of the supply defeat the sanitization efforts for the low-income earners.

The diagram depicts the magnitude of the problem. One can imagine this mode of infection being repeated on a continuous basis regardless of whether the patient is in the city or their rural home. Then also imagine this extended to ALL the household members. Now imagine it further extended to the community. Treatment is sought at the rural health-care centres and without medical insurance cover there is no way continuous, comprehensive and effective treatment can be afforded.

Hence the need for a bottom-up approach where change is brought about from a preventive perspective as opposed to the patient-treatment viewpoint.

What are the local issues of concern?

The majority of these patients travel “upcountry” to visit their families when opportunity and finance permits and upon their return, fall sick having ingested water from rivers, streams, stagnant pools, boreholes and wells. Water is polluted by both human and animal waste due to the sharing and multiple uses of this resource. The history of water-borne diseases is well documented.

This illness is rather painfully coined by me as “malaria of the stomach” or in Kiswahili, the national language *malaria ya tumbo*.

Another concern is the unending nature of this sickness due to the environmental pollution in the “water” in the city, which is not any healthier. Water shortages in the city compel people to purchase water from vendors that are sourced from the streams, boreholes stagnant pools and broken water pipes and also due to lack of running water the water is stored in Jerri cans and open containers for a long period of time. Meals are often eaten at roadside cafes “kiosks” that are cooked and utensils cleaned with this impure water. Therefore the cycle of *malaria ya tumbo* continues.

In the work environment, hygiene is compromised by lack of clean running water, poor sanitization and disposal methods and unsterilized drinking water.

Limited resources and a general sense of apathy compounded with poverty also contribute to non-care and therefore non-purification.

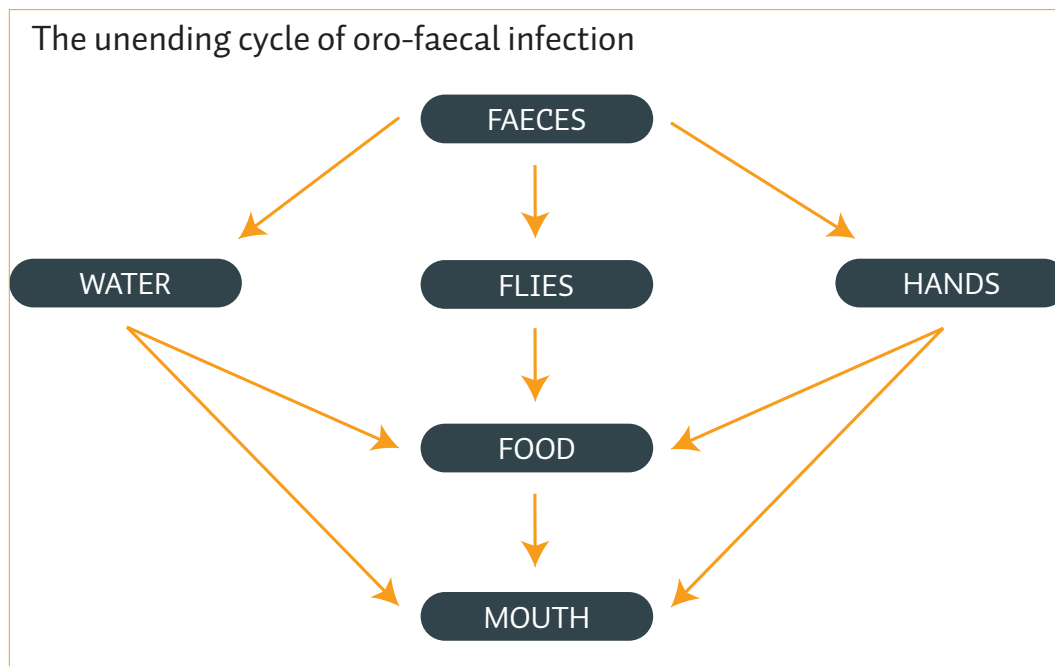
Picture my patient who returned to the city from northern Kenya after having been treated for typhoid with 56 injections of chloramphenicol, given four times a day, for two weeks, and yet remained sick since the source of the infection didn’t change or he

had the resistant strain. He didn't have any remaining area of his body that was not injected!!! Imagine the physical trauma along with emotional and financial cost to himself, his family, community and country!

Or, the young man who was convinced that he had HIV due to drastic weight loss, lack of appetite and repeated diarrhea going on for a month. I still remember the relief on his face when his HIV test was negative but was diagnosed with Typhoid and Amoebae.

Or the entire college student population that got sick when the water got mixed with the sewage line. My recommendation to drink boiled water was not taken well by the management of the college who felt that this would increase their electricity bill. A win-win had to be sought by recommending they add 'water-guard' to their drinking water.

Such cases motivated me to increase my effort to educate the patients. However, whilst this is important, behavior has to change hand in hand with attitudes and acceptance of personal responsibility leading to change in practice.



What can you do in your daily work to contribute to increasing understanding or addressg environment and health issues?

My consultation almost always involves the spread of knowledge about personal hygiene, taking boiled water or purifying water with a solution called 'water-guard' and the use of irradiation using Ultra-Violet radiation (UV), which is a cheap and effective way of sterilizing water. Consideration about hygiene includes that which is applicable, and do-able for the individual, the family and the house-help.

It is easier to bring about change from within the workplace as this has the effect for being carried forward in the employees' personal life and eventually to their homes

and community. Therefore encouraging employees to become wellness champions has the contagious continuum effect outside the workplace.

I promote this concept within the corporate sector by highlighting the benefits and savings from staff that are productive, healthy and sick-free. This Employee Assistance Program (EAP) encourages areas that the employer can invest in which includes purifying the source of water that the workers drink, providing sanitization facilities and meals on a cost-sharing basis.

Change is often intimidating. People can become quite “comfortable” with their uncomfortable situation due to a sense of familiarity. Hence resistance is quite normal under the circumstances. Success in breaking the cycle is almost never a single generational achievement. This means that with persistence and constant effort directed at the areas requiring change, the benefits start showing- one homestead at a time.

Technology has a role to play and with the ease of communication, access to information and helping the “woman” of the house to “see” the need for implementation of preventive measures water sanitization can eventually become a part of life.



Walid AL TAWIL

MBChB, MSc, AFOM, DrPH

Country: **Iraq / Sweden**

Notables: **WONCA Award winner in 2011 from the WONCA Eastern Mediterranean Region for contribution to family medicine development in the Middle East.**

About Walid Al Tawil

Walid was born in Iraq but has lived in Sweden since 2007. He says he speaks Arabic as mother tongue, English as a second language, and Swedish (terrible). He is now retired but was a general practitioner in the people's clinic in the 'worker district' in Baghdad, which is an area predominantly, resided by workers and their families. Former positions: Consultant in public health (ministry of health), and Assistant Professor at the University of Baghdad medical college. Also, Chairman of the Scientific Council For Family, Community And Occupational Medicine in The Iraqi Board For Medical Specialization, Ministry Of Higher Education And Scientific Research.

How did you become interested in environmental issues?

My interest in community health in general started when I was a fourth year medical student and immediately after finishing my internship I enrolled in post graduate study for a one year Diploma In Public Health. Perhaps my father who was a public health man was a trigger?

A few years later I joined the Master of Science program and my interest was focused on occupational and environmental issues perhaps because of my feelings about the ignorance of the health authorities on such an issue. The problem of asbestosis was selected to be my research topic. My interest continued until I was able to take study leave in the United States to get my doctorate degree in public health/occupational health, from the University of Texas school of public health. My research topic was also on asbestosis. During my study for this degree I was able to join a special residency program in occupational medicine in the university hospitals and occupational medicine clinics in Houston, Texas.

After becoming the Chairman of the Council Of Community Medicine in 1993, and apart from my interest in occupational and environmental health, I started thinking about the need for the initiation of a four-year residency program in family medicine

for the first time in Iraq. Imagine the strong opposition that I faced from some specialists in different fields of medicine, but I got the support of the Minister of Health which was very important, as well as the support of the Minister of Higher Education, and of course the support of the President of The Iraqi Board for Medical Specializations. The residency program was started in 1995, to be followed by another new four-year residency program in occupational medicine in 1996, which was unique in the area. It is my dream that such a specialty is initiated in all over the world.

More about your asbestosis Masters thesis?

In 1975, I was working on my Master's thesis and my research was on asbestosis where all 200 asbestos-cement workers from the Iraqi asbestos factory were surveyed for radiological, spirometric and clinical changes due to exposure to asbestos. The environmental conditions in the factory were horrible! You could even grab the fibers by your hand as you pass through the factory. The concentration of asbestos in air was 14 per cubic centimeter while the level should not exceed 0.1 fiber per cubic centimeter as a time-weighted average. The factory used to be close to a residential area, a large military hospital and camp, and many other industrial facilities with almost no measures for controlling the indoor or outdoor environments.

My first visit to the factory was shocking!

I had to visit the manager first, and in his office I was able to see free white and blue asbestos fibers all around. It seems that all workers who want to see the manager, would go in their working overalls and boots directly from the factory to the manager's office, carrying the fibers with them, because the industrial process was open and raw asbestos was poured into the mixing machine, using hand shuffles.

The same thing happened when workers went home—wearing the same working clothes. The workers seem not to be worried about the asbestos dust inhalation in their own factory but were worried more about the nuisance dust that blew sometimes from the neighbouring cement factory. The workers in the mixing department used their headscarves to wrap around their noses and mouths, as the special masks were not available, not suitable or not well maintained.

Now you can imagine the prevalence of asbestosis among the working cohort. Also remember the ill effect of exposure of the community around the factory. The factory was closed permanently after a few years.

Family doctors should always take the occupational history into consideration because such workers could be their own patients today.

How has this interest progressed over the years?

Now I am interested in advocating for, and stressing on family doctors, to seriously consider the impact of occupational and environmental issues on the health of the community and the individual. I believe that quite a large number of their patients have occupationally or environmentally related health problems and this is what I want our family doctors to consider in their practice.



Richard Saint Cyr

Country: **China / USA**

Notables: **Writes a health column in the New York Times China edition**

About Richard

I am an American board certified family medicine doctor working in Beijing since 2006. I arrived here in 2006, from San Francisco, where I received my ABFP diploma in family medicine from UCSF Santa Rosa. I received my MD at Saint Louis University School of Medicine, and my bachelor degree in English literature from Columbia University. I have a Post Baccalaureate Diploma in Public Health from the London School of Hygiene & Tropical Medicine.

How did you become interested in environmental issues?

I became very interested in environmental issues here in Beijing almost by necessity. Before Beijing, I had lived in California's Sonoma county, where life is almost a paradise of blue skies, world class wines, and organic farms dotting the hills. But here in Beijing, environmental concerns such as air pollution and food safety have been dominant issues during all of my years here, and the public outcry in China continues to increase.

As a family medicine doctor biking to work and trying to raise a newborn child, I have always felt an urgency to understand pollution's effects on my own family as well as my larger community. So I started to research air pollution, and I've used the pulpit of social media, leveraging my credibility as a family doctor, to educate people across China (and the world) about air pollution. Hundreds of thousands of people have read my advice from my wellness blog at <www.myhealthbeijing.com> as well as my microblog on *Sina Weibo*, plus my *New York Times China* edition health column. I've also given many lectures to the community to raise awareness, as well as via articles and interviews in newspapers, magazines, radio and TV both here and internationally, including a *TEDx* talk.

What are your main clinical interests in Environmental Health?

I've always aimed to increase public awareness all over China about the evidence-based risks of air pollution, and to dispel the many misconceptions and myths about pollution and how to fight it. But I've also tried hard to give people hope, to offer practical and evidence-based advice on how to combat pollution and still thrive wherever you live.

My main focus has been protecting children from air pollution, as there is fair evidence of potentially permanent harm in this vulnerable group. I've focused on using social media to educate parents about the dangers of pollution, including tips on how to protect their children. My key answers are always to consider indoor air purifiers; avoid the worst days outside; and consider a properly fitted N95 mask if they must go outside.

We can't forget about school time, of course. Through my efforts, many schools now have started to enforce air pollution action plans, where they limit student activities based on the hourly AQI. While this originally was implemented in international schools in Beijing, now this model is spreading all over China, often from parent demands as they print out my research and show to the school boards. Now that most cities in China now have hourly AQI updates, it's now much easier for all school communities to start enacting such action plans to protect their students.

Because of these strict action plans causing many days of cancelled outdoor activities, some schools in Beijing have taken dramatic steps by building enormous protective domes over their sports fields, enabling children to play outside even on the worst days. While I think this approach is too expensive for most public schools, this controversial approach has sparked a very welcome debate across China about indoor air pollution safety, and awareness of HEPA air purifiers is skyrocketing.

Parents and other readers are always concerned about which, if any, indoor air purifier they may need, and I've helped provide real world data via my own personal testing of indoor air purifiers, publishing the data on my websites. This data has now been read hundreds of thousands of times across the world, providing concerned readers very practical data about whether or not an air purifier may be helpful for them.

Pollution masks are also a major topic of discussion now, especially this year with the multiple highly publicized air pollution spikes across China. Again with this issue, I've used my public voice to spread evidence-based awareness about air pollution masks, and whether or not they may be useful against pollution. My reviews and the resulting discussions again have been read by hundreds of thousands of people in China.

The other major environmental issue for most people in China regards food safety. Just as with air pollution, people in China are hungry for trustworthy advice on how to eat healthy foods, and again via all my social media outlets I've provided much information about healthy, safe foods. But I've also raised awareness about the even more important food issues of proper nutrition, cutting back on salt, and focusing on fruits and vegetables.

Where to next?

There are so many public health issues in China that one could address! And social media in China has proven to be an amazingly powerful tool for tackling these issues. A doctor like myself can help educate millions of people all across China about car seats for infants; bike helmets for everyone; education about toddler formula versus milk; the list can go on.

One fascinating angle of all this is that China doesn't even yet have a true concept of family medicine, as primary care is just at the beginning stages across China. Almost no one has a "regular doctor" they have followed for years; so via my writing I also am helping to educate the community as to the true function of family medicine: prevention, education, and wellness for the entire community, not just the patients that walk in our doors.

My hospital chain, United Family Healthcare, is taking this concept of primary care further than any private organization in China. We've just started our own family medicine fellowship training program, and we also teach interns and residents. We now provide a crucial role model and training center for China's top medical students who are interested in family medicine but never previously had a proper outpatient clinic staffed by board certified family doctors. We are all very excited to be at the forefront of educating China's first crop of board certified family medicine doctors.

I hope my example—of using social media to have a major impact on public health far greater than just my clinic—can provide inspiration and guidance for other family doctors across the world. Your patients are online already—reach out to them!



Ezequiel LOPEZ

Country: **Argentina**

Notables: **Led a 10,000 km mobile primary care clinic for workers**

About the author

My name is Ezequiel Lopez, I am a family doctor and I practice in Quilmes, Argentina, and I also practice as an Occupational Health specialist.

How did you become interested in environmental issues?

During the WONCA World Conference 2010, held in Cancun, I had contact with, what at that time was the WONCA's Special Interest Group on the Environment (now a Working Party). After some time I had the chance to participate as a delegate of WONCA, at the Conference *Connecting Health and Labour* held in The Hague, in 2011, hosted by WHO and TNO (*Toegepast Natuurwetenschappelijk Onderzoek* or Netherlands Organisation for Applied Scientific Research). These two wonderful meetings gave me an insight into a totally new world of possibilities where Primary Care and Occupational Health could share their values and knowledge in order to provide better patient care right at the point where people live and work.

How did this inspire you to lead a 10,000 km (6,200mile) mobile clinic?

Since Alma Ata we all know that “primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination.”¹

And we also know that “It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work.”¹

But what we have done in all these 30 years to take Primary Care as close as possible to where people work?

In order to develop a model of delivering Primary Care services at locations where people live and work, out of an old motorhome we created a mobile clinic. It was specially designed to accommodate two consulting rooms, an x-ray room, a nurse station and a silent room for audiology tests. This way we could see patients by parking our

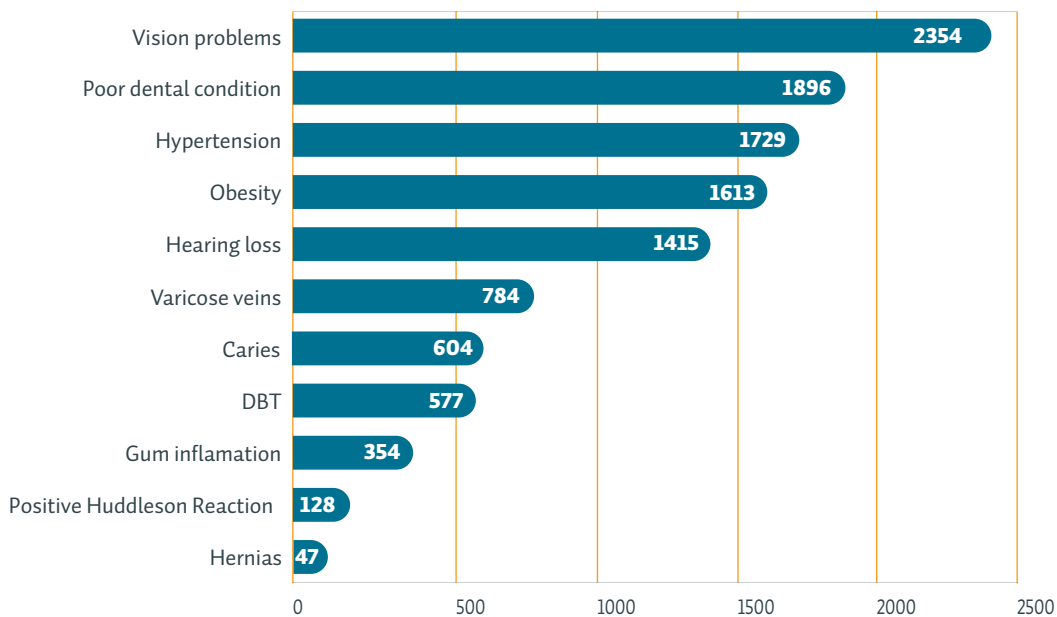
mobile clinic right at the door of the enterprise. We also had the possibility of moving between different locations every day. Thus we overcame a barrier where managers deny workers the possibility to take time out during working hours in order to have periodical examinations and medical checks performed.

The mobile team was comprised of two nurses, an X-Ray technician, a family doctor, an Occupational Health specialist, an audiology specialist and a bus driver.

Do you have any outcomes from the 10,000 mobile clinic?

The trip travelled a total of 10000 kilometres that included visiting almost 41 cities and towns—many of them were small towns and villages with a lack of Primary Care and medical services. Overall we reached a total of 122 factories and businesses.

During our journey we saw a total of 6430 patients, 67% male and 33% female, ages ranging from 18 to 67 years old with a mean of 37 years of age. Some of the most common problems we encountered during our visits are described below.



“Closer collaboration between occupational health and primary care would enhance the opportunities to contribute to productivity and to extend working life. This requires moving from a care oriented on diseases and health problems to care that emphasizes optimizing functional capability of individuals.”²

Primary Care and Occupational Health share many important things, issues such as prevention, focus on context, a broad view of health problems, and patient centred care are vital for both disciplines.

Among the rest of the “health system constellation” we, as family doctors, are in a better position to provide these kinds of services, and I feel we have had the advantage of walking through those 10000 kilometres to reach people in a new way.

References.

1. Declaration of Alma Ata. <www.who.int/publications/almaata_declaration_en.pdf>.
2. Executive Summary of the WHO Global Conference “Connecting Health and Labour” The Hague 2011. <www.who.int/occupational_health/publications/the-hague-summary-040512-A4web.pdf>.



Syed Abu ARIZ

Country: Pakistan/ Australia

Notables: Volunteer in Pakistan Floods of 2010

About Syed Abu Ariz

I am from Karachi, Pakistan and currently living in Melbourne, Australia. I can speak Urdu, Hindi, English and Punjabi. I have recently finished my Masters in Public Health from the University of Melbourne. Like every other doctor I did my internship after my graduation. After that I had the opportunity to work at Aga Khan University Hospital, which is one of the best hospitals in Pakistan.

How did you become interested in environmental issues?

My story is very interesting as it was motivated by the desire to help my community and people. As I mentioned, in the beginning, I was from Pakistan, which is an agricultural country, so the majority of the people live in the rural areas, and are heavily dependent on rivers, canals and their tributaries. Unfortunately, people living in those areas don't have access to basic health facilities and they have to travel long distances to get basic health care.

In the summer of 2010 (June/July), which is our annual monsoon season, Pakistan received heavy rainfall, which led to overflowing of the main rivers, canals and tributaries. This heavy rainfall led to a major flood, which was one of the worst floods in the region, in the last 80 years. Within a few days one fifth of the country was affected, which is an area larger than England. The people in rural areas were the most affected, as they got stuck in the flood-affected regions with no health facilities.

It was estimated that approximately 1600 people died because of that natural calamity.

I was contacted by one of my professors who taught me during my medical school days. Her brother was leading the relief work for Pakistan Air Force and they needed civilian doctors to help them with the rescue work in the affected areas. Without giving a second thought, I agreed to help in any capacity, as I felt it was my national duty to help my people and community. After a brief consultation we decided that every week we would visit a relief camp and would provide medical facilities. We formulated a medical team under my supervision, which comprised three medical doctors and two fourth and final year medical students. The significant thing about our team was the presence of two female doctors because most of the females in the rural areas were reluctant to consult a male doctor.

Our first assignment was the relief camp of Pakistan Air Force, in Sukkur (third largest city in the Province of Sind, Pakistan). We collected relief goods along with basic medicines and were provided logistic support by the Pakistan Air Force and Pakistan Army. That camp had approximately 6500 people and all of them were IDPs (internally displaced people).

When we were leaving we thought that we would encounter mostly cases with acute consequences of flood like trauma, injury etc. But interestingly there were many cases of diarrhoea and dehydration. Although flood itself is a major environmental health issue but another important aspect of water and sanitation was highlighted. Those who survived trauma/injury, suffered with issues related to poor water and sanitation. Children and older people were the most vulnerable. Luckily we had sufficient amount of ORS (oral rehydration solution). So we distributed ORS packets with clean drinking water to everyone coming to the emergency clinic.

After that assignment we visited different relief camps in different areas, with the help of Pakistan Air Force and Pakistan Army. As most of the camps were located in remote areas, we performed many minor procedures like stitching wounds, incision and drainage etc at those camps.

Were there any particular incidents, which remain in your mind?

One incident which I would like to share and will highlight the environmental challenges and barriers which we have in developing regions. During my mobile medical camp, one of the team members came to me and said there is an infant in one of the camps that I should see. I went to the camp and saw a severely dehydrated infant. I asked the mother why she was just sitting in the camp and not doing anything. She replied she didn't have the money to take her infant to the hospital and they had been using rain water for drinking as they didn't have access to clean drinking water. We decided to take that infant to the nearby hospital. Initially the mother was reluctant but later when we assured her that we would pay for the expense then she agreed. On the way we rehydrated the infant with sips of ORS and within 30 minutes we saw a significant change in the infant.

Although it's a very simple story, it taught me a lot. The first and the most important message is the significance of clean drinking water. Secondly, how easy it is to manage dehydration and diarrhoea. Thirdly, how important it is to address this basic but very important environmental issue of water and sanitation. As a health professional, we highlight so many important things to our patients but it is equally important to highlight the significance of this environmental hazard, not just to them but to the people, in general.

Final thoughts?

Unfortunately, every year Pakistan is affected by natural calamity like flood and earthquake and every year the majority of the morbidity and mortality are due to the basic issues of water and sanitation. Although these issues are highlighted because

of natural calamity, these have been major health hazards in the absence of natural calamity.

In developing countries, like Pakistan, people are aware of health hazards related to water and sanitation, but no one addresses it in the same manner as other diseases have been addressed. family doctors can play a vital role in addressing this issue. As they are the first interaction with the people, a few minutes of awareness talks can make a huge difference and can save lives of so many infants like the one I mentioned.

Part 2 Leaders by Example



Fernne and Roger ROSENBLATT

Country: **USA**

Notables: **Established Rosenblatt Stewardship Forest, Okanogan County, Washington**

About Roger and Fernne

Roger A Rosenblatt MD, MPH, MFR is Professor and Vice Chair, Department of Family Medicine, University of Washington, in Seattle, USA. With his wife Fernne, they have been very involved in a range of these environmental activities for almost 40 years in a very rural area of Washington State.

Involving Local Schools in Forest Ecology and Silviculture

This is the story of our first forestry and natural resources field day, conducted with the eighth grade class of Omak Middle School in April, 2000. Sixty energetic and enthusiastic kids spent the day on our tree farm learning what makes it tick. The students left with a totally new perception of how forests work, and a new appreciation for forestry as an enjoyable and intellectually stimulating activity that they can master. Here's how we put the day together:

The setting: the Rosenblatt Stewardship Forest

Our tree farm is in Okanogan County in Washington State, about 15 miles (25km) east of the County seat of Okanogan. The 450 acres (182 hectares) is a mixed conifer forest dominated by ponderosa pine, with some Douglas fir and western larch. The Little Loup Loup creek spends about 3/4 of a mile (1.2km) of its short course on our property, and lies in a deep canyon with a potentially rich riparian corridor.

The property is a patchwork of stands in various stages of regeneration and stem exclusion. The largest stand had all merchantable timber removed three years before we purchased it. The creek—and the associated riparian area—has been the reluctant host to a hundred head of cattle from the adjacent Department of Natural Resources open range during our hot and dry summers, and is definitely the worse for wear.

Since 1997, we have been working with the Okanogan County Conservation District, and the Department of Natural Resources Stewardship program to reforest the property, build fence, restore the riparian area, and create a healthy working forest. Grants from both the Wildlife Habitat Incentive Program and the Stewardship Program have helped us in this effort. Last year, we donated a conservation easement for the entire property to the Methow Conservancy, which prevents future sub-division and conversion of the property. Our goal is to keep our land intact for our four boys and their descendants, maintain the property as a working forest, and maximize wildlife habitat and recreational opportunities.

The school: The key importance of a committed teacher

The most important element of the school non-industrial private forest partnership that emerged was finding the right science teacher. We contacted a number of the teachers in the area's schools, and were fortunate in forging a close working relationship with Cathy Darly, the middle school science teacher in Omak. Cathy had previously had her students visit a Forest Service watershed just to the east of us, and was looking for another place that would serve as a natural laboratory.

The Omak school system faces the challenges shared by many of its rural counterparts: large class size, dependence on levies, a diverse and often under-privileged student body, and over-worked teachers and administrative staff. The middle school is fortunate in having a strong and committed principal, and reasonably good parent participation—both of which proved critical in making this field day a success.

The field day

The “day” actually started about two weeks before the event, as Cathy and Fernne constructed a hands-on set of experiences based on the major silvicultural and restoration activities that were ongoing in our forest. The weekend was chosen to coincide with our annual reforestation extravaganza just after the winter's snow melt. Key professionals from across the county were recruited to handle the eight modules that we elected to make the backbone of the field days. Students rotated through the modules, with each student participating in three different modules during the day.

These modules were:

- › Forest ecology: A local forester and a local logger introduced the kids to the major tree species and their growth habitats, discussed forest pathogens like mistletoe, and illustrated the challenges of managing dry-side forests in the context of fire suppression.
- › Water Quality: The Conservation District water-quality expert performed fancy chemical experiments on the random water samples in the field.
- › Fish: Two fisheries professionals from the Colville Indian Tribe brought along their fish-zapper, a very impressive piece of semi-portable electronic machinery that immobilizes fish so they can be counted and identified.
- › Aquatic invertebrates: Staff from the conservation collected samples and used field microscopes to identify
- › Stream flow: Roger and a local teacher showed the kids how to measure streamflow using the float method. The kids had a ball seeing how fast a bottle sped down the stream, though they got their biggest kick when Roger tripped and fell into the creek.
- › Journalism: One group of students were responsible for taking pictures with a digital camera, interviewing the participants, and writing an article which was published in a local newspaper.
- › Wildlife: Jim Bottdorf, the wildlife biologist from Department of Natural Resource's Stewardship Program, showed the students how to identify and quantify plants and forest structures, and illustrated the relationship between the plant and tree community and the diversity and abundance of forest wildlife.
- › Reforestation: Some of the hardier students—and they grow eighth graders in large sizes these days—helped plant ponderosa pines in the upland areas.
- › Bank stabilization: Another group of students planted dogwood and willow whips in the areas that had previously been trampled by cattle.

What Made it Work:

The kids (and the adults) had a ball. The students wrote us glowing notes after the event that convinced that they learned a lot, and had fun doing so. Their article in the local newspaper was spectacular.

A few elements really contributed to the success of the event:

- › Strong school leadership—the school principal escaped from behind his desk, and was an enthusiastic participant. He was also a very large and forceful guy, and the kids were very well behaved.
- › Strong parental and community support—We had about 20 adults on site, parents and grand-parents of students, and volunteers from the

Colville Indian Tribe, Forest Service, Conservation District, Pacific Watershed Institute, Methow Conservancy, and local neighbors. Not only did these folks know a lot, but they were a solid connection to the local community.

- › Great weather, good food, and a ‘porta-potty’—Although the porta-potty first got delivered to the wrong field, it eventually wandered back to our property—and made everyone feel a lot more comfortable. The weather cooperated, and Fernne provided sandwiches for all the adult volunteers, and had enough left over to feed the handful of kids who forgot to bring lunch.
- › A great insurance company—We worried about liability, that curse of Non Industrial Private Forest ownership. Even though the school probably covered liability, we called our carrier, explained what we were doing. And were infinitely relieved when they told us not to worry—they would cover our liability within our existing policy.

Conclusion

The field day was a lot of work, but it connected us with the community in a new and much more intense way. Not only did the students learn a lot about forestry, forest ecology, and environmental restoration, but they learned that science was connected to their real lives. The tools that they acquired will be meaningful if they become doctors, nurses, teachers, or natural resource professionals.

We also gained new insights into our own property. Who would have believed that the creek was full of strange aquatic invertebrates, looking like visitors from a distant planet? Or that our goal of restoring fish to the creek depends upon having ample numbers of these critters.

We revisited the planting the kids did during the field day on July 4: the two-year-old pine saplings had all survived, and were putting on impressive terminal growth. And the dogwood and willow whips had exploded with new branches and leaves. Our hope is that the kids who participated in the field day will have also spurred forward in their intellectual growth, and carry some of that experience with them into their future lives. We certainly hope to repeat this experience in years ahead, and would be glad to share the materials we developed with any other NIPFers who would like to try this in their own communities.



Karen FLEGG

Country: **Australia**

Notables: **WONCA executive board member and WONCA Editor**

About Karen

Karen is a GP, who lives in a rural town outside Australia's capital city, Canberra. She has been the Editor of WONCA News since 2010 and in July 2013, was elected to be a Member-at-large on the Executive of WONCA. She began "life on the land" as a rural doctor and married to a sheep and cattle farmer in 1984.

How did you become interested in the environment?

I became interested in the environment when I spent my early years as a doctor in a rural town living with my husband on a farm. Farmers are close to the land and most are in tune with things that damage it. They are concerned with not over grazing or 'milking it dry' and unproductive. They resist clearing the land any more as finally people have begun to realise that land clearing comes with negative consequences. Not just the immediate issues of destruction of native habitat but larger environmental aspects including erosion and damage to the entire local ecosystem.

I have begun to see my farmer friends planting trees and creating wetland areas to positively affect the environment; to reduce erosion, to bring back birdlife. The idea of planting rows of not just tall trees but multilayered vegetation (shrubs, small trees and large trees) to bring back multiple levels of birdlife is a new one. There are alternatives to chemical pesticides and consumers now value organic farming techniques. (Oh for the day when organic food is cheaper!)

Our national icon, the kangaroo, has often faced the rifle for robbing sheep and cattle of all their feed. Now on the farms of my more environmentally aware friends, the thought is that maybe they don't have to be shot. Previously in my country, all animals grazed over many acres, eating the choicest feed and leaving their less favourite plants (a bit like eating chocolate and leaving the main meals). New ideas in paddock management for all animals allow for eating down of all feed (main meal and chocolate) by stock and then total rest of a paddock and regeneration of feed or replanting with crops.

How has that progressed over the years?

Now some would say I am a town dweller, others would say that on 2.5 acres (1 hectare) I am still a small time farmer. In Australia, this land size is not a farm but it is enough to make a personal contribution and take some steps towards self-sufficient living.

The half an acre (2000 sq m) of orchard is where I grow cold climate fruit, (apples, pears, plums and nectarines), and then vacuum preserve it to eat in less productive months. Vegetable patches—organic and pesticide free, of course, I mainly use for summer vegetable, berries and herbs. Chickens—free range, but penned at night to protect from foxes. Chickens are so great—they provide eggs, they wander around the orchard and eat bugs that I don't want to spray to kill, and then they provide fertiliser for the vegetable garden. Apart from that they are totally entertaining creatures and much smarter than anyone ever gives them credit for!

Some of the property is just garden: native shrubs and trees and even some pretty, but exotic (English) flowers. As they do on farms, the shrubs provide the small birds with shelter, and the trees bring brightly coloured parrots to feed on flowers and seeds. Without going out anywhere, one can sit and enjoy the wildlife.

While my house is connected to town water, I have three very large rainwater tanks to provide all the water I need for the home, a swimming pool and garden. One town service, I do take advantage of is the weekly recycling collections of paper, plastics, metals etc. Organic material, I keep as compost for my garden. I am also connected to the grid electricity, but in such a sunny country it was a “no-brainer” to install solar panels on the roof, to generate power. And the pool is heated by solar means.

Hardly anyone has double glazing on their windows, in Australia, yet in Europe they have triple glazing. In my region the winter temperatures get down to -7°C (20°F) so a embarking on program of double glazing to enhance the insulation in the walls and ceiling seemed a good idea. Soon I am moving house and will have to begin this process yet again in another house. It seems a role in my life—to move and make another house more ‘environmentally friendly’.

Final words

I felt that my story was too insignificant to add to a collection of stories of political activism on the environment, and stories on major practice-based initiatives. Nevertheless, I find myself and my story of a more simple life (except perhaps for the swimming pool) included in this book. I am in awe at the illustrious and high achieving company that I am included in. But, it is my personal story, on a personal scale, and perhaps for many of us, that is what can and must be attempted.



Ingrid ECKERMAN

Country: **Sweden**

Notables: **President of Swedish Doctors for the Environment**

About Ingrid

My first name is Ingrid and my family name Eckerman. I live in Stockholm, Sweden. My mother's tongue is Swedish. I speak English and a little bit of French and German. I am a retired GP and "population health doctor". I used to work in Nacka, a suburb of Stockholm. Now I am president of Swedish Doctors for the Environment, and editor-in-chief of AllmänMedicin ("General Medicine"), the journal of the Swedish Association of General Practice.

The reason why I chose family medicine as my speciality was the children. When you meet several generations, you have the chance to work with prevention. Today, we know still more about this. Foetuses and children need excellent conditions and environment, including parents' wellbeing—and this generations back.

How did you become interested in environmental issues?

In the 70s, I heard about Rachel Carson and her book *Silent Spring*. I was sure that as this problem now was recognized, something would happen. But in the WONCA World Conference, Vancouver, 1992, I heard Helen Caldicott's speech. This time, I listened and took what she said to my heart. I realised that prevention must include environment. Back home I realised there was already a Swedish organisation, so I joined it.

The founder was Karl-Henrik Robèrt, a cancer scientist that later "converted" to research on sustainable development. He developed a pedagogic model, including the four system conditions, that made me understand how fundamentally wrong our way of living is.

To start with, traffic and air was the major subject. A colleague in the north inspired us to two exhibitions on green healthcare. Later came fossil fuel and climate change.

When we looked into chemicals, we realised that our profession is responsible for pharmaceuticals. A small investigation was made, and the report *Medicines and the Environment. What Do We Know Today? A Brief State of the Art Analysis* (1997) was sent to all kind of authorities as well as to the pharmaceutical companies in Sweden. When it landed on the desk of Bo Gunnarsson, the environmental director of the then monopoly company Apoteket AB, and Åke Wennmalm, the new environmental director of Stockholm County Council, the wheel started to roll.

What interests Swedish Doctors for the Environment nowadays?

Still, these are our main subjects: energy, climate changes, chemicals and pharmaceuticals. Since a few years, nano safety is added.

Swedish Doctors for the Environment (LfM) is, after 20 years, a small organisation with around 300 members. Why? If one is against nuclear weapons, it is very easy to say “I don’t want *them* to have nuclear weapons”. That does not affect one’s own life. But if one realises what a sustainable society is, then one has to look at one’s own way of living. Doctors are well paid. They enjoy their good houses, their cars, their travels, their summer huts, sailing boats and their up to date IT technology. Few of them would go in for a more simple life, not using their money.

LfM was reached by an invitation to an International Medical Commission on Bhopal, ten years after the big gas catastrophe in India. I was in a period of my life where I could choose direction.

How have you pursued your interests in the environment?

In January 1994, I came to India first time. I supported the clinic Sambhavna, where ayurvedic and western medicine is provided for the gas affected population. The final result was the book *The Bhopal Saga—causes and consequences of the world’s largest industrial disaster*, one of the main references. From 2010, I am a persona non grata in India. I am not allowed to visit the family that adopted me as an extra grandmother for nine children. This is a deep sorrow to me.

As a “population health doctor” my task was to encourage the staff to include life habits in patient’s consultations. I wanted them to first think of non-pharmacologic treatments and thus reduce prescription of pharmaceuticals. Also, healthy eating, physical activity, non-smoking and less alcohol would reduce the burden on the earth. To some extent I succeeded, but much remains.

On a personal level, did you choose to live in a certain sustainable manner?

Being conscious of the earth’s limited resources, I try not to use them so much. I live in a small flat in a co-house, where we cook together—which saves energy, food etc. I have influenced my neighbours, and gradually our food is getting more and more organic. We all sort our waste, we compost biological material. I seldom eat meat, buy new clothes etc. I try to avoid car driving, and I fly very seldom. The left-over money I spend partly on other people in Sweden and India, as well as give to different NGOs. My savings are mainly kept in Ekobanken, a transparent bank that invests in sustainable projects. I try not to support the economic system, that drives us towards a non-sustainable way of living.

Sweden is doing well when it comes to environment, compared to other countries. But the government does not want to understand what we need to do if we want a sustainable society. I don’t think the future looks too bright. For example, we don’t know if the reduced global fertility is voluntary, that is if couples get the number of children

they want. Maybe chemicals have contributed do the fall of fertility. Also, we suspect that the storms, rains and draughts already are affected by the hotter sea. The economic system seems very fragile, and it might collapse any day. We can see in Greece what the effects are on public health.

In a sustainable society, nature is not subject to systematically increasing ...



concentrations of substances extracted from the Earth's crust,



concentrations of substances produced by society,



degradation by physical means,

and, in that society ...



people are not subjected to conditions that systematically undermine their capacity to meet their needs.

What do you wish for?

I would like all doctors march to their government and stay there until the government changes their way of thinking. In my opinion, our own organisations, like WONCA and the World Medical Association, have totally missed the chance to influence the climate policy. Doctors have high status, people are confident in us. If we had shouted high enough, something might have happened. But now it might be too late. Now we have to work with mitigation, not with prevention.

My advice to new doctors is: Try to live as you learn—and show your patients, the staff and the local community. Learn about the connections between environment and health. Learn about the risks of treating risk factors as diseases and about the good effects of non-pharmaceutical methods. Don't avoid reflecting and discussing existential questions, like how much resources we should use to prolong someone's life. Join environmental organisations, offer to lecture and/or write. Do the same within your professional network.

Finally—vote for the most environmental friendly politicians!

Part 3 Paradigm Shifters



Robert F ‘Bob’ WOOLLARD

MC CCFP FCFP

Country: **Canada**

About Bob Woollard

Bob has extensive national and international experience in the field of medical education, ecosystem health, and international community development. He works extensively on the issue of the social accountability of medical schools and is currently actively involved in the development of a new national medical school founded on these principles in Nepal. He is also working in East Africa and Indonesia on social accountability, primary care, and accreditation systems.

Ecosystems and Family Medicine: the double gifts to a fortunate life

The life of a country doctor is deliciously, and sometimes worrisomely, varied. Each morning brings new opportunities to extend yesterday’s abilities further, while at the same time bringing anxiety about whether you know when you are getting out of your depth. But in a small town you are already swimming in the deep end of the pool where somebody else needs what you have (or should have!) to offer.

This is rural general practice—where you don’t have the option of saying “Sorry, I can’t help you, I don’t do that”. Instead your response must be “I haven’t done this

before but it looks like it needs to be done or else worse will happen-and I will be with you whatever happens.” Far from being an excuse to experiment and flounder, it is the knife’s edge of *primum non nocere* — the doctrine to “first do no harm”. This is true of each encounter that the day brings. And it is enduringly true of our responsibility to the community in which the lives of our patients and ourselves are embedded.

Thus it was on a morning in 1977 when I awoke in the fourth year of my practice in Clearwater BC, a small town nestled in a northern Canadian mountain valley. A distant mining company had proposed the development of a remarkably irresponsibly designed uranium mine at a time when such mines were effectively unregulated in British Columbia. The Provincial Government, with eyes set firmly on revenue and business support was initially dismissive of the voiced concerns from the community.

The citizenry gathered to explore the science behind the potential hazard and to plan strategy. It was immediately apparent that there was an expectation that the doctors in town would be deeply engaged in this complex issue that had potentially severe impacts on the health of the people. While initially seeming like a major imposition on an already busy practice life, in fact it was a highly fascinating exploration, requiring both intense scientific analysis and deep social and political engagement. It seemed presumptuous for a country doctor to be exploring matters ranging from the biological effects of ionizing radiation, through ground water chemistry, bio-concentration and the plume dynamics of air-borne pollution distribution. Even more audacious was engagement in the regulatory and political process to reveal the effective lack of societal protection and to press for a moratorium.

However, given the initial seemingly powerless position of the town I was early acquainted with the call of a 19th Century European physician who, observing the seriously inequitable mortality among the poor in cholera racked Silesia said:

“It is the curse of humanity that it learns to tolerate even the most horrible situations by habituation. Physicians are the natural attorneys of the poor, and the social problems should largely be solved by them.” (Rudolf Virchow)

The organized response of our local citizenry in reaching out to other organizations at the provincial, national and international scale finally resulted in a moratorium on all such mining in the province—a distressingly infrequent success for small community action, in the face of powerful economic forces. In fact, the issue arose again in another small town, in 2009, and we were successful in having the moratorium re-imposed.

At a personal and professional level this activity was transformative. I had long spoken to my children about the hope that whatever else they may do or become, it was of highest importance that they be *curious* and that they be *kind*. I was now in a position where I had to live up to my remonstrations! The joy of exploring the limits of curiosity as new environmental issues arose gave rather than drained energy. The unambiguous professional obligation to use the knowledge so gained in service to the welfare of

patients and communities could become a higher order expression of kindness than even my already deeply satisfying daily practice had provided.

Subsequently, the organized profession through the British Columbia Medical Association and Canadian Medical Association together with vibrant work of social activist and NGO organizations (including WONCA) and the interests of government, have provided an ample canvas on which to contribute.

It was as chair of the Environmental Health Committee of the medical association that I was able to participate in the national debates, advocate at the Federal level on a variety of issues ranging from the removal of lead from gasoline through nuclear regulation and even the health effects of nuclear war.

That professional organizations were prepared to take stands on environmental issues affecting health was initially newsworthy, and later became a matter of course—including supporting appearances at the US Nuclear Regulatory Commission to successfully oppose a proposed nuclear power plant just across the Canadian border—over a fault line in a location where a Chernobyl level accident would have rendered the Fraser Valley (home to some three million people) uninhabitable. We were able to marshal expertise to provide models demonstrating this risk. Coming from organized medicine undoubtedly enhanced the influence of our concerns and is a larger scale example of the influence physicians can have, rightly or wrongly, when unambiguously and simultaneously committed to the welfare of patients and the best that science has to offer—again, kindness and curiosity.

The leadership opportunities in the realm of environmental health, and the temporary exhaustion resulting from maintaining my small town practice and travelling regularly to engage in activities all over North America led not-too-coincidentally to this country doctor getting involved in medical education and ultimately to a move to the University of British Columbia. There, after more than a decade of service as Department Head, and as a professor, as well as an active practitioner, frequently seeing patients I have served for nearly four decades.

My initial years at the University coincided with Canada's attempts to animate the sentiments and recommendations of the United Nations' *Report of the World Commission on Environment and Development: Our Common Future*. It was the dawn of interdisciplinary grants and activity and I was successful in calling together and leading the *UBC Task Force on Healthy and Sustainable Communities*. This led to a series of grants and deep engagement in the broad community of scholars, civil society and citizens that arose in response to the rising concern that Canadian society was becoming increasingly unsustainable. The opportunities for these elements to come together in "saving" the UBC Farm from "development" into sterile housing tracts provided a remarkable chance to create a living laboratory for sustainability research and teaching. The connection to childhood roots in the farm on the prairies remains profound.

The transformation from country doctor to academic was also aided by the co-incident development of distributed education and expansion of the medical school. This

shrank the social distance between the two roles. A decade as Department Head, of course, leads to a hiatus as responsibility falls on one to attenuate your own career while your efforts support others who will carry the profession and its concerns to ever greater heights.

However, coinciding with the end of my second term, I was able to meet and work with remarkable younger and smarter academics to establish the *Canadian Community of Practice in Ecosystem Approaches to Health* (CoPEH-Canada) that is contributing to hosting this year's biennial meeting of the *International Association for Ecology and Health* (IAEH). This has grown to a six-university consortium and the rich network of colleagues from across the country, together with international work is a sustaining environment for pursuing research and positive social change.

Thus, I have been exceptionally fortunate in exploring (being curious about), developing and publishing in a range of realms such as ecohealth, medical education, social accountability, professionalism and accreditation. The gift of family practice is that it provides a front row seat to the pageant of life — from conception to death or, less elegantly, “from sperm to worm”. From this vantage point, the array of environmental and social indignities mankind imposes on the planet are inescapably obvious. But more often than not, this generalist perspective can make major contributions to addressing those challenges at many scales, from the village to the globe. The ultimate unity of humans as social animals with a purpose of mutual affection and caring has provided a thread to link such disparate realms. But it is the work on and with ecosystems that has always provided the lens through which it makes any sense.

Younger colleagues in Canada often talk of “work/life balance” in a manner that draws into question the sanity of extending beyond the already rapidly changing daily practice of medicine to embrace something as nebulous as ecological health—and still have a family life likely to lead to reproductive success! But I have been blessed for over four decades with family members that have each continued to make their own kind and curious (sometimes excessively so!) contributions to a better and richer world. They have been the bedrock of my ability to embrace the twin gifts of medical and ecological work. In turn, I would like to think that my excursions into ecological health have enriched their own possibilities and contributed towards a balance of work and life for all of us.



José AGOSTINHO SANTOS

Country: **Portugal**

Notables: **General Practitioner, Unidade de Saúde Familiar Dunas / ULS — Matosinhos, Lavra**

About José

My routine encompasses two distinctive personalities: José—the individual, and José—the doctor. They can be convergent or divergent depending on the variations of the fields of action. As far as environmental protection is concerned, José—the individual, performs a series of rituals that take up very little time in his eventful daily life. These include the use of energy saving light bulbs and recycled paper, or the careful separation of domestic garbage. However, in these few pages, I would like to share some of the actions that I, José—the doctor, perform thinking about environmental issues.

Medical counselling: the practice of medicine and environmental protection

How do you demonstrate your interest in the environment in your role as a GP?

As a general practitioner I have various tools to use in my daily activities. These tools are perfectly associated with the main General Practice / Family Medicine core competencies. I believe using these tools create this great product: the true identity of our specialty. While a surgeon requires his scalpel to perform that which is intrinsic to his specialty, the GP uses counselling as a core tool to achieve a holistic approach of his patients.

Medical counselling is like a sort of mixture of ingredients added by the doctor and many other ingredients added by the patient, thus resulting in a mutual blend. As a doctor who believes ecological protection brings community health protection, I use this counselling for approaching the health status of my patients, while further adding elements that bring up some environmental issues. The adding of environmental ingredients when interpreting and solving their health problems has proven useful and beneficial in patients' empowerment. Moreover it is likely that it is highly relevant in the process of raising their awareness to environmental problems.

How does this relate to forest fires?

I would like to illustrate my testimony here through practical examples. So I will start with my comparison between anxiety disorders and forest fires. These are two key topics on the agenda in Portugal. Portugal is one of the European countries with the highest rates of mental health problems (most of them related to anxiety and depression disorders). On the other hand, one of the main environmental issues in this country is the deforestation as a result of forest fires. These have been destroying millions of wood hectares, thus devastating natural ecosystems, burning villages, polluting the air, aggravating symptoms of cardiopulmonary patients, and spending a part of the public budget in control and prevention policies. This matter has brought the Portuguese population deep concern and dismay.

I find establishing an analogy between anxiety disorders and forest fires to have had sublime results. It is not uncommon for patients to seek my assistance because they feel agitated, with unspecific body sensations and periods of greater irritability, which undermine their personal relationships. There seems to be a general notion among the population that such symptoms do not match any disorder and that they may be treated through systematic use of benzodiazepines. Explaining the concept of anxiety crises through a comparison with forest fires leads to a new perspective of patients about their psychological status and may enable the compliance of the suggested therapies.

I describe anxiety crises as exacerbations of a concealed psychological disorder and which may be compared to forest fires in the sense that these consist of a sign of a core problem publicly identified that is the negligence of forests by their owners (allowing the existence of various species of wildflowers and rubbish accumulated throughout the months, and burning residues in the core of the woods, etc). Benzodiazepine therapeutics can be compared to water injections from the fire-fighters. Oh the other hand, psychotherapy and/or antidepressant therapies can be described as the process of forest cleaning that is necessary to decrease the risk of exacerbation. I have achieved encouraging results: patients tend to realise that a longer treatment may have medium and long term benefits, whereas the mental association of the disorder with an environmental problem may indirectly lead to greater environmental concerns from the extrapolation of their own health problems.

What other interesting environmental analogies do you see in your daily work?

Another example refers to my approach with smoking patients, by establishing the analogy between the effects of industrial smoke on the ozone layer and that of the cigarette on their pulmonary parenchyma: the idea of the *ozone hole* becomes associated to that of the pulmonary emphysema. I obviously use other strategies when performing counselling for smoking cessation; however, this method is among my personal favorites.

Finally I can provide you with a third example. Some patients come to me in the post-divorce process, facing the mourning of a relationship, which was once a source

of happiness and safety. They tend to be pessimistic about the future, claiming that they have been targets of too much hurt so they feel that they can't move on or re-start relationships. When they verbalize such concerns, I understand them but I feel compelled to share an idea that, despite its simplicity, may be quite powerful: it is true that many fully written pages of a life together have been thrown away; nevertheless, there is an opportunity to recycle all of those pages, while keeping the previous experiences as parts of a learning process for life, and re-write other life stories on recycled paper. Quite often recycled paper is much more appealing in a book rather than plain white paper sheets ...

Counselling is therefore this powerful tool that enables us to make person-centered medicine while also collecting elements that highlight environmental problems. There are many more examples, which I have been passing on to colleagues in peer review meeting and casual conversations. However, I will leave you with the challenge of discovering similarities between common pathologies and ecological problems. This may take up some of your time; still I believe it will be worth your while. You will be able to achieve interesting conclusions about how these realities are entwined and how they can generate philosophical raw material which may be useful in your personal life and your professional routine.

This is my story. What is yours? ...



Marg SANBORN

Country: **Canada**

Notables: **Rural family physician, Chatsworth**

About Marg Sanborn

Marg is a family physician in a rural area of Ontario near lake Huron and Georgian Bay. She is Canadian Co-Chair of the Health Professional Advisory Board of the International Joint Commission, which advises the Canadian and US governments on the current and emergent clinical and public health issues in the area of trans-boundary environmental health.

How did you become interested in the environment?

My interest in the environment started when, growing up on a farm in Southern Ontario, I watched my beloved creek die and disappear under the combined influences of tile drainage and pesticide overuse. It wasn't until I finished medical training and started practicing in a rural agricultural community that I began to recognize the human health connections.

I was admitting a young farmer to hospital—he happened to be the second young farmer I'd seen that summer with Non-Hodgkin's lymphoma. It seemed an unlikely coincidence, and sent me to the library to find out what the environmental causes of this tumour might be. Soon I learned that pesticides had been implicated as a possible cause, and that both these farmers sprayed large areas of cropland. My interest in environmental exposures and human health was sparked for life.

Shortly after, I met Dr Alan Abelsohn by chance at a WONCA conference, and learned he had started an Environmental Health Committee at the Ontario College of Family Physicians. This structure was what I needed to change an interest into a passion for studying, teaching and understanding more about environment-health connections. My first project with the College was a needs assessment for family doctors and family practice residents on environmental health, where we learned that formal education in this area was wanted and needed by physicians but not strongly represented in training programs. I've also led systematic reviews of pesticide health effects, and developed teaching materials for family physicians in collaboration with other family physicians in this group.

How have you continued this interest?

I was appointed to the Health and Environment Task Force of the International Joint Commission, a group that manages water resources along the Canada—United States boundary. This led to work on an environmental health curriculum for family medicine, writing and teaching on water-related illness, and more recently to a project on understanding how we can integrate the human health and environmental data we collect to learn more about connections between them. Working in this organization has given me an understanding of the political process and provided many personal connections with other health professionals inside and outside government who are active in designing solutions to protect the environment and human health.

Shortly after joining the Health Professionals Task Force, I received an environmental health scholarship designated for teaching medical students, residents and practicing physicians. This small award gave me some funded time to develop teaching materials and deliver them in various settings. More importantly, I began to meet and work with colleagues from Canada and the US who had similar interests and were developing environmental health in their academic or clinical communities.

It's never easy to find time to do research, present, write and teach while practicing family medicine. For me it's been more than a hobby; it has been the public health/big picture counterpoint to a career spent dealing with individuals and their families in the intimate and everyday work of family practice. When the bureaucracy and slowness of governments and organizations frustrates me, I can retreat to the rural emergency room and enjoy a decisive and fast-paced work setting. On the other side, when it seems I'm talking with a patient about the same unresolved problem for the tenth time, I can work on a paper or project that I hope will benefit more than one person! There are also many times when the two worlds come together and something I learned from my environmental health work enables me to understand an individual patient's health problem.

Being involved in environmental health requires some ability to tolerate controversy and personal attack. Some of the issues we research and bring to the attention of our family medicine colleagues and the public are represented on the other side by large corporate interests with lobby groups, or unsympathetic governments-of-the-day. This is not always comfortable territory for me, but it is (as our MBA friends would call it) a challenge that presents an opportunity for growth! It is also a strong reason why formal medical organizations need to stay engaged in environmental health—we provide some balance for the loud voices of vested interests.

And in your private life?

A few years ago I attended an impassioned presentation by an environmental scientist/activist who urged the physician audience to become opinion leaders for clean energy, hybrid vehicles, and other 'green' technologies that are initially more expensive. He told us we could afford that extra expense better than most people, a sentiment that initially annoyed me but made me think!

Over the following years, I've put my environmental values into practice by installing a home solar system, managing my garden and land organically, eating more organic foods, doing more self-propelled outdoor activities, and driving a low-emission vehicle. As well as promoting personal change, the speaker made me realize that when we talk to people about environment and health, we never know what influence we are having, how long it will last and who will benefit. Expect the effect to be greater than you realize—that's what keeps me going.



Warren BELL

Country: **Canada**

Notables: **founder Canadian Association of Physicians for the Environment**

About Warren Bell

Warren comes from Salmon Arm, BC, Canada and speaks English, French, some German and Spanish. He is a family physician in a solo private practice and attending staff, Shuswap Lake General Hospital.

How did you become interested in environmental issues?

I first connected to environmental concerns quite outside the medical field—when recycling began to catch on in the mid-1970s. We then lived in Montréal. There were no recycling depots; everything recycled had to be taken to private collection sites. I remember driving around with boxes of tin cans, glass bottles and newspapers, dropping them off around the city. I probably generated more greenhouse gases than were saved by my recycling efforts!

Then reports about poor air quality in Montréal began to surface, and a scandal erupted because partially treated sewage was being discharged into the St Lawrence River just above where drinking water was being withdrawn.

Still, within the practice of medicine, I had no real sense of the relevance of environmental concerns. But I was becoming interested in the incestuous relationship between the drug industry and doctors, and that was leading me towards an expanded view of what therapy was all about. It no longer seemed that drugs and surgery were the only track leading to health.

Moving back to British Columbia in 1979, I began in a group practice, but soon opened my own private office. This allowed me to broaden my range of therapeutic options, drawing me steadily into a more holistic perspective. The connection between how one lives one's life and how a community conducts itself became progressively more clear. I became involved in community affairs, writing a newspaper column called "Global Health" for 10 years.

After an unsuccessful effort at creating a national non-profit organization under that same name, I and two colleagues—Tee Guidotti, an academic respirologist, and Trevor Hancock, a public health consultant—founded Canadian Association of Physicians for the Environment (CAPE). Starting with barely a dozen members in 1994,

CAPE today consists of over 5500 members, including doctors, other health professionals, scientists and citizens of all backgrounds.

Because of our activist perspective, early on CAPE was twice refused charitable status, a legal standing allowing the issuance of tax receipts to donors so they can reduce their income tax. Rather than surrender our activist role, CAPE did what other similar groups have done; we created an entirely separate entity, the Canadian Health and Environment Education and Research Foundation (CHEER).

You'll have to agree that CAPE and CHEER (in English) comprise the world's most felicitous acronyms!

How has this interest (and CAPE) progressed over the years?

CAPE has now become the *de facto* voice of medicine in Canada with respect to environmental issues. Major CAPE campaigns have focused on eliminating cosmetic pesticides, phasing out coal-fired electricity generation, opposing nuclear power, and supporting the development of renewable energy. CAPE has also taken a stand on a whole range of other issues, from critiquing genetically-modified food crops and exposing chemical pollutants in general (including Canada's infamous Tar Sands) to the mitigation of global warming.

Inevitably these activities have inserted physicians, and our environmental and ecosystem health concerns, into the political process. Through CAPE and many other civil society organizations addressing both environmental and also a range of social issues, I have become increasingly involved in trying to influence societal habits on a larger scale.

This trajectory led me, as part of a group of highly motivated and experienced citizens, in my hometown of Salmon Arm, to step forward in 2008 to address a grave local environmental issue. In that year, Canada's largest builder of shopping centers, called "SmartCentres", sought municipal permission to construct a Walmart-anchored "big box" mall smack in the center of prime salmon habitat in the delta of the Salmon River, which runs right through town.

It's one thing to deal with far-away issues, or generalized problems, but it is a far different matter to deal with a critical issue in one's hometown – especially when that hometown has only 17,000 people living in it, and you know a lot of them personally.

For the next 3½ years, our core group of about 10 health professionals, architects, biological scientists, engineers, and interested and committed citizens met for two hours every Monday morning at 8am. We delivered an unbroken stream of detailed scientific data to the municipal, provincial and federal government bureaucracies. We carried out and commissioned independent studies, and presented the findings to the citizens of the community through newspaper articles, scientific reports and public presentations.

The issue split the community. On one side were the developer, City Council and staff, and a group of local business people who pushed hard for the project to go ahead as proposed. On the other were a majority of citizens, who favoured development only if it did not interfere with sensitive parts of the ecosystem.

At one point nearly 800 of these citizens turned up for a public hearing that was supposed to last one evening, but ended up lasting for five, including one memorable session that lasted until 1 AM!

After several false starts and much intense debate, the development was finally approved, but on a footprint reduced from 55 to 21 acres, protecting most of the valuable salmon habitat in the delta.

This experience etched into my mind, and the minds of many others, the sense that we humans are at a crossroads.

With over seven billion people alive today, and consumerist habits widespread, we are radically changing our planetary habitat. If this continues, future generations will suffer greatly.

Because I, as a physician, am far more secure in material and professional terms than most of my fellow citizens, I feel a profound obligation to expand and intensify my efforts to ensure a viable future for those who come after us.

If you are a physician, I hope you share this feeling.

Final words?

This story is not over.

Part 4 Advocates for Change



Enrique BARROS

Country: Brazil

Notables: Professor in primary care; Evidence Based Medicine devotee and TV presenter.

About Enrique

I live with my wife and children in a tiny rural town, working as a family doctor and struggling to structure primary care, avoiding the flow of an already fragmented and moneymaking health industry even in rural Brazil.

Making the Connections

“Health and Environmental movements should not be separated.”

—Vandana Shiva

How did you become interested in environmental issues?

In Brazil we have the saying that “the fruit doesn’t fall far from the tree”; so I am not as creative in “my path to link environment and health ” as I would like to claim! I grew up in a very unique family setting. My parents are both physicians and university professors—mom is a psychiatrist and family therapist and dad a gastroenterologist. They

divorced when I was nine, and then they both created new extended families where I had intense “family training” in biology and environment and was always stimulated (especially by my mother) to be metacognitive about relationships between “apparently” distant disciplines. Later on, I read Fritjof Capra’s *Hidden Connections*, and thought it was all pretty obvious.

So the ability to “link”—which, in my opinion, is the essence to work with health and environment—came very early. The problems I face today in my family practice are similar to those of my days in high school (and medical school). I see why I suffered bullying when trying to “integrate and see beyond”. Most classmates never got Capra... but well, let’s hope they do now!

I guess I was always fascinated with the beauty of the living phenomena and its odd and peculiar connections. Oh! The metamorphosis of the butterfly... birth and dying... How could I fulfill my dream of being a biologist and a doctor, a scientist and a poet, an architect and a psychiatrist, an administrator and an artist? And the anecdote comes to mind of the specialist who knew everything about nothing, and the generalist who knew nothing about everything: I think “yes, but can I make the significant connections?” I respond: “as a family and community doctor I can!”

How has this interest progressed and played out in your clinical work?

Today, living and working in my tiny rural town, I have grown to understand John Fry’s words that the GP can become a friend and philosopher. After four years here, I feel many people trust me enough to rethink models of healthcare... and then perhaps we can start making the connections.

Everything I do is inspired by ecology. When I accept the option of a patient to die with dignity at home, it is also my devotion to ecology at play: what is best for the patient? What is best for the family? What is best for the community? What is best for the environment? Well, most ecologists will agree that avoiding futile overtreatment to a dying elder in an intensive care unit is not only humane, it is also ecologically sound.

My heart fills with joy when I see a relieved mom leave my office without “that antibiotic” for a common cold; and when I reassure the young lady that she doesn’t need that head scan for her classic migraine. And especially when the low risk pregnant patient feels empowered enough to avoid the slaughter house of cesarean section that Brazil has become. I think, “dangerous pollution avoided!”—at the patient level, at the community, and at the national level: what is the total energy and the junk wasted by one of the biggest universal national health systems of the world?

Most of these ideas linking health and environment were laughed at by most colleagues, until my essay on the dengue epidemic in Rio de Janeiro got recognized by *The Lancet* and the Global Forum for Health Research. Then I had a national weekly TV show for two years where I hoped I could put the hidden connections on mainstream, but even when I interviewed Vandana Shiva in Rio+20, the producers of TVBRASIL wouldn’t take it seriously.

So I keep Gandhi's words close to heart: "first they laugh at, then they ignore you, then they fight you, then you win".

Some hopes for the future?

I am also a medical professor, and my department is just consolidating primary care as a discipline in a traditional Southern Brazilian university. I hope one day it will be routine to lecture on the connections between primary care and the environment, and to show how paramount a strong primary care is to a sustainable future.



Roberto ROMIZI

Country: **Italy**

Notables: **International Society of Doctors for the Environment president**

About Roberto Romizi

I live in Arezzo in Tuscany, Italy, and run a family physician practice associated in a cooperative company of family physicians, MEDAR. I am also a trainer appointed by the Province of Arezzo to coordinate continuing professional training courses for family physicians.

How did you become interested in environmental issues?

Since my youth I have been interested in environmental issues. When I registered for the University, I chose to attend the courses dealing with health problems related to the environment (at the time very few students opted for those courses).

My final dissertation, earned in 1979 with first-class honors, was about radiation protection. My first job at ENEA (*Ente Nazionale Energie Alternative*—National Agency for New Energy Sources) was paid through a scholarship award and let me further delve into radiation protection.

In 1981, I obtained my qualification as family physician and in 1983 specialized in neurology. During these years I realized that every physician—and not only hygienists and occupational health physicians, as it was generally thought at the time—should be more concerned about environmental issues, and should strive to advise stakeholders in both the establishment and the general public.

In 1985, I learnt about the International Physicians for the Prevention of Nuclear War, awarded the Nobel Peace Prize, in 1985. In 1987 I advised an important national association, *la Lega Italiana per la Lotta contro i Tumori* (“Italian League for the Fight against Cancer”), to establish a specific organizational branch to carry out researches on the relation between environment and health.

In 1989, I constituted AIMPA (*Associazione Italiana Medici per l’Ambiente*—Italian Society of Doctors for the Environment) by sending an invitation letter placed in an issue of the periodic magazine *Il Medico Italiano* (The Italian Physician) and organizing a founding assembly. About 40 physicians specialising in different areas of medicine attended the event and became the AIMPA founding members. A few months earlier, a similar association had been established in Switzerland, so I invited the president of this association, Mr Werner Nussbaumer, and proposed to him that we should create

the International Society of Doctors for the Environment (ISDE). We actually did this the following year, in 1990, in Cortona (Italy), by involving four National Societies of Doctors for the Environment, i.e. those of Italy, Switzerland, Austria and Germany.

How has this interest progressed over the years?

I am currently the ISDE president. My personal contributions to ISDE activities may be grouped in four main areas:

1. Professional training—I supported in cooperation with the Tuscany Regional Council the institution of SIASS—(*Scuola Internazionale Ambiente e Sviluppo Sostenibile*, International School for the Environment and Sustainable Development). Since 1987, I have been the local supervisor of the continuing professional training for family physicians on behalf of the National Health Service—*Servizio Sanitario Nazionale*—and in this role have always stressed the connection between environment and health;
2. Scientific dissemination—among other things, I am the director of the professional magazine *Il Cesalpino*, published in Arezzo, Italy.
3. Education and outreach action—This is intended to address the general public and schools (e.g. I set up an educational program involving 300 Italian comprehensive school teachers and including 12 learning modules). I also strive to educate my own patients;
4. Research—For example, I contributed to the design of a medical case file template also including measures of parameters highlighting the link between environment and health. I also took part in the establishment of a sentinel physicians surveillance network bound to a register of diseases possibly related to environmental factors. In cooperation with the National Institute of Health (*Istituto Superiore di Sanità*) I drafted a statistical atlas on avoidable causes of death in the provincial capitals of Italy, in order to examine the most critical parameters. All research activities I have conducted have been developed from a cross-disciplinary and cross-institutional perspective, i.e. by involving not only family physicians, but also public administrators and other non-medical related roles.



Rebecca Randerson

Country: **New Zealand**

Notables: **a leader in Health and Sustainability in New Zealand**

About Rebecca

Kia ora tatou. This is the Maori (indigenous) greeting in Aotearoa New Zealand. Aotearoa is a bicultural and (officially at least) a bilingual country, though I can only successfully speak English. My name is Rebecca Randerson and I am a general practitioner (family doctor) in a seven doctor practice in north Wellington (capital of New Zealand). The medical centre is called Churton Park Medical Care and is a fresh venture born from a desire for a new direction. Specifically, we are focused on providing quality patient care in an environmentally responsible manner.

Health care in western countries is highly resource-intensive. Large amounts of energy and virgin resources are used while generating vast quantities of waste. There are frictions between maximising each patient's best possible outcome and the financial and environmental costs required to provide for this. This friction will only increase.

How did you become interested in environmental issues?

ttbear responsibility for stewardship of the earth and all the species that live upon it. However, I have spent my adulthood repeatedly realising that many in free-market economies do not share this philosophy at all. Sometimes it seems they are as bewildered by my approach as I am by theirs. I remain convinced, however, that advocating for mutual responsibility to each other and to the planet is the only way forward. I cannot see any other way that does not end in depletion and despair.

Around the time my two babies arrived in the world, I remember reading articles on greenhouse gases and climate change. It hit me hard. The realisation that the fickle and excessive consumption in our society that always sickened me was accelerating the greenhouse effect on poorer nations disgusted me. I realised that humanity needed to wake up, get educated and make changes. Quickly. What wasn't immediately obvious to me was just how many powerful corporations and governments with vested interests would stand in the way.

By chance I heard that a handful of doctors around New Zealand were setting up an organisation. I got involved. Its name is *OraTaiao: New Zealand Climate & Health Council* <www.orataiao.org.nz>. *Ora* means to be alive, well, safe, healthy. *Taiao* can

be translated as world, Earth, environment, nature, country. We emphasise science and evidence-based policies for health, equity and community resilience. The organisation is continuing to grow as more health professionals realise the inter-relationship between climate and health. Climate change is the biggest global health risk of them all—the ‘meta’ issue that feeds into all other health issues. *OraTaiao* is developing connections with similar groups across the globe.

What can you do in the health system to increasing understanding or address environment issues?

My particular passion is to get New Zealand’s health system running more sustainably. There is a huge amount to take action on and most of it will also save money—increased recycling, more tailored procurement (less waste), reuse where able, energy efficiency, pharmaceutical wastage and reduced travel (New Zealand is long and thin and there is excessive air travel to meetings which could be videoconferenced). There are also health co-benefits of low-carbon living: active transport, reduced meat consumption, less wasted travel time. It just makes sense. In 2010, a colleague and I developed a guide for medical practices on how to operate sustainably. I am heartened to say that many New Zealand practices have been using it. This year I have also worked with community groups to establish a carbon-offset forest for the emissions of healthcare workers: <www.forestsforhealthnz.org>.

In a voluntary capacity, I work with staff and management at my city’s hospital towards addressing the above issues. I work nationally with others to attempt to get environmental indicators included in health-sector decision-making. The biggest frustration is that institutions can be stuck on a model of short-term budgets—not always able to see that a small financial investment up front will save much more money over time. I am aggrieved that the current New Zealand authorities perceive sustainability as an unattainable ‘extra’ rather than the essential core of all future development.

How has this interest progressed over the years?

I also engage in direct political action. Because I am not employed by a state institution, I feel free to lobby politicians and to protest. That is an important freedom to have and I use it frequently, at parliament or most recently carrying banners to farewell the Oil-Free New Zealand flotilla as they sailed off to try and stop an oil-giant drilling off our coast. Fossil fuel extraction is one of New Zealand’s biggest climate shames—it needs to stop. We must also reduce our love of cars and roading. Another important issue for New Zealand is our responsibility to our Pacific neighbours with whom we are historically connected. Sea-level rise is a crippling issue for these countries and New Zealand needs to be mindful of their future needs, which may include hosting climate refugees.

From time to time, the knock-backs become disheartening and occasionally I question whether I have the will to continue with the work. But my enthusiasm is always reignited by my green medical colleagues—none of whom I see on a daily or weekly basis as they work in specialties and cities distant to me. I work best in a team and

am very fortunate to have email contacts with others who also place the environment high up their list. I feel inspired when I read of the work they are doing and I value the frequent words of encouragement we share. So, then, even a virtual team is great to be part of, and is a low-carbon way to connect!

I do encourage others to become involved. Some say they can't find the time. Others feel powerless—feeling that the authorities won't listen anyway. All we really have to give in this world is our genuine engagement with issues around us. I believe that every effort is worthwhile—each small effort eventually adds up to a societal shift in thinking.

Final words?

Yes, there are time pressures and if I'm honest, I'll admit that my sleep, diet and exercise are not what I would recommend to my patients. Like others, I feel that acting passionately on things one believes in isn't a choice—it is something that pulses so strongly inside that you just have to do it. As health professionals we have a responsibility to our patients and all humanity to preserve the ecosystem of our planet. I must also note that governments have huge responsibilities in this area and it is urgent that they work together and reduce emissions now.



Neil ARYA

Country: **Canada**

Notables: **Served as Vice President of International Physicians for the Prevention of Nuclear War**

About Neil Arya

Dr Neil Arya is a family physician in Kitchener Ontario and founding Director of the Global Health Office at Western University. He is former Vice-President of International Physicians for the Prevention of Nuclear War (IPPNW), and has written and lectured around the world about Peace through Health. He is founder Director of the Kitchener/Waterloo Refugee Health Clinic.

How did your interest in the environment begin?

My engagement with environmental health began shortly after starting practice in 1992. Inspired by the Brundtland Commission report on sustainable development in the mid 1980s, which made public health central to the environment and development, I followed the UN Commission on Environment and Development as it produced the Framework Convention on Climate Change, in Rio. The “Environment” in 1992, was cool, compared to today, in more ways than one and it seemed that out of the Earth Summit a new world order of collaboration was possible.

I joined the City of Waterloo’s Recycling Committee. Our Committee promoted not just recycling but reducing and re-using; the latter two resonated more with me, being a son of frugal refugees and first generation immigrants, who never threw out anything and continued to reuse and hand down or borrow rather than consume. This Committee soon became the City’s Environmental Advisory Committee and took it upon itself to examine issues local to global including air quality and climate change. In the late 1990s, I was shocked when our planners admitted that they didn’t factor our obligations under Kyoto, which Canada had signed and ratified, in developing our regional transportation Master Plan.

With a Chemical Engineering degree prior to medicine, I was interested in the chemical soup we were creating in our environment as well as our bodies. Waterloo stopped the cosmetic use of pesticides on city property, in the late 1980s, well before it became fashionable, and this became the first issue our Committee approached.

I also studied the impact of organic agriculture and went with friend Warren Bell, President of Canadian Association of Physicians for the Environment, to Cuba, to

explore how we might learn from the Cuban experience during the 'Special Period' where due to a lack of petrochemicals, they were forced to be organic. I grew up vegetarian for religious and cultural reasons. While this was considered even unhealthy in medical school, and such upbringing a form of child abuse according to one of the pediatricians who taught us, this became more in vogue as an ethical, sustainable, healthy form of diet.

As a family physician how has this interest continued?

When the Ontario College of Family Physicians (OCFP) developed a training programme to teach family physicians about such issues and I took the course to become an Environmental Peer Presenter. I later took a course to present WHO modules on Children's Environmental Health to physicians. Through these, I developed friendship with others and joined the Environmental Health Committee of the College.

Around 2001, a couple of my patients nominated me for Adjunct Professorship which was accepted. I was expected to help with theses and then involved in some grant proposals around environmental health. I soon taught a combined graduate 4th year course in Ecohealth and served on PhD committees as well as advising undergrad theses. I guest co-edited a health issue, for *Alternatives Journal*, which involved many faculty members and through this, developed associations with leaders in Environmental Health. With other collaborators we developed an Ecosystem Approaches to Health group from several universities and began to write papers and present in conferences on issues related to SARS, the Walkerton water crisis, and a hypothetical outbreak of H5N1.

About 2005, I was asked to lecture in the Ecosystem Health programme at Western University's medical school and later on becoming Director of the Global Health Office at took over coordination of the course. A medical student, Lisa Mu, from Western contacted me about a summer project and we decided to explore more about Greening Health care and what we might do as family doctors in our office. Lisa produced a wonderful pamphlet endorsed by the College of Family Physicians, Canadian Association of Physicians for the Environment and others and continues to be engaged in health and the built environment as she pursues as career in Public Health. Our own clinical office, teaching practice of McMaster University has taken this on as we continue to try to develop environmentally, sustainable practice.

Meanwhile I was asked to represent the OCFP on the Pest Management Advisory Council of Health Canada. I saw first-hand how regulatory decisions were made by the Pest Management Regulatory Agency. As with the nuclear industry, there is a disproportionate influence of industry, with staff moving freely between academia, regulator and industry, in a field meant to protect public safety. The Agency somehow saw its role beyond non normative i.e. to assess the evidence, but also the normative to determine society's tolerance for risk, and to reassure a skeptical public. It favoured hard reproducible numbers of toxicology, extrapolating these with arbitrary 'safety' factors, viewing the more relevant, but uncertain science of epidemiology with suspicion, not

recognizing value of hypothesis generators such as ecological studies and case control studies when hypothesis provers such as RCTs were unethical.

At this stage in my career, I am trying to integrate knowledge and experience from different parts of my life, figuring out make rationale, sustainable decisions on environmental health continued to be a passion.

What are some of your personal viewpoints on issues of importance?

Having served as Vice President of International Physicians for the Prevention of Nuclear War, I have an interest in power choices including nuclear. Ironically though I chose to study Chemical Engineering because of role models and friends working in the nuclear industry I am firmly opposed to this as a sustainable choice for energy futures with regard to the fuel cycle from energy and environmental and lifestyle damage required to extract a finite resource, to risk of accidents and proliferation to waste management and true life cycle costs.

As President of Physicians for Global Survival, I developed an interest in resource scarcity, water, fossil fuels could fuel conflict. I also try to look at other energy choices, fossil fuels vs. renewables, not with a knee jerk negative reaction, but through an engineer's lens, seeing also economic and livelihood impacts, short and long term. However I see those with a hidden economic agenda trying to skew the public debate, labelling opponents and neglecting environmental and social costs.

With developing world experience, and working clinically with marginalized populations, refugees and those at risk for homelessness, I view some issues differently than many in the environmental movement, recognizing the need not just to concentrate on the biophysical environment but incorporate the socioeconomic issues of the most vulnerable, including jobs. We can never have zero impact on the environment, but also have to seek to understand others of good faith and seek to collaborate and come to common ground.

Being an environmentally engaged physician is consistent with whom I am and has allowed me the friendship and mentorship of so many such as John Last, John Howard, Warren Bell and Joanna Santa Barbara. Now as Chair of the OCFP Environmental Health Committee and WONCA member I try to apply these lessons to my day to day life to make me a better doctor, advocate, human being and global citizen.



Johan HALLBERG

Country: Sweden

Notables: GP and Strategist in health promotion and sustainable development, Department of Health Promotion, Dalarna County Council

Sustainable development is your daily work—what is the key issue you consider?

Is it possible to make the issues of sustainable development a concern that matters to everyone in any social context and on any societal level, and in a way that will sustain over generations?

The last decade I have had the opportunity of dealing with this issue. The work suggests that our continual search for wellbeing and its relation to measures concerning health promotion can be considered as an entrance into the complex issues of our common future. It appears the factors that greatly promote health are equal to those that promote sustainable development. Thus the major conclusion that can be drawn from this is that health promotion holds a significant potential to become an important strategy for sustainable development.

How did you come to be interested in environmental issues?

The outdoors has always been a source of joy and inspiration to me and I had my awakening in environmental issues at very young age. My choice to study medicine as a young man however, was decided due to my interest in the human being and what makes her go. Early I considered the environmental issues as a relation between nature, society and the wellbeing of man. We construct societies in order to make life easier and actually more pleasant. Yet the eagerness for rapid development and growth has often been blind to its detrimental consequences, not only for the environment but also for the wellbeing of all, and of society as a whole.

Becoming a physician was a way to better understand the relations above. During my medical studies in the late eighties, I also taught and did some assisting in research in the field of environmental medicine at my university. During this period, my thoughts of environmental issues as issues of a whole were strongly confirmed by the work of the Brundtland Commission and the report *Our Common Future* from 1987.

In 1991, I started to work as a clinician and some years later as a general practitioner. This work, combined with a slight profile in environmental medicine, allowed

me to, from a practitioner's point of view, further confirm my earlier thoughts. At that time however, my work as a clinician gave little opportunity to have any direct involvement with the causes of a reduced state of health, as well as with the related environmental hazards.

How did writing important reports and policies eventuate?

In 2002, I had a part-time position as a resource for the regional authorities in the county of Dalarna, in matters concerning environmental medicine. In this way I was able to develop ideas pertaining to the relationship between man's search for wellbeing and its consequent hazardous effect on health and the environment.

In 2004, I gave a presentation, which suggested the idea of health promotion as a driving force for sustainable development—ecologically, economically and socially. It was not just about the need for sustainable development for the sake of health or the tendency of searching health just for its own sake. It is, instead, about the requisite for society as a whole to support, more systematically, the processes of health promotion, so as to simultaneously achieve a sense of wellbeing, health and sustainability. The presentation took place in a seminar about The Regional Environmental Objectives, a work that has been prevalent all over the country, since 2002. Within the audience were some people from The National Board of Health and Welfare. They liked the ideas and suggested that I write a review on the topic.

Can you tell us about your report and its effects?

I was unable to begin the writing before 2006 due to my workload. In 2010, the report *Promoting health—a key to sustainable development* was published on the web.¹ During this period of writing I gradually became more involved in the work of public health and its relation to environmental issues, within the region. For the last three years, I've worked full time in identifying, supporting and spreading knowledge about the processes of health promotion and their relationship to sustainable development. I have my position at the County Council of Dalarna that is responsible for the health care system of the county, its population being 270,000.

In 2011, the Dalarna County Council adopted a new strategy for public health with the overall aim *Good and equal health for a sustainable Dalarna*, partly based on my report. The intention of the strategy is to promote the processes of health promotion wherever they occur. For instance, advancing a more health-promoting health care sector is a part of my work, in which I support my clinical colleagues by introducing their patients to lifestyles which are more beneficial to their health.

Thus, the strategy is directed towards the medical (and other) services within the Dalarna county council, and also towards the local municipalities and other regional authorities dealing with public health, in a wider sense. Besides traditional issues such as supporting health promoting lifestyles, the work involves interacting with public planning (including urban and rural development), transport systems, land use but also environmental issues, labour market, education, social services, culture and other areas.

A third dimension of the strategy is to develop a well functioning cooperation around the health-promoting processes within the region.

The strategy is continuously being developed and integrates health promotion in leadership, organisation, working conditions, working environments, care environments, outdoor environments and so on. By supporting the health-promoting processes in all kinds of contexts, several effects will occur: firstly, many of the functions involved can expect greater efficacy and quality; secondly, according to the theory of health promotion as a driving force for sustainable development, the stakeholders involved in the strategy will be stakeholders for sustainability.

This means that, for instance, health professionals using a health promotive approach will be stakeholders for sustainable development, just by doing their work. Furthermore, one can expect a greater interest both in issues concerning public health and health promotion on the one hand and sustainability including the social, ecological and economical dimensions on the other.

Where to now?

At the moment I am preparing some research on the issue of health promotion and its hidden driving forces towards sustainable development.

Reference

1. *Promoting Health—a key to sustainable development*, Dalarna County Council, 2010. <www.ltdalarna.se/landmarken>



Courtney HOWARD

MD CCFP-EM

Country: **Canada**

Notables: **Family doctor and Emergency Physician, Stanton Territorial Hospital Yellowknife, Northwest Territories. Courtney is a leading member of the Canadian Association of Physicians for the Environment (CAPE)**

Courtney's story of how this began.

“Long night?” asked the nurse, having come around the corner to find me slumped over a keyboard in the Emergency Room at the Inuvik Regional Hospital, one of the world’s most northerly teaching hospitals. Bright and cheerful, the hospital sits not far from the banks of the Mackenzie River, in the Arctic region of Canada.

“I’m just starting,” I replied.

She looked at me with a surprised smile and we got on with the work of the morning. After the shift, I returned to the source of my haggard appearance—a book on Alberta’s Tar Sands (or to be less provocative the ‘Oil Sands’ as I now choose to call them) I was completely new to the subject and astonished by what I read was going on upstream from us. I didn’t know what to do about it.

I happened to attend the National Family Medicine Forum in Calgary on my way back from that locum job and mentioned my concern to Dr Konia Trouton, who had co-founded the Canadian Association of Physicians for the Environment (CAPE). She promptly introduced me to the other co-founder, Dr Warren Bell. I found thus not only an organization to help steer my efforts but another mentor.

Thus began my years as a rookie advocate. I was a little low on skills—I had never written to a politician, nor spoken publicly, or even attended a protest. CAPE was there to support what I wanted to do—but what was that? I suspect that many doctors with the potential to make great contributions to environmental health get burnt out at this preliminary stage as their available energy spins itself out in a haze of “these issues are so big—what can I do?”

During that time, I really wanted to do something. I WANTED TO DO SOMETHING! So I went to Africa and worked with Doctors Without Borders in Djibouti. I came back to Canada and had trouble connecting with the much-less-severe health problems in this affluent part of the world. Then I got pregnant, and was stranded in Canada but with the mental time to put the puzzle pieces together. Arctic ice safety

and aboriginal food security *equals climate health issue*. Malnutrition in Africa *equals climate health issue*. Canada *equals climate culprit*.

Finally, I realized that likely the best thing I could do for health in all the contexts I care about, as well as for my own child, was to stay home and use my skills to nudge Canada's climate policies into a realm more in-line with international norms.

What have you since learned?

1. *Move beyond your computer and find friends.* Take a look at the groups in your medical community and your community-at-large who are already working on these issues, and see how you can slot yourself into their work. Joining or building a multidisciplinary team is key: it will be helpful to be able to access people with good organizational skills, economists, politicians of different stripes, urban planners, farmers, and "cool" people of all descriptions. As a doctor, your job, in any group, is to keep the focus on health. A focus on health breaks through opposing political agendas, unites the old with the young, and generally brings the best out in people.
1. *Think about what your personal strengths are and how they can best be used on the issue you care about.* You will be best at whatever you like doing. What is that?
2. *Take stock of the mental health effects of this work and try to live each day in a balanced way.*

What sort of things have you done since being involved in CAPE?

Since starting to explicitly dedicate 25% of my time to advocacy, I have worked via a number of avenues. Through CAPE, I have worked on creating lectures on climate change and health to present at national family medicine and public health conferences; written policy papers on healthy means of transportation and climate change; and started to produce easy-to-download materials to lower the barriers for other doctors to becoming involved.

As part of the Northwest Territories medical community, I have written motions to be presented at the Canadian Medical Association General Council requesting an increase in peer-reviewed studies into health and the environmental determinants of health around the 'Oil sands'. Also on urging greater participation on the part of the nation's doctors in the national conversation on climate change.

As a member of my local community, I have become a resource to city councillors who are working to improve our local cycling infrastructure and to a citizen's group working to draw attention to the potential environmental health effects of the hydraulic fracturing,¹ which is just beginning in the North.

What do you think when you look back at the path you have taken?

Action feels better than anxiety.

Now, when I sit at my computer, I sit straight, energized by a buzz of project ideas and new collaborations.

When I laugh with my children I can look into their eyes without guilt and feel the joy of our connection, as I know that I'm doing everything in my power to create a healthy tomorrow for them.

And when I think about the babes in Djibouti, I feel good that work here in Canada is allowing me to work for their health as well.

For such a divisive issue, I am astonished at how working on climate change in fact has the ability to unify the personal with the professional, the global with the local. What more could a doc ask for?

References:

1. Hydraulic fracturing, or “fracking”, is the process of drilling and injecting fluid into the ground at a high pressure in order to fracture shale rocks to release natural gas



Alan ABELSOHN

Country: **Canada**

Notables: **Past and inaugural chair of the WONCA Working Party on the Environment**

About Alan Abelson

I am a family physician working in a group practice in Toronto, Ontario, Canada. I see patients in the office and do house calls. I graduated from University of Cape Town, and did my residency in Family Medicine in Toronto. (Qualifications: MBChB, CCFP, FCFP)

I also have another environmental health aspect to my professional life: one day per week I work as physician-epidemiologist for the Air Quality Health Index Program of Health Canada.

How did you become interested in environmental issues?

My interest in environmental health began after a decade in practice, when I realised that my deep concern for the environment could be paired with my medical skills. I subsequently sought out some training in environmental health, completing a diploma in Environmental Health at McMaster University in 1996; followed by a fellowship with an international sustainable development program with Leadership in Environment and Development (LEAD), and more recently I was honored to be a fellow in environmental health with the Canadian Institutes for Health Research, Population and Public Health.

How has this interest progressed over the years?

My work in environmental health has been enormously stimulating, challenging and gratifying. For many years my involvement was not consistent, as I was doing the work in small contracts, as an unpaid academic interest, or by volunteering time to serve on advisory committees. This is a common issue for family physicians with an interest in environmental health in Canada, and I have worked with many passionate, motivated family doctors who have devoted many hours, in addition to very busy clinical practices, to environmental health issues out of the goodness of their hearts.

Much of my initial work was within family medicine. Locally, we formed a very active Environmental Health Committee at the Ontario College of Family Physician, which I initially chaired. Nationally the Canadian College later formed a committee.

Internationally, I have chaired the World Organization of Family Doctors (WONCA) Working Party on the Environment. The focus has been educating family doctors, with a solid evidence base, about the “upstream” environmental factors that impact the health of their patients and communities, and teaching skills in assessment and intervention. But family doctors also have a role in advocating for the health of their communities, which includes the ecological health and sustainability of our communities; and we have been active in many areas, as family physicians and in partnership with others. We have found that as family doctors we are trusted and respected as “community scientists”, and that government, NGOs and other organisations are keen to have us in partnership. We have learned that to maintain this credibility we need to remain close to our foundation in evidence based science.

What are your main clinical interests in Environmental Health?

My two main interests are air pollution and climate change. I have been working part time as physician epidemiologist with the Air Quality Health Index Program at Health Canada, where I am responsible for keeping a multi-disciplinary team abreast of recent research, participating in a research program, and working in knowledge translation, running programs to educate health professionals as well as the public about the health effects of air pollution.

But ultimately it is the health of the planet that concerns me. I feel that health communities need to be strong advocates in the climate change debate. We need to emphasize the health impacts of climate change, and the inequity inherent in the developing world’s historic responsibility for greenhouse gas production, while the burden of disease is born by the developing world. So we have developed training programs in climate change and health for family physicians in Canada, with a focus on the clinical implications of the health impacts of climate change, but also opportunities for greening the office and advocating for action to reduce climate change.

Final words?

My “parallel” career in environmental health has been enormously rewarding, and it has been an enormous pleasure and honour to work with so many wonderful family doctor colleagues from around the world with similar interests and passion.



Grant BLASHKI

Country: **Australia**

Notables: **Chair of the WONCA Working Party on the Environment**

About Grant

A/Prof Grant Blashki is a Melbourne GP and academic at the University of Melbourne's Nossal Institute for Global Health. He works in three fields; sustainability, mental health and global health. He was a cofounder of Doctors for the Environment Australia, a Board Director of the Australian Conservation Foundation and a mentor in the Al Gore Climate Reality Project. He is the lead editor of two books, Life Surfing, Life Dancing, a health education book for patients, and General Practice Psychiatry, also available in Italian and Mandarin. He has published over 100 peer-reviewed papers. His website is <www.blashki.com>.

How did you become interested in environmental issues?

My passion and interest in environmental health issues has evolved gradually throughout my career. As an Australian, I have been very mindful that Australians emit more carbon dioxide per human being than anywhere else on the planet, and at the same time Australia is a very old and dry continent which makes us one of the most vulnerable places in the world to experience the brunt of changing climate.

I have always had a strong appreciation for the environment and there is a certain sacredness that I have always felt in beautiful natural places. For example, I live on the edge of a big bay called Port Phillip Bay, in Melbourne. Most mornings or evenings I can be seen paddling out my kayak. I feel such a strong sense of connection and calmness when sitting out in the bay, at sunrise or sunset, in my little boat!

My first real engagement with environmental issues really started almost as a hobby or an interest in a newly emerging organisation in Australia, called *Doctors for the Environment Australia*, back in the late 1990s.

I had been very moved to read a book called *Green or Gone*, in 1997, published by Dr David Shearman, which awakened in me the idea that doctors had an important role, in fact a duty, to get involved in environmental issues as part of their care for the health of the community.

So with the leadership of Prof David Shearman I helped develop *Doctors for the Environment Australia* and organised a pivotal meeting at a coastal retreat, in Melbourne. This meeting was attended by all the state based committee members from around

Australia—and this is where we got to know each other and *Doctors for Environment Australia* began to get some real momentum.

How has this interest progressed over the years?

This involvement with environmental issues gradually grew and morphed from an interest into a substantial element of my academic work. In the first instance I began publishing discussion pieces about health and climate change, and was very inspired and supported by Prof Tony McMichael, from the Australian National University. It's fair to say that he has really led the world on raising the profile of the health impacts of climate change, and his mentorship has been invaluable for me in building a career in this field.

Eventually, I began to run some small research projects, for instance the 'Green Clinic Project' that evaluated the impact of incremental sustainability changes within general practice settings and how this affected their use of energy, water and creation of waste. Since then, I have been fortunate to be involved in a range of environmental health research projects, such as UNICEF's *Children and Climate Change in the Asia-Pacific report*; the *People Productivity and Planet study*, which explored the sustainability attitudes of over 12,000 business people in Australia; and the *Sustainability Script project*, which examined the impact of general practitioners providing a sustainability prescription to their patients.

Concurrently, it has become increasingly clear to me that research alone will not be sufficient to solve what has really become an urgent environmental crisis. I was very moved by the Al Gore movie *An Inconvenient Truth* and was privileged to train with him, and to subsequently deliver his climate change slideshow to many audiences around Australia. This engagement with advocacy led me to get further involved with a group called the Australian Conservation Foundation, one of the leading environmental advocacy groups in our country. I am honoured to have served as a director on its board. Another advocacy group that has emerged during this time has been the *Climate and Health Alliance* led by Fiona Armstrong and I have been pleased to assist with its development.

At the University of Melbourne, increasingly the links between health and sustainability are recognised. Over the last two years I was fortunate to lead the health theme of the Melbourne Sustainable Society Institute. In addition, working in the field of global health, at the Nossal Institute for Global Health there is a growing recognition that sustainability issues underpin many of the global health challenges that we are trying to tackle. We have developed a new Masters of Public Health subject called *Environmental Challenges and Global Health*, which has been well received. It looks at the links between environmental issues and global health such as climate change, water and sanitation, as well as exploring the issue of nuclear weapons and their potential threat to humanity.

Final words?

Most recently, I have been thrilled to work with the WONCA Working Party on the environment and in particular to work closely with Dr Alan Abelson who has been leading this group with great enthusiasm. As the new leader of the this working party, from mid 2013, I look forward to getting to know more of our members, so we can continue to make a real impact on improving the health of the environment for future generations.

Part 5 Future Leaders



Sara RIGON

Country: **Italy**

Notable: **Active young family doctor**

About Sara

I'm an Italian junior GP born and raised in the flavourful and lively northern city of Bologna,—enchanted medieval town built over roman ruins (as most places in Italy are).

This is a story of time, family and awareness.

How did you become interested in environmental issues?

Everything in Bologna screams ancient history, you are surrounded by the past all the time you hardly think the future will be any different, you in fact born with an innate sense of preservation.

This is when and where my interest in environment started, not without a little help and encouragement from my family: my grandmother's post World War II perspective on life, as well as my parents' bohemian, nonconformist free spirit. In fact, I was lucky enough to born in the seventies when the entire world seemed to be alternative and green. My parents, two '68 student protest movement parents, enjoyed freedom and prosperity as no other generation before and probably after them.

This meant growing up in a house where lights were never switched off when someone left a room, and central heating was able to turn winter into spring, if not summer. Mercifully, my parents' careless use of limited resources was strongly balanced by my grandmother sense of an uncertain tomorrow and consequent 'save everything for a rainy day' kind of philosophy.

As schizophrenic as it can be, I enjoyed growing up split among such opposite lifestyles and perspectives. Moreover, apparently a mix of "Broadway", as my grandmother used to call our house (lit up as a theatre on opening night), and a one quarter full bath tab (as at my grandparents having a bath in a full tub was an unforgivable crime), is the secret to a perfect environment activist.

By the time I was ready for college I had turned our "Broadway" house into a recycling headquarters and converted my parents to eco save light bulbs (still very much more on than off) and green cleaning agents. Medical school was the next level, where I discovered the unquestionable link between environment and health.

What are your main interests in Environmental Health?

Where you live should not determine whether you live ... and yet it does, even in Western, rich and pretentious countries. 'Lives on the lines' the revealing project of University College London academic, James Cheshire, on life expectancy in the city of London, shows a range of more than 20 years of difference across the capital of Great Britain. On the Central line, the 20-minute journey from Lancaster Gate and Mile End is a loss of 12 years in life expectancy; while one stop, from Pimlico to Vauxhall, on the Victoria Line, equals a six year drop.

Unfortunately, today profit rules the world, and it is rather a common practice to spoil the environment to make money legally and even more money illegally. One shocking and despicable example is the illicit toxic waste trafficking, in southern Italy. Criminal organizations had taken over this business almost two decades ago, more than 5,200 illicit trash sites have been discovered, and large quantities of toxic material was dumped every year in rural and inhabited areas contaminating the ground, and poisoning local residents and the agriculture products, then sold all over the country.

The centre of this outrageous practice is a small area around Naples and Caserta, in the beautiful region of Campania, the so called 'triangle of death' by a scientific article published, in a 2004 issue of the prestigious Lancet. The article linked the increased cancer and death rates in the region to the waste crisis and criminal management. Usually the waste material, including aluminum salts, ammonium salts, lead, acid sludge, contaminated oil, rubber from tyres, and asbestos, is unlawfully incinerated, as a result, high levels of dioxin are released in the atmosphere. In fact, dioxin has been found in the ground along with Polychlorinated biphenyl (PBC), which has also been detected in blood samples of residents of this deadly triangle.

What can you do in your daily work to contribute to increasing understanding or addressing environment and health issues?

As GPs we can all raise awareness among our patients and our communities as information is the first step toward change at any level, even in situations that might appear very much bigger than us and our little resources.

In fact, we should never forget that we, GPs, are the first line providers in the health system and in many countries also gatekeepers. Let's not forget that with great power comes great responsibility: we should be able to detect any increase in incident rates of any illness, especially with good recording systems and of course, good notes. All the scientific data we collect are precious information that can make a difference and not only in our patients' lives.



Cristina SICORSCHI

Country: **Spain / Moldova**

Notables: **Second year GP trainee**

About Cristina

First of all I want to introduce myself. My full name is Cristina Sicorschi. I have lived in Madrid, Spain, since I was 15 years old. Originally, I am from Republic of Moldova, in Eastern Europe. I immigrated to Spain with my parents and brother. Learning Spanish wasn't difficult for me, since the state language in Moldova is Romanian, a Romantic language, like Spanish. I also learned Italian at school, and as you may know Spanish and Italian are pretty similar. Besides that, I speak Russian, Spanish, English, and am learning French at the moment. As you can see, learning languages is my hobby, and I had a difficult choice to make when I finished school: to study translation and interpretation or medicine?

I chose to study medicine, because health professionals always inspired me. It's such a complex field, and so humanistic, and you never get bored, because it constantly changes.

I am currently doing the Family Medicine vocational programme, which lasts four years. I am in the second year of the training, and I am completely in love with this specialty. I learn about patients, and it's such a holistic approach, something I find very attractive.

Why did you become interested in environmental issues?

Well, I must say it was thanks to my teachers in primary school. They were the first who taught me how to recycle, and I put it in practice at home, teaching my parents to do the same. I developed this sensitivity to help the environment, and I still remember when I planted my first tree with my dad, at the age of twelve. It made me happy and at the same time I felt I did something useful!

At the present time, what also motivates me is not only the constant pollution we are living in, but also the respiratory diseases and cancer it can provoke.

Outline your contribution to environmental issues in your clinical practice?

As GPs, we can give plenty of advice to our patients and colleagues related to environmental and health issues. We can change people's attitudes towards environment with small talks and advice, but we have to be patient and work on changing small things.

Education is one of the most important pillars, education for patients and for co-workers. I give my patients health advice, and also try to convince them to do more cycling, walking and excursions. At the end of the month at the GP practice, my tutor and I organize what we call the 'Green March', which basically means we meet on Sunday and we walk during the day in one of the most famous park in Madrid, Casa del Campo. It is the perfect occasion to get in touch with nature and to create a special bond with other co-workers.

Final words?

Of course we are busy professionals but we are not too busy to talk about environment with friends, colleagues, patients. We can always mention it in different kind of conversations. In my opinion, we can make a difference, and I will try to be an example of it, for myself, for my friends, colleagues and patients!



Alessandro MENIN

Country: **Italy**

Notables: **Young GP**

About Alessandro Menin:

I live near Vicenza, in the North-East of Italy. I'm a young GP but I'm working in a nursing home. I think that climate change is a major problem for all mankind, a real problem, especially in the near future. I am currently busy with the drafting of a new book on the history of medicine (one of my passions).

A good family doctor takes care of the environment

How did you become interested in environmental issues?

We are immersed in the environment, we belong to it. Thus, from the early years of the university, I have felt the defense of the environment as an integral part of my work as a doctor. Hippocrates, the father of medicine, aware of the importance of the environment, wrote an essay entitled *On Airs, Waters and Places* which shows the effects of these factors on human's health. While we modify the environment we will be affected in return.

What can you do in your daily work to contribute to increasing understanding or address environment and health issues?

With reference to my area, several articles were published in local and national newspapers describing the increasing incidence of COPD in cities where the air is more polluted; as well as on diseases related to water polluted by heavy metals; or pleural mesothelioma in people who have worked for years in environments with asbestos fibers. Recently, some studies have supposed a link between the rise of type 2 diabetes and pollution. With the aim to reduce pollution, I do ride a bicycle as my transport for short journeys and I recommend it also to my patients, as a healthy physical activity. In addition, I have tried to stress the importance of creating pathways in my town that are immersed in nature, and where people can go walking, running, or Nordic walking.

If we continue to destroy the environment, we will also lose species potentially useful for curing diseases. We must safeguard biodiversity. The overuse of antibiotics leads to resistant bacteria that threaten both man and the mycelia from which these

substances were derived. Mushrooms, with their mycelium, stabilize the ground, purify it from pollution and provide food for many species of animals. Many of the drugs we use daily derive from flora and fauna. Plants do not only provide us oxygen, but also thousands of medicinal substances useful for the treatment of diseases. Thus, ecosystem destruction brings damage to all species and humans too.

What do you wish for regarding the environment?

I would like that the environment issue were taken into a greater consideration by the various governments of the planet. The commitment of world powers must be proactive, it should not be left just to a “formal practice”. It must be a shared commitment with society as a whole. For this reason, I wish that every person would feel part of a bigger thing that we call Planet Earth. The destruction of forests is not only a waste of plants. Walking across a forest of conifers is an excellent anti-stress remedy for the modern man: green color, quiet and pure air that contains terpenes, have an immediate relaxing and effective effect as does a powerful tranquilizer. From some of those plants we produce precious medicines, food, and items used in the daily life. Among those plants live animals that are part of the food chain that goes all the way down to man.

Doctors should encourage more and more people to spend their free time immersed in nature; sponsor activities with a low environmental impact; promote physical activities like walks and bike rides; encourage people to feed themselves with healthy foods grown in a healthy environment. This is prevention too.

Environmental respect must become an integral part of the life of each one of us. My advice to young doctors is to consider the environment as a living entity in a continuous relationship with us, a reality to be protected, a place where life should not be threatened by our activities. Doctors of future generations will increasingly have to consider environment defense as an integral part of their work: by preventing the destruction of environment we will be able to prevent some of the diseases that threaten modern man’s life.

Join WONCA

To find out more about the Environmental Working Party of WONCA or to join, visit:

<www.globalfamilydoctor.com/groups/WorkingParties/Environment>

or email us on:

<WPEvironment@wonca.net>

About the book

This century has highlighted awareness amongst the medical profession that environmental issues are increasingly urgent, with the life support systems for healthy human life being stretched to breaking point. Clean water, a safe atmosphere, and food security are increasingly at risk, with dire repercussions for current and future generations. Indeed if our planet was a patient, we would recommend it go straight to the family doctor for an urgent check up!

While environmental issues play out differently across the globe, one thing they have in common is their potential to harm human health, both now and in the future. And it is local family doctors, whether in developed or developing countries, who encounter these health impacts first hand. Family doctors are often the first point of call when people get sick, and they know their communities and their local habitat intimately. So whether it be overt environmental impacts on health, such as exposure to toxic substances or air pollutants; or the more diffuse health impacts associated with climate change or land degradation; local family doctors play a key role in recognising and responding to local health and environmental problems. Family doctors are entrusted by communities with scientific credibility; bring a unique perspective and set of values to environmental challenges; and are comfortable with the sorts of systems thinking that such complex problems require.

The contributors to this collection are family doctors who have taken a step beyond concern into action. Their stories detail their involvement in addressing the environment as a context for health: whether they are working at the coalface, leading by example, shifting our paradigm of environment and health, advocating for change, educating the next generation or stepping into leadership roles themselves. The collection serves as a source of inspiration, hope and guidance for the ongoing task of working together to foster healthy people, communities and environments.

This is a publication that captures the voices and viewpoints of family doctors from around the world. Each of the contributing authors is a dedicated family doctor and, at the same time, an environmental warrior, battling to ensure their communities are healthy places that nurture the lives of each of their citizens.... I urge you to read these individual stories and be inspired about the contributions each of us can make to the health and wellbeing of our patients and our communities. Our future depends on it.
— Professor Michael Kidd, WONCA President