WMJ

vol. 65

Editor in Chief
Dr. Pēteris Apinis, Latvian Medical Association, Skolas iela 3, Riga, Latvia
Phone +371 67 220 661
peteris@arstubiedriba.lv, editorin-chief@wma.net
Co-Editor
Prof. Dr. med. Elmar Doppelfeld, Deutscher Ärzte-Verlag, Dieselstr. 2, D-50859 Köln, Germany
Assistant Editor
Maira Sudraba, Velta Pozņaka; lma@arstubiedriba.lv
Journal design by
Pēteris Gricenko
Layout and Artwork
e Latvian Medical Publisher, “Medicīnas apgāds”, President Dr. Maija Šetlere, Skolas street 3, Riga, Latvia
Publisher
Medicīnas apgāds, Ltd
Skolas street 3, Riga, Latvia.
ISSN: 2256-0580

Editorial

Each doctor becomes a patient sooner or later. e opposite process is possible theoretically. Consequently, sooner or later every doctor stands in a patient's shoes to face everything we talk about concerning public health. In Public Health, the emphasis is somewhat di erent. In each country Public Health focuses on slightly di erent settings as priorities. It is determined by the country itself, its geographical location, traditions, experience and medical schools.

However, globally the major challenges remain the previous ones: climate change, a sedentary lifestyle and overweight, smoking and alcohol abuse, malnutrition, population ageing and epidemics of chronic diseases, including oncological, cardiovascular and mental diseases. And all this applies to both – patients and doctors. Irrespective of that, in the co ee pauses of the General Assembly of the World Medical Association, a group of delegates smoked heavily in some corner.

Let us be honest, relations with overweight as well might be better for our friendly global collective.

For many years, I have seen one or another delegate jogging in the morning, the last time it was in Georgia; I have no need to run together with any of the delegates.

Doctors in the world di er the same way as patients do. In the countries where the situation with Public Health is better, doctors are healthier. In the countries that successfully ght against smoking, doctors smoke signi cantly less than average population.

Tobacco use is one of four major risk factors for non-communicable diseases. It is a huge threat to human health worldwide, and 8 million people die each year, including more than 20% of cases worldwide dying of cancer.

e global tobacco industry's market value in 2017 was around 785 billion USD (excluding China). On the other hand, the global loss caused by the tobacco industry to health care and productivity was 1.4 trillion USD.

e tobacco industry is a ecting governments and in di erent ways is resisting tougher smoking restrictions and controls. And sometimes the doctor remains alone in the ght against smoking in their country, among their patients and among their colleagues.

How to tackle the matter of low physical activity, how to reach the situation that doctors move more, how to do more sports – at least half an hour every day?

Once, when the overweight patient came to me, I started telling them that they should start moving, and I usually asked them to go to their physiotherapist twice a week, and after two months start cycling, doing pilates or gymnastics, or go skiing. When I think that my obese patient will start running for half an hour tomorrow, I hear my colleagues reminding me about the knee injuries.

In the world, the number of female doctors is higher than that of males. As regards sports and exercise, there is a great disproportion and discrimination among men and women.

In the whole world, women's and girls' sports generally receive a smaller contribution at the national level, including access to equipment, transport and training, as well as safe and e cient sports spaces and facilities. Many women are restrained from serious physical activity, they share concerns from stereotypes, the stigmatisation of physically strong women, the insecurity of the image of their body, or the sense limited by physical culture.

Girls of pre-school and school age are physically less active; they have fewer sports available. Women's sports are less paid and less televised as men's sports, and the gap (excluding tennis, beach volleyball, skiing, skatelevis0 (o)50.--1.2 Td9.9 (ld.5 (spornd s,)70 (and the

BACK TO CONTENTS

Honorable Ilia Nakashidze,
Prof. Lobzhanidze,
Distinguished guests,

A warm thank you to our hosts here in Georgia for your warm hospitality in this wonderful city of Tbililsi.

My dear friends and colleagues, It is an honour to address you here and to thank you once again for the opportunity to serve you, the World Medical Association and physicians throughout the world. I am sure that the WMA is an essential organization in the modern world and should be visible, active and presented in important forums.

e purpose of the WMA is to serve humanity by endeavoring to achieve the highest international standards in Medical Education, Medical Science, Medical Art and Medical Ethics, and Health Care for all people in the world.

Since having been inaugurated I have represented the WMA in di erent meetings. e rst one was the Global Conference on Primary Health Care in Astana, Kazakhstan. Universal health coverage is absolutely necessary to achieve sustainable development goal number 3. Primary health care that includes prevention, acute and chronic care is an indispensable platform for Universal Health Coverage.

ere are many challenges for Primary Health Care, the most important of them: absence of strong political commitment; di culties in integration of health goals into non-health sector planning; and lack of intention for physician-led teamwork.

BACK TO CONTENTS

tended by over 100 physicians worldwide. It served as a platform for discussions in multiple areas and dimensions of physicians' activity. Issues of the validity of models and predictors in health syste57 Tw 0,Issues sy

BACK TO CONTENTS

world. And we know that wealth inequalities within a country impact social determinants of health and consequently the health status of its population. It is not uncommon to see, in unequal countries, two realities for medical care: one with first world quality for those who have more and the other of little quality – if any – for the underprivileged.

The World Medical Association's Declaration of Geneva states in its opening remarks that physicians pledge to dedicate their lives to the service of humanity and have the health and well being of their patients as their first consideration. We, as physicians, practice our commitment to these principles not just when attending to our patients but also when we join our medical associations in their multiple activities, aiming, at the end, to raise the health status and quality of life of the population we serve.

There are many and different factors influencing the physicians' role to promote the health and quality of life of others, such as a good and continuous medical education, adequate resources and conditions for work – particularly enough time with each patient, a balanced professional and social life, and – equally important – to take care of their own physical and mental health.

As a psychiatrist, I was planning to emphasize during my Presidential term that there never will be health without mental health. But I was challenged by myself to broaden my concerns, and remind and highlight to my fellow physicians one essential component of the practice of Medicine: the great value of the physician-patient relationship.

It is usually recognized that most of those who are looking to enter medical school, do so saying they want to help people in their suffering related to illness. But studies from different countries show that medical students usually are less sensitive to the patient's needs as a person when finishing than they are when entering medical school.

What happened in between? One possible reason is that students, during their medical education, are more and more exposed to the biological nature of illnesses than to the social environment surrounding their patients and the development of diseases. They also are not adequately taught to take into consideration the emotional aspects of those they are assisting.

To those who are being trained to be a medical doctor, biology is an arena where they feel more secure and comfortable to act than they do when feeling incapable of dealing with people's social and psychological issues. Besides that, the physicians-to-be were developing defences against their own suffering when facing different forms of pain in their patients. Physical pain, emotional pain, social pain. And these defences reduce their sensibility to others' needs.

A good physician needs to be able to put him/herself in the place of their patients, trying to feel as they feel, in order to better understand their needs and plan to provide what they need more. But it is not a simple task to put him/herself in the place of a patient and – at the same time – to avoid feeling as helpless as the patient would be. In medical care, it is as essential to have empathy as it is to be able to examine the patient from the outside.

A colleague from my Department in the Federal University of São Paulo, Dr. Julio Noto (personal communication), reported to me that once he heard from one of his Medical Psychology students: "How can I talk to the patient if there is nothing that I can do for him due to his condition?" Noto considers that teaching Medical Psychology to medical students sometimes is similar to teaching someone "to do nothing". There, doing nothing can correspond to cathartic listening, emotional continence, expectant attitude, and even the use of countertransference in the physician-patient relationship. A brilliant Brazilian novelist from the later 19th and early 20th centuries, Machado de Assis, once wrote: "…there are things we say better being quiet..."

We all hear that Medicine is both science and art but, in the last decades, the practice of Medicine is more and more reflecting an emphasis just on its scientific nature. A competent physician is not a good mechanic of the human body but someone who equally combines technical excellency with being close to their patients, respecting their dignity, and showing them empathy and compassion.

Evidence-based guidelines containing standards of care are really of great importance. They allow the organization of a fragmented physician-patient care model, as different physicians assisting the same patient at different times can apply the same objective scientific knowledge. But an interesting study published in 2016 by Lauren Diamond-Brown suggested that goals of standardization cannot rationalize all aspects of medical practice, and policy makers

BACK TO CONTENTS

BACK TO CONTENTS

Wednesday October 23

BACK TO CONTENTS

e Council meeting was then adjourned until Friday.

Finance and Planning Committee

Dr. Jung Yul Park (South Korea) took the chair and called the committee to order.

BACK TO CONTENTS

BACK TO CONTENTS

ful clinical value in order to protect the prescribing physician from malpractice suits.'

In the brief debate that followed, several speakers argued that that further consideration should be given to the paper. One speaker argued that it focused on personal physician culpability, when the vast majority of errors that occurred were about systems. Had the WMA ever looked at whether nations that had no fault compensation had less defensive practice than nations which had personal liability? Dr. Kloiber replied that the WMA did not have such information, but it was very important and pertinent.

e committee decided to recommend that the document be recirculated to NMAs for comment.

Declaration of Ottawa on Child Health

e committee considered a proposed major revision of the WMA Declaration of Ottawa on Child Health submitted by the South African Medical Association. e paper emphasised the importance for children to grow up in an environment where they could strive. Delegates were told that the health and prosperity of a nation were measured by the state of their health and education systems. at started with children. If children could ful l their potential there would be a lot less poverty across the world.

e committee recommended that in view of the number of amendments submitted the document should be recirculated to NMAs for comment.

Inequalities in Health

A proposed revision of the WMA Declaration of Oslo on social determinants of health was presented by the Swedish Medical Association. e meeting was reminded that this involved a major revision of the 2009 Statement on Inequalities in Health statement, integrating relevant parts of the Statement in the *Declaration of Oslo on Social Determinants of Health*. is new consolidated policy on social determinants would refer to Universal Health Coverage and the Sustainable Development Goals, especially on ensuring ensure healthy lives and promoting well-being for all ages and the SDG on reducing inequality within and among countries. e Statement on Inequalities in health would then be rescinded.

e committee recommended that the revised Declaration be recirculated to NMAs for comments.

Use of Telehealth for the Provision of Health Care

As part of the 10-year revision process, the Indian Medical Association proposed a major revision of the WMA Statement on Guiding Principles for the Use of Telehealth for the Provision of Health Care. is combined the Statements on Telemedicine and Mobile Health.

In a brief debate, it was pointed out that there was nothing in the paper about inequalities, yet telemedicine should reduce inequalities. It was also argued that there should be more about safety and e cacy.

e committee recommended that the document be recirculated to NMAs for comments.

Legislation Against Abortion in Nicaragua

A proposed revision of the WMA Resolution on the Legislation Against Abortion in Nicaragua was submitted following comments at the last meeting that there was a need for a more global document. e Resolution had been amended to broadly address the threats to women's reproductive health care and the criminalization of reproductive health care provided by physicians that was occurring globally. It called on the Nicaraguan Government to repeal its penal code criminalising abortion and to develop in its place legislation promoting and protecting women's human rights. An amendment was agreed, inserting a reference to the need for medical con dentiality.

e committee recommended that the document, as amended, be approved by the Council and forwarded to the General Assembly for adoption.

Rights of Patients and Physicians in the Islamic Republic of Iran

At the last Council meeting in April, it was decided that the Resolution Supporting the Rights of Patients and Physicians in the Islamic Republic of Iran should undergo a major revision, but there was no volunteer to undertake the revision.

e committee recommended that the Kuwait Medical Association be appointed as rapporteur for the revision of the Resolution.

Continuous Quality Improvement in Health Care

A minor revision was proposed to the WMA Declaration on Guidelines for Continuous Quality Improvement in Health Care, including references to new WMA policies.

e committee recommended that the document be approved by the Council and forwarded to the General Assembly for information.

Relationship between Physicians and Commercial Enterprises

A proposal was submitted for a minor revi-

BACK TO CONTENTS

BACK TO CONTENTS

Documentation of Torture

e committee received an oral report from the Chair of the workgroup. It was explained that a new draft was not being considered as the workgroup was seeking to nd a balance between ethical obligations to report and denounce torture without being too demanding. A proposed revised version of the Resolution on the Responsibility of Physicians in the Documentation and Denunciation of Acts of Torture and Ill-treatment was planned to be submitted to the next Council meeting in April 2020.

Euthanasia and Physician Assisted Suicide

e proposed revision of the WMA Statement Euthanasia and Physician Assisted Suicide was presented by the German Medical Association. e committee was reminded that the draft compromise document was intended to replace the WMA Resolution on Euthanasia, the Declaration on Euthanasia and the Statement on Physician Assisted Suicide.

is led to the rst of three lengthy debates held during the meeting on the issue of euthanasia and physician assisted suicide.

A number of speakers argued against changing current WMA policy. Concern was expressed about the attempt to compromise. It was argued that this was eroding ethics and was the beginning of the end for an ethical stance. It would become a slippery slope.

Others supported the draft document, saying that it was right to remove the policy condemning doctors who participated in euthanasia in those countries where it was legal.

Several amendments were proposed. e rst referred to the opening paragraph of the document which stated: 'For the purpose of this declaration, euthanasia is de ned as the voluntary act of a physician deliberately administering a lethal substance or carrying out an intervention to cause the death of a patient with decision-making capacity at the patient's own voluntary request.'

An amendment was proposed to delete the words 'the voluntary act of.' It was argued that by including these words it ruled out dealing with physicians being forced to participate in euthanasia. e amendment was agreed.

A further debate took place about the sentence which read: 'It is not the role of the physician to participate in euthanasia or deliberately enable a patient to end his or her own life.' It was felt that the already expressed opposition to physician assisted suicide and euthanasia was strong and clear and should not be confused. Others argued that this was taking policy backwards and some wanted to add that it was contrary to medical ethics.

An amendment to delete the sentence was agreed.

e committee recommended that the document, as amended, be forwarded to the [illegible] on Physician Assisted Suicide by the Assembly. It also recommended that the WMA Resolution on Euthanasia, the WMA Declaration on Euthanasia, and the WMA Statement on Physician-Assisted Suicide

BACK TO CONTENTS

submitted by the South African Medical

BACK TO CONTENTS

When, and How?' He spoke about the his-

BACK TO CONTENTS

is included forwarding to the General Assembly for adoption the Declaration of Reykjavik on Ethical Consideration Regarding the Use of Genetics in Medicine and the revised Statement on Solitary Connement.

It also agreed to circulate for comment the Statement on Physicians Treating Relatives and Friends and the Statement on Embryonic Stem Cell Research.

It agreed that the revision of the Interna-

BACK TO CONTENTS

Two webinars were being planned, on social determinants of health and on the International Code of Medical Ethics.

Past President and Chairs Network

Dr. Jon Snaedal said the Network had been active with past Presidents and Chairs acting individually on behalf of the WMA.

Junior Doctors Network

A report on the work of the Network was presented by the Chair. A growing number of junior doctors had been attracted to the Network and plans were being prepared to celebrate the 10th anniversary of the Network next year.

World Medical Journal

e Editor referred to his written report, which stressed that the Journal was historical evidence which enabled them to remember all presidents, key members of the Council, chairs of committees and opinion leaders. His task was to collate, as far as possible, everything that WMA leaders thought, did and wrote. He said he would like to see more activity from the leaders of national medical associations writing about social determinants, public health and medical ethics.

Public Relations

e meeting heard a report on public relations and the need to publicise the various policy statements to be adopted by the General Assembly. Press releases and social media were used to achieve this. However, national medical associations could also help by issuing their own press releases and contacting their own governments about new policy statements.

Environment Caucus

An oral report was presented on the Environment Caucus which had met the previous day. e Caucus had heard about the results of the recent UN Climate Action Summit. It was now preparing for the next climate conference COP 25 in December where the WMA would be co-hosting a global climate and health summit. Consideration was being given to having sustainable climate for WMA meetings and how WMA delegates would promote and support green conduct at international meetings, reducing WMA delegates' contributions to climate change.

Advocacy and Communications Panel

e Chair of the Advocacy and Communications Advisory Panel, Dr. Angelique Coetzee gave an oral report. She referred to a small survey of NMAs that had been carried out about communications and advocacy, which emphasised the importance of the WMA website and e mail communication with the o ce in France. At a meeting of the Panel earlier in the week there had been a discussion about the need to support smaller NMAs, possibly by having larger NMAs in the region acting as mentors, how to foster media visibility by reaching the unreached, the role of social media and the possibility of having open consultation on key issues under consideration .

General Assembly Ceremonial Session

e Ceremonial Session was called to order by the WMA President, Dr. Leonid Eidelman

Following welcoming speeches, delegates stood to recite the Declaration of Geneva.

A Roll Call and Introduction of Delegates and Observers was carried out by the Secretary General, Dr. Otmar Kloiber

e Chair of the WMA Council Dr. Montgomery then paid tribute to the outgoing President Dr. Eidelman and thanked him for his work during his Presidential year. He said he had highlighted the issue of physicians of the future, questioning how they were going to carry out their profession in the years to come. And he had never forgotten patients during his work.

Dr. Eidelman then delivered his Valedictory Address.

Dr. Miguel Roberto Jorge, then took the oath of o ce as President of the WMA for 2019/20. He was o cially installed as President and presented with the Presidential Medal.

Dr. Jorge then gave his Inaugural Address.
e Assembly then adjourned.

Saturday October 26

General Assembly Plenary Session

e day began with a brief orientation session, when the Chair of Council Dr. Montgomery explained to delegates the procedure of the Assembly. He reminded delegates that any vote on changing ethical pol-10 ((WMA Council D)(ibute to tqui)14.8 (V)

BACK TO CONTENTS

BACK TO CONTENTS

tion for All. He said it was well recognised that a lack of access to health care information was a major contributor to morbidity and mortality, especially in low and middle income countries and also among vulnerable groups. He said this was a really important statement because it was essentially about equity, empowerment and allowing every single citizen to ful l their fullest potential in achieving their maximum health.

e Assembly agreed to adopt the Statement.

Access of Women and Children to Health Care (see p. 28)

Leah Wapner (Israel) presented the proposed WMA Statement on Access of Women and Children to Health Care.

e Assembly agreed to adopt the Statement.

Augmented Intelligence (see p. 31)

Dr. Patrice Harris (American Medical Association) presented the proposed WMA Statement on Augmented Intelligence in Medical Care. She said the AMA had proposed this because machine learning technology innovation was going to continue to impact on how they cared for their patients. It was important for NMAs to be educated on the issue.

e Assembly agreed to adopt the Statement.

Medical Age Assessment of Unaccompanied Minor Asylum Seekers (see p. 36)

Dr. Ramin Parsa-Parsi (German Medical Association) introduced the proposed WMA Statement on Medical Age Assessment of Unaccompanied Minor Asylum Seekers. He said the document emerged from what was perceived to be an exceptionally pressing and timely matter, namely the methods employed to assess the age of unaccompanied minor asylum seekers for the purposes of determining their legal status in the country in which they were seeking asylum. Given the global implications of this issue, it was important that physicians the worldthe y matter4 Td[(A)f-
w (,)70 implica10 (r)23 Tw 0 - (oduc(opose Tw 0 -2eking asy2 (y the)]TJ0.0wito that p).)70 (R

BACK TO CONTENTS

BACK TO CONTENTS

portant to reach a consensus. He said that they should all made clear that everyone was against euthanasia. Dr. Gana Baskaran Nadason, President of the Malaysian Medical Association, said his association strongly opposed euthanasia. Physicians were supposed to save life, not to take away life.

Dr. Francis Faduyile (Nigeria) said that at the regional meeting held in Africa two years it was agreed that euthanasia and physician-assisted suicide were unethical and

BACK TO CONTENTS

said he should have sought a seconder for his motion before proposing it and he invited those who supported it to contact him so that the matter could be raised again at the next meeting.

Report of the Treasurer

e Treasurer, Dr. Ravindra Sitaram Wankhedkar gave a comprehensive report on the nancial statement for 2018. He said there was a surplus, and expenses were well regulated, monitored and controlled.

Membership dues had increased and the Association had a low risk investment strategy. It relied heavily on membership subscriptions for its income.

He said the volume, structure and quality of the nances were solid, and savings were safe.

He reported detailed expenditure and income statistics.

e Audited Financial Statement for the year ending 31 December 2018 was approved.

Dr. Wankhedkar then presented the proposed Budget for 2020 and the Report on Membership Dues Payments for 2019.

Both reports were adopted.

e Assembly received for information the WMA Dues Categories 2020.

e Assembly approved the proposed Dues Increase starting in 2021.

Future Meetings

e Assembly agreed that the 224th Council Session in 2023 be held in Nairobi, Kenya.

Law and Ethics (see p. 23)

e Assembly adopted the 2003 Resolution on Law and Ethics as a Declaration.

e Assembly received for information the list of policy documents to be rescinded.

Scienti c Session 2020

e Assembly agreed that 'Transplants and donation/organ tra cking: International scenario' be the theme of the Scienti c Session of the 71st General Assembly, in Cordoba 2020.

General Assembly 2023

e Assembly agreed that 4-7 October 2023 be the dates for the 74th General Assembly in Kigali, Rwanda.

Membership

e application for membership from Doctors 4 Doctors, Seychelles was approved.

Strategic Plan 2020-25

e draft WMA Strategic Plan 2020-2025 was approved.

Associate Members

Dr. Audrey Fontaine gave a report of the Associate Members meeting and proposed a Statement on Access to Surgery and Anesthesia Care, which she said had been very much neglected in the objectives towards universal health coverage. She said it was important to have a position on this.

e Assembly agreed to send the document to Council for consideration.

Presentations from International Organisations

Dr. Patricia Turner, President-Elect of the World Veterinary Association, spoke about collaboration between the WMA and the WVA. She gave a brief history of the WVA and its structure. e Association represented more than half a million members and put great emphasis on public health.

She talked about the ongoing African swine fever, which was highly infectious and was spreading throughout south east Asia. is was a massive animal welfare issue.

ere had been an increased feminisation in veterinary practice and a change in working practices, such as increased technology and the use of telemedicine. She referred to the issue of antimicrobial misuse and spoke about the health bene ts of keeping pets.

Finally, Dr. Turner talked about the collaboration between the WVA and the WMA that had been going on since 2012. is had involved joint press releases and hosting joint conferences. It was bringing together the strength of the two professions, capitalising on their joint knowledge base for educating people about issues impacting humans, animals and the environment l misf0pp12 (v)6y0 (inging)10 (ess r)10 (e)8 5.1 (r

BACK TO CONTENTS

a green travel plan and reduce air travel. If they were not able to reduce air travel, she would suggest they should be trying to o - set their carbon. She would like to see the Porto conference be as green as possible, with the use of single use plastic, recycle bins and the avoidance of generating waste.

Venezuela Medical Association

Dr. Douglas Leon-Natera, President of the Venezuelan Medical Association, said they were ghting for the health of the Venezuelan people because the Government was neglecting it. ere was no way that physicians could provide the health service that was required, save lives and provide medicines. Regrettably, patients were paying the price for this. Physicians could not do anything to stop the diseases that were killing people. ere was no epidemiological data available to allow them to do their job. e medical profession was doing its best, but many of them were eeing the country as it was not safe and they were not being paid. In ation was rampant, 4,500 per cent this year, and as a result people could not live. e situation was a terrible crisis and he wanted the world to be aware of this.

Uruguay Medical Association

Dr. Gustavo Grecco also spoke about the situation that the medical communities in Latin America were facing. At the moment they had countries with di erent political situations from both the left and the right that were su ering from a dilapidation of health services.

In Chile there was a serious situation, in Venezuela the situation was terrible, in Honduras doctors were being persecuted trying to protect the health of their people.

BACK TO CONTENTS

WMA Statement on Sex Selection Abortion and Female Foeticide

Adopted by the 53rd WMA General Assembly, Washington, DC, USA, October 2002, rea rmed by the 191st WMA Council Session, Prague, Czech Republic, April 2012 And revised by the 70th WMA General Assembly, Tbilisi, Georgia, October 2019

e WMA is gravely concerned that female foeticide and sex selection abortion is commonly practiced in certain countries.

e WMA denounces female foeticide and sex selection abortion as a totally unacceptable example form of gender discrimination.

e WMA holds that sex selection abortion for reasons of gender preference is discriminatory, where it is solely due to parental preference and where there are no health implications for the foetus or the woman.

e World Medical Association calls on National Medical Associations:

- To denounce the practice of female foeticide and the use of sex selection abortion for gender preference and;
- To advise their governments accordingly.

WMA Declaration on Euthanasia and Physician-Assisted Suicide

Adopted by the 70th WMA General Assembly, Tbilisi, Georgia, October 2019

e WMA reiterates its strong commitment to the principles of medical ethics and that utmost respect has to be maintained for human life. erefore, the WMA is rmly opposed to euthanasia and physician-assisted suicide.

For the purpose of this declaration, euthanasia is de ned as a physician deliberately administering a lethal substance or carrying out an intervention to cause the death of a patient with decision-making capacity at the patient's own voluntary request. Physician-assisted suicide refers to cases in which, at the voluntary request of a patient with decision-making capacity, a physician deliberately enables a patient to end his or her own life by prescribing or providing medical substances with the intent to bring about death.

No physician should be forced to participate in euthanasia or assisted suicide, nor should any physician be obliged to make referral decisions to this end.

Separately, the physician who respects the basic right of the patient to decline medical treatment does not act unethically in forgoing or withholding unwanted care, even if respecting such a wish results in the death of the patient.

WMA Declaration of Madrid on Professionally-led Regulation

Adopted by the 60th WMA General Assembly, New Delhi, India, October 2009 and revised by the 70th WMA General Assembly, Tbilisi, Georgia, October 2019

e WMA rea rms the *Declaration of Seoul on professional autonomy and clinical independence of physicians*.

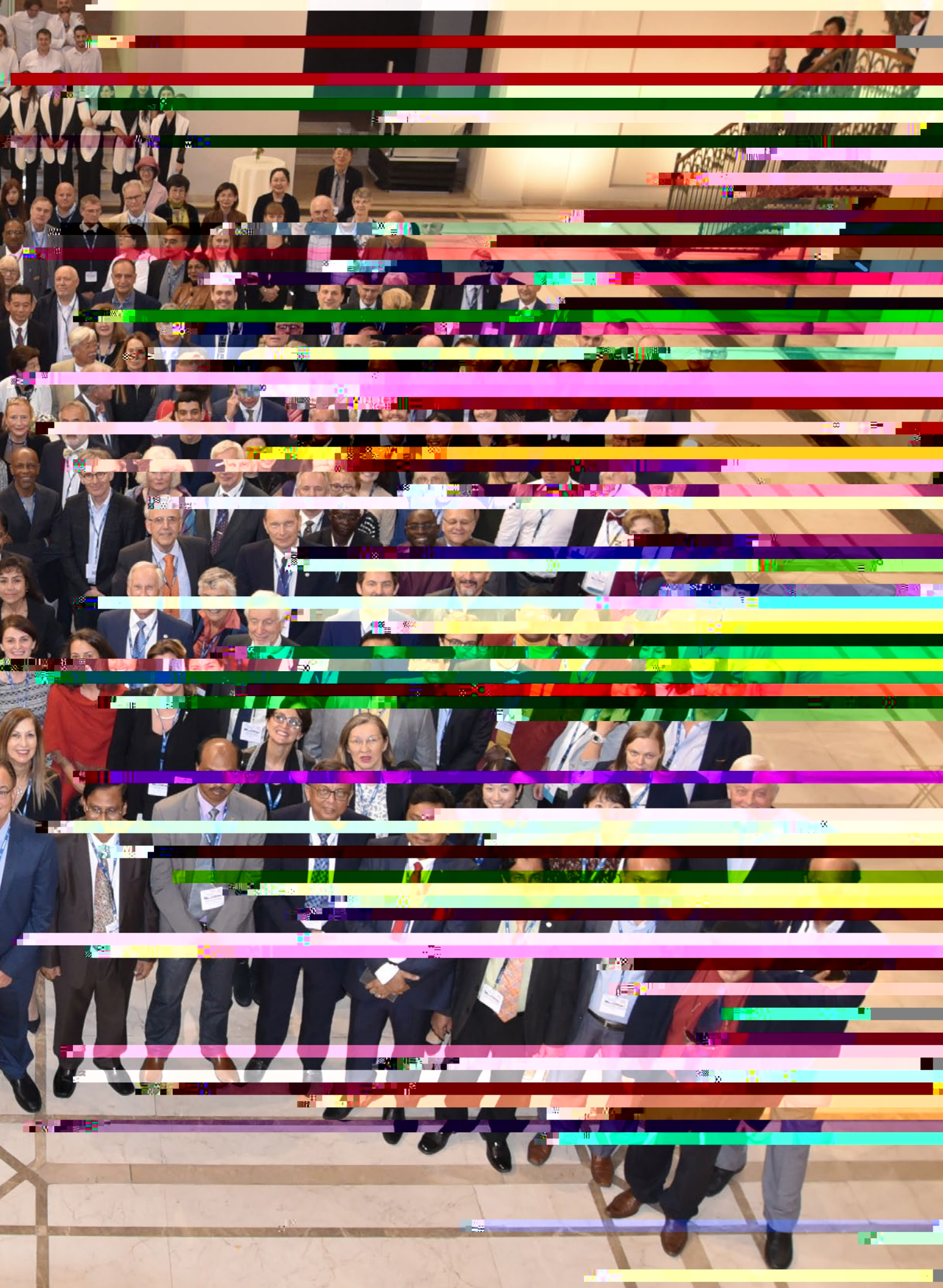
e medical profession must play a central role in regulating the conduct and professional activities of its members, ensuring that their professional practice is in the best interests of citizens.

e regulation of the medical profession plays an essential role in ensuring and maintaining public con dence in the standards of care and of behaviour that they can expect from medical professionals.

at regulation requires very strong independent professional involvement.

BACK TO CONTENTS

BACK TO CONTENTS



law mandates unethical conduct. e fact that a physician has complied with the law does not necessarily mean that the physician acted ethically.

When law is in con ict with medical ethics, physicians should work to change the law. In circumstances of such con ict, ethical responsibilities supersede legal obligations.

WMA Declaration of Reykjavik – Ethical Considerations Regarding the Use of Genetics in Health Care

Adopted by the 56th WMA General Assembly, Santiago, Chile, October

BACK TO CONTENTS

- e purpose, nature and bene ts of the test.
- e risks, burdens and limitations of the test.
- e nature and signi cance of the information to be generated by the test.
- e procedures for return of results including additional ndings and future discoveries.
- e options for responding to the results, including possible treatments.
- How, where, and for how long the test results, data and biological samples will be stored, and who can gain access to current and future results.
- e possible secondary uses of the information generated by the test
- e measures protecting con dentiality, privacy and autonomy, including data security measures
- e procedures for managing results that have implications for genetically related persons
- When applicable, commercial use and bene t sharing, intellectual property issues and the transfer of data or material to third parties.

4. Additional ndings (secondary and incidental ndings)

a. A genetic test may generate additional ndings that are not related to the primary purpose of the test, also referred to as secondary or incidental ndings. Procedures for handling such ndings should be determined before the test, and information about these procedures should be communicated to the patient as part of the consent process.

b. e principles for managing additional ndings must include consideration for:

- e patient's preferences regarding the management of additional ndings.
- e signi cance of the additional ndings for the patient's health and other interests.
- i j/S signi cance of the ndings for the health and other interests [illegible] (0-5 (o26t)0.6 (ha(my0s0 (or)0-1ceial perso)5ic)-1co0)]TJ0.3.2 2
  min7 fose52 signgn5 spabantnee or Te5min7

BACK TO CONTENTS

b. e bene t of a genetic test for an individual may depend on the availability of information about the relevant background population. Medical professionals should be aware of the scope and the limitations of genetic background data and health information stored in databases used in providing clinical genetic testing services.

12. Direct-to-consumer tests
If genetic tests are o ered directly to consumers for medical purposes, they must meet the same technical, professional, legal and ethical standards as tests o ered by certi ed laboratories and must be in accordance with the recommendations put forward in this statement. In particular, providers of direct-to-consumer tests must provide understandable, accurate and adequate information about the reliability and limitations of their services.

13. Clinical use of data from research
For research projects that involve genetic testing, and where the participant can be identi ed, the research participant must be informed about the possibility of ndings that indicate a serious threat to the health of the participant. If there are such ndings, the participant should be o ered a referral to genetic counseling and appropriate medical intervention.

14. Gene therapy and editing
Gene therapy and editing represents a combination of techniques used to manipulate disease related genes. e use of these techniques should adhere to the following guidelines:

- e use of gene therapy and somatic genome editing should conform to standards of medical ethics and professional responsibility.
- Patient autonomy should be respected, and informed consent should always be obtained. is informed consent process should include disclosure of the risks of gene therapy and editing, including the fact that the patient may have to undergo multiple rounds of gene therapy, the risk of an immune response, the potential problems arising from the use of viral vectors and o -target genome e ects.
- Gene therapy and editing should only be undertaken after a careful analysis of the risks and bene ts involved and an evaluation of the perceived e ectiveness of the therapy, as compared to the risks, side e ects, availability and e ectiveness of other treatments.
- Gene editing of germline cells has scienti cally unresolved risks and should not be clinically applied. is does not preclude testing gene editing or other similar research.

15. Cloning
Cloning includes both therapeutic cloning, namely the cloning of individual stem cells to produce a healthy copy of a diseased tissue or organ for transplant, and reproductive cloning, namely the cloning of an existing human to produce a genetic duplicate of that human. e WMA opposes reproductive cloning of humans.

WMA Statement on Access of Women and Children to Health Care

Adopted by the 49th WMA General Assembly, Hamburg, Germany, November 1997 and revised by the 59th WMA General Assembly, Seoul, Korea, October 2008 and by the 70th WMA General Assembly, Tbilisi, Georgia, October 2019

Preamble

For centuries, women and girls worldwide have su ered from gender inequality and an uneven balance of power between men and women. Historically based gender bias has led to women and girls being restricted in their access to, inter alia, employment, education and health care. Gender inequality may lead to health risks, suboptimal health behaviors and inferior health outcomes for women and girls[1]1.

In addition, in some countries, female doctors and nurses have been prevented from, or face barriers to practicing their profession due to religious and/or cultural convictions, or discrimination based on the intersecting grounds of sex and religion/ethnicity. A lack of gender representation and diversity within the medical profession may lead to female patients and their children not having equitable access to health care.

Gender is a social determinant of health and health problems may manifest themselves di erently in men and women. ere is a need to address the di erences in health and health care between men and women, including both the biological and socio-cultural dimensions.

BACK TO CONTENTS

e WMA has several policies that focus on women and children's health. ey include: *WMA Resolution on Women's Rights to Health Care and How at Relates to the Prevention of Mother-to-Child HIV Infection*, *WMA Resolution on Violence against Women and Girls* and *WMA Declaration of Ottawa on Child Health*. is statement stresses the importance of equal access to health care and the e ects of discrimination against women and children.

Recommendations

erefore, the World Medical Association urges its constituent members to:

- Categorically condemn violations of the basic human rights of women and children, including violations stemming from social, political, religious, economic and cultural practices;
- Insist on the rights of all women and children to full and adequate medical care, especially where religious, social and cultural restrictions or discrimination may hinder access to such medical care;
- Advocate for parity of health insurance premiums and coverage to ensure that women's access to care is not impeded by prohibitively high expenses;
- Promote the provision of pre-conception, prenatal and maternal care, and post-natal care including immunization, nutrition for proper growth and health-care development for children;
- Ensure universal access to sexual and reproductive health;
- Promote women's and children's health as human rights;
- Advocate for educational, employment and economic opportunities for women and for their access to information about healthcare and health services;
- Work towards the achievement of the human right to equality of opportunity and equality of treatment, regardless of gender.

WMA Statement on Antimicrobial Resistance

Adopted by the 48th WMA General Assembly, Somerset West, South Africa, October 1996 and revised by the 59th WMA General Assembly, Seoul, Korea, October 2008 and by the 70th WMA General Assembly, Tbilisi, Georgia, October 2019

Preamble

AMR is a growing threat to global public health that transcends national boundaries and socioeconomic divisions. AMR a ects human, animal and environmental health. It is a multi-faceted problem of crisis proportions with signi cant economic, health, and human implications.

Addressing the threat of antimicrobial resistance is a fundamental global health priority, and the responsibility of all countries.

Antimicrobial drugs form an essential component of modern medicine, ensuring that complex procedures, such as surgery and chemotherapy, can be performed with lower risk.

AMR threatens the e ective prevention and treatment of an increasing range of infections caused by bacteria, parasites, viruses and fungi.

AMR occurs when microorganisms develop the ability to resist the actions of antimicrobial drugs (such as antibiotics, antifungals, antivirals, antimalarials, and anthelmintics).

Infections caused by bacteria that are resistant to multiple classes of antibiotic are increasingly being documented.

While AMR is a natural evolutionary phenomenon, it is exacerbated by the overuse and misuse of antimicrobials in medicine, as well as in veterinary practice and agriculture, and can be exacerbated when antimicrobials are given as growth promoters in animals or used to prevent diseases in healthy animals.

e emergence and spread of AMR is further enhanced by lack of access to e ective drugs, access to antibiotics "over the counter" in some countries, the availability of substandard and falsi ed products, misuse of antibiotics in food production, increased global travel, medical tourism and trade, and the poor application of infection control measures.

Another major cause of AMR is the release of antibiotics into the environment. is can occur as either as a result of poor manufacturing practices, the improper disposal of unused medication, human and animal excretion, and the inadequate disposal of human and animal corpses.

In many countries, particularly in low-and middle-income countries, access to e ective antimicrobials as well as complementary technologies including vaccines and diagnostics continues to remain a signi cant challenge, furthering AMR.

e rami cations of resistance manifest themselves not just in the impact on human health, but also in potentially heavy economic costs. e World Health Organization (WHO) has warned that resistance has reached alarming levels in many parts of the world,

BACK TO CONTENTS

and that a continued increase in resistance could lead to 10 million people dying per year and a reduction of 2-3.5% in global gross domestic product by 2050.

At the rate at which resistance is growing globally, it poses a signi cant threat to successfully achieving the UN Sustainable Development Goals and undermines e orts to reduce health inequalities. Without harmonized and coordinated cross-sector action on a global, scale, the world is heading towards a post-antibiotic era in which common infections and minor injuries can once again kill.

AMR has reached great prominence at the highest political levels including the UN General Assembly, and the agenda of the G7 and G20.

ere is a need for an e ective 'one health' approach to minimize unnecessary or inappropriate use of antimicrobials and to prevent and control the transmission of existing resistance. A 'one health' approach recognizes that action is required across human medicine, veterinary practice and agriculture.

Recommendations

1. Global

a. e primary prevention of community and healthcare associated infections is necessary to reduce the demand for antibiotics. Addressing the social determinants of infectious disease, such as poor living conditions and sanitation, will have co-bene ts of reducing health inequalities and tackling AMR.

b. Nations have varying resources available to combat antimicrobial resistance, and must cooperate with the WHO, Food and Agriculture Organization and World Organization for Animal Health that support the WHO Global Action Plan on AMR which provides the framework for national action plans.

c. e World Medical Association and its constituent members should advocate for:

- investment in the sureacn g(:)]iB ul. gtimicrobihd8eSacpaT2 Td[(s0iv)6 (e)30.3 0Tcn the sur[(gtimi2(atio)al,)69Tjance. As5 (h pr)10 l-0.00
-
- an o0 .ny tbg5 Ad
- em ochh plable to cs. Ad147ociated o.60..2 Td[emainany pr(hhv)6 (5ene a27cie T oo)5 (.60..2 Td[r)10equu[(o)5 (m[0 cs.)70 1 1s0n/GS2 gs/T
- gtimicrobuu aT a3m110 (e3.obial)]Te 0 0 ((hed

BACK TO CONTENTS

is should be supported through the introduction of national targets to raise public awareness;
- to support professional societies, civil society, and healthcare delivery systems to pilot and adopt proven behaviour change strategies to ensure appropriate use of antibiotics;
- to ensure access to appropriate and t-for-purpose point-of-care diagnostics in hospitals and clinics to support decision making and prevent inappropriate prescribing of antibiotic;
- to mandate the collection of data on antibiotic use, prescriptions, prices, resistance patterns, and trade in both the healthcare and agricultural sectors. is data should be made publicly accessible;
- promote e ective programs of antimicrobial stewardship and training on the appropriate use of antimicrobials agents, and infection control;
- actively pursue the development of a national surveillance system for the provision of antimicrobials and for antimicrobial resistance. Data from this system should be linked with or contributed to the WHO's global surveillance network;
- monitoring of antimicrobial use in food producing animals must be su ciently granular to ensure accountability.

b. National medical associations should:
- encourage medical schools and continuing medical education programs to renew their e orts to educate physicians, who can in turn inform their patients, about the appropriate use of antimicrobial agents and appropriate infection control practices, including antibiotic use in the outpatient setting;
- support the education of their members in areas of AMR, including antimicrobial stewardship, rational use of antimicrobials, and infection control measures including hand hygiene;
- advocate for the publishing and communication of local information relating to resistance patterns, clinical guidelines and recommended treatment options for physicians;
- in collaboration with veterinary authorities, encourage their governments to introduce regulations to reduce the use of antimicrobials in agriculture, in particular food producing animals, including restrictions on the routine use of antimicrobials for both prophylaxis and growth promotion, and on the use of classes of antimicrobial that are critically important in human medicine;
- support regulation that prevents con icts of interest among veterinarians, such as roles where veterinarians both prescribe and sell antibiotics;
- consider the use of social media to educate and promote the proper use and disposal of antibiotic medications;
- encourage parents to comply with the national recommended immunization schedules for children. Adults should also have easy access to vaccines against in uenza and pneumococcal infections among others.

3. Local

a. Health professionals and health systems have a vital role in preserving antimicrobial medicines.

b. Physicians should:
- have access to high-quality and reliable, evidence-based information free of con ict of interest and actively participate in and lead antimicrobial stewardship programs in their hospitals, clinics and communities to optimise antibiotic use;
- raise awareness amongst their patients about antimicrobial therapy, its risks and bene ts, the importance of adherence with the prescribed regimen, infection prevention practices, and the problem of AMR;
- promote and ensure adherence hygiene measures (especially hand hygiene) and other infection prevention practices.

WMA Statement on Augmented Intelligence in Medical Care

Adopted by the 70th WMA General Assembly, Tbilisi, Georgia, October 2019

Preamble

Arti cial Intelligence (AI) is the ability of a machine to simulate intelligent behavior, a quality that enables an entity to function appropriately and with foresight in its environment. e term AI covers a range of methods, techniques and systems. Common examples of AI systems include, but are not limited to, natural language processing (NLP), computer vision and machine learning. In health care, as in other sectors, AI solutions may include a combination of these systems and methods.

(Note: A glossary of terms appears as an appendix to this statement.)

In health care, a more appropriate term is "augmented intelligence", an alternative conceptualization that more accurately re ects the purpose of such systems because they are intended to coexist with human decision-making [1]. erefore, in the remainder of this statement, AI refers to augmented intelligence.

An AI system utilizing machine learning employs an algorithm programmed to learn ("learner algorithm") from data referred to as "training data." e learner algorithm will then automatically adjust the machine learning model based on the training data. A "continuous learning system" updates the model without human oversight as new data is presented, whereas "locked learners" will not automatically update the model with new data. In health care, it is important to know whether the learner algorithm is eventually locked

BACK TO CONTENTS

or whether the learner algorithm continues to learn once deployed into clinical practice in order to assess the systems for quality, safety, and bias. Being able to trace the source of training data is critical to understanding the risk associated with applying a health care AI system to individuals whose personal characteristics are signi cantly di erent than those in the training data set.

Health care AI generally describes methods, tools and solutions whose applications are focused on health care settings and patient care. In addition to clinical applications, there are many other applications of AI systems in health care including business operations, research, health care administration, and population health.

e concepts of AI and machine learning have quickly become attractive to health care organizations, but there is often no clear de - nition of terminology used. Many see AI as a technological panacea; however, realizing the promise of AI may have its challenges, since it might be hampered by evolving regulatory oversight to ensure safety and clinical e cacy, lack of widely accepted standards, liability issues, need for clear laws and regulations governing data uses, and a lack of shared understanding of terminology and de nitions.

BACK TO CONTENTS

and may re ect bias and contain errors. Because of this, these data sets will normalize errors and the biases inherent in their data sets. Minorities may be disadvantaged because there is less data available about minority populations. Another design consideration is how a model will be evaluated for accuracy and involves very careful analysis of the training data set and its relationship to the data set used to evaluate the algorithms.

Liability concerns present signi cant challenges to adoption. As existing and new oversight models develop health care AI systems, the developers of such systems will typically have the most knowledge of risks and be best positioned to mitigate the risk. As a result, developers of health care AI systems and those who mandate use of such systems must be accountable and liable for adverse events resulting from malfunction(s) or inaccuracy in output. Physicians are often frustrated with the usability of electronic health records. Systems designed to support team-based care and other work ow patterns but often fall short. In addition to human factors in the design and development of health care AI systems, signi cant consideration must be given to appropriate system deployment. Not every system can be deployed to every setting due to data source variations.

Work is already underway to advance governance and oversight of health care AI, including standards for medical care, intellectual property rights, certi cation procedures or government regulation, and ethical and legal considerations.

Recommendations

1. at the WMA:
   - Recognize the potential for improving patient outcomes and physicians' professional satisfaction through the use of health care AI, provided they conform to the principles of medical ethics, con dentiality of patient data, and non-discrimination.
   - Support the process of setting priorities for health care AI.
   - Encourage the review of medical curricula and educational opportunities for patients, physicians, medical students, health administrators and other health care professionals to promote greater understanding of the many aspects, both positive and negative, of health care AI.

2. e WMA urges its member organizations to:
   - Find opportunities to bring the practicing physician's perspective to the development, design, validation and implementation of health care AI.
   - Advocate for direct physician involvement in the development and management of health care AI and appropriate government and professional oversight for safe, e ective, equitable, ethical, and accessible AI products and services.
   - Advocate that all healthcare AI systems be transparent, reproducible, and be trusted by both health care providers and patients.
   - Advocate for the primacy of the patient-physician relationship when developing and implementing health care AI systems.

Appendix

Glossary of Terms Used in Health Care Augmented Intelligence

Algorithm is a set of detailed, ordered instructions that are followed by a computer to solve a mathematical problem or to complete a computer process.

Arti cial intelligence consists of a host of computational methods used to produce systems that perform tasks which exhibit intelligent behavior that is indistinguishable from human behavior.

Augmented intelligence (AI) is a conceptualization of arti cial intelligence that focuses on arti cial intelligence's assistive role, emphasizing that its design enhances human intelligence rather than replaces it.

Computer vision is an interdisciplinary scienti c eld that deals with how computers can be made to gain high-level understanding from digital images or videos and seeks to automate tasks that the human visual system can do.

Data mining is an interdisciplinary sub eld of computer science and statistics whose overall goal is to extract information (with intelligent methods) from a data set and transform the information into a comprehensible structure for further use.

Machine learning (ML) is the scienti c study of algorithms and statistical models that computer systems use to e ectively perform speci c tasks with minimal human interaction and without using explicit instructions, by learning from data and identi cation of patterns.

Natural language processing (**NLP**) is a sub eld of computer science, information engineering, and arti cial intelligence concerned with the interactions between computers and human (natural) languages, in particular how to program computers to process and analyze large amounts of natural language data.

Training data is used to train an algorithm; it generally consists of a certain percentage of an overall dataset along with a testing set. As a rule, the better the training data, the better the algorithm performs. Once an algorithm is trained on a training set, it's usually evaluated on a test set. e training set should be labelled or enriched to increase an algorithm's con dence and accuracy.

BACK TO CONTENTS

References:

1. For purposes of this statement, the term “health care AI” will be used to refer to systems that augment, not replace, the work of clinicians.
2.

BACK TO CONTENTS

WMA Statement on Healthcare Information for All

Adopted by the 70th WMA General Assembly, Tbilisi, Georgia, October 2019

Preamble

e WHO constitution states that "the extension to all people of the bene ts of medical, psychological and related knowledge is essential to the fullest attainment of health". Access to relevant, reliable, unbiased, up-to-date and evidence-based healthcare information is crucial for the public, patients and health personnel for every aspect of health, including (but not limited to) health education, informed choice, professional development, safety and e cacy of health services, and public health policy.

Lack of access to healthcare information is a major contributor to morbidity and mortality, especially in low- and middle-income countries, and among vulnerable groups in all countries.

Healthcare information is only useful if it is relevant, appropriate, timely, updated, understandable and accurate. It covers a broad spectrum of issues and refers to diseases, treatments, services, as well as the promotion and preservation of health.

Health literacy is a key factor in understanding how health services work and how to use them. Health professionals need access to adequate training and support to communicate with patients with low health literacy or with those who have di culty understanding healthcare information, for example because of a disability.

Globally, thousands of children and adults die needlessly because they do not receive basic life-saving interventions. Some interventions may be available locally but are simply not provided due to indecision, delays, misdiagnosis and incorrect treatment. Failure to provide basic life-saving interventions more commonly a ects those who are socioeconomically disadvantaged.

In the case of children with acute diarrhea, for example, the widespread misconception among parents that they should withhold uids, and among health workers that they should give antibiotics rather than oral rehydration, contributes to thousands of unnecessary deaths every day worldwide.

Governments have a moral obligation to ensure that the public, patients and health workers have access to the healthcare information they need to protect their own health and the health of those for whom they are responsible. is obligation includes providing adequate education, in form and content, to identify and use such information e ectively.

e public, patients and healthcare workers need easy, reliable access to evidence-based, relevant healthcare information as part of a learning process throughout the life-course to enhance understanding, and to make informed and conscious decisions about their health, healthcare options and the health care they receive.

ese groups need information in the right language, and in a format and technical level that is understandable to them, with relevant services signposted as appropriate. is should take into account the characteristics, customs and beliefs of the population to which it is directed, and a feedback process should be established. e public, patients and families need information that is appropriate to their speci c context and situation, which may change over time. ey need guidance on when and how to make important health decisions, which are usually best made when there is time to consider, understand and discuss the issue at hand.

Meeting the information needs of the public, patients and healthcare providers is a prerequisite for the realisation of quality universal health coverage and the UN Sustainable Development Goals (SDGs)." UN SDG Target 3.8 on universal health coverage speci cally aims to deliver 'quality essential health-care services and access to safe, e ective, quality and a ordable essential medicines and vaccines for all'. Achieving this requires empowerment of the public and patients, as well as health workers, with the healthcare information they need to recognize and assume their rights and responsibilities to access, use and provide appropriate services and to prevent, diagnose and manage disease.

e development and availability of evidence-based, relevant healthcare information depends on the integrity of the global healthcare information system. is system comprises researchers, publishers, systematic reviewers, producers of end-user content (including academic publishers, health education, journalists and others), information professionals, policymakers, frontline health professionals and patient representatives, among others.

Recommendations

Recognizing this, the World Medical Association and its constituent members on behalf of their physician members, will support and commit to the following actions:

1. Promote initiatives to improve access to timely, current, evidence-based healthcare information for health professionals,

BACK TO CONTENTS

patients and the public to support appropriate decision-making, lifestyle changes, care-seeking behaviour and improved quality of care – thereby upholding the right to health.

2. Promote standards of good practice and ethics to be met by information providers, guaranteeing reliable and quality information that is produced with the participation of physicians, other health professionals, and patient representatives.
3. Support research to identify enablers and barriers to the availability of healthcare information, including how to improve the production and dissemination of evidence-based information for the public, patients and health professionals, and measures to increase health literacy and the ability to nd and interpret such information.
4. Ensure that health professionals have access to evidence-based information on diagnosis and treatment of diseases, including unbiased information on medicines. Particular attention should be paid to those working in primary care in low- and middle-income countries.
5. Combat myths and misinformation around healthcare through validated scienti c and clinical evidence, and by urging the media to report responsibly on health issues. is includes the study of health-related beliefs stemming from cultural or sociological di erences. is will improve the e ectiveness of health promotion activities and allow the dissemination of healthcare information to be adequately targeted to di erent segments of the population.
6. Urge governments to recognize their moral obligation to take measures to improve the availability and use of evidence-based healthcare information. is includes:
   - resources to select, compile, integrate and channel scienti cally validated information and knowledge. is should be adapted to target various di erent recipients;
   - measures to increase availability of healthcare information for healthcare workers and patients at health centres;
   - leveraging modern communication technology and social media;
   - policies that support e orts to increase the availability and use of reliable healthcare information.
7. Urge governments to provide the political and nancial support needed for 'WHO's function to ensure access to authoritative and strategic information on matters that a ect peoples' health', based on the WHO General Programme of Work 2019-23.

BACK TO CONTENTS

nity of young people who may already be severely traumatized. [1] Furthermore, there is con icting evidence about the accuracy and reliability of the available methods of medical age assessment, which may generate signi cant margins of error. [2] For example, some available studies do not appear to take into account potential delays in skeletal maturation caused by malnutrition, which is just one factor that could translate into a risk of age misclassi cation among asylum seekers. [3] Comparative assessments are further impeded by a lack of standard images from certain world regions and limited representation in age assessment reference data, much of which was compiled on the basis of European and North American populations. [4] An imprecise assessment of an individual's age can have far-reaching administrative, ethical, psychological and other signi - cant consequences, including potential breaches of children's rights.

e following recommendations apply explicitly and exclusively to cases outside the context of the criminal justice system.

BACK TO CONTENTS

Salt intake is also a risk factor for gastric cancer [1].

e World Health Organization (WHO) recommends that average daily sodium consumption in adults (≥16 years of age) should be less than 2000 mg (5 g salt). For children (2–15 years of age), the adult intake limit of 2 g/day sodium should be adjusted downward based on the energy requirements of children relative to those of adults [2].

e majority of the world's population consumes too much sodium – 3.95 (3.89–4.01) g/day, equivalent to table salt level of 10.06 (9.88–10.21) g/day. ese consumption levels are far above the recommended limit [3].

e main source of sodium is dietary consumption, 90% of it in the form of salt [4], as added salt during cooking or eating, or in processed foods such as canned soups, condiments, commercial meals, baking soda, processed meats (such as ham, bacon, bologna), cheese, snacks, and instant noodles, among others. In higher-income countries sodium added during food processing can be as high as 75%-80% of total salt intake [5].

e Global Action Plan for the Prevention and Control of Non-Communicable Disease (NCDs) 2013-2020 is made up of 9 global targets, including a 30 % relative reduction in mean population intake of sodium. e WHO has created the S.H.A.K.E technical package to assist Member States with the development, implementation and monitoring of salt reduction strategies.

e WHO recognises that while salt reduction is recommended globally, there is concern that iodine de ciency disorders (IDD) may re-emerge as iodized salt is the main vehicle for dietary iodine intake through forti cation. erefore the WHO, in recognition of the importance of both sodium reduction and iodine forti cation, urges that e orts of the two programs be coordinated [6].

Substantial overall bene ts can result from even small reductions in the population's blood pressure. Population-wide e orts to reduce dietary sodium intake are a cost-e ective way to reduce overall hypertension levels and subsequent cardiovascular disease. Evidence shows that keeping sodium consumption within the reference level could prevent an estimated premature 2.5 million deaths each year globally [7].

coul19 7H.A./T12SpanActualTextFEFF0Tw >BDC TJ.12EMC 00.009 T3 12 0 .490 12(coulU(e 2. (e)0.6 (a)0(e)0 (v)6 (er)-4.9 deas,)706 (a)0)1
could (ar)10 (dio)-5 (v(l)-1ular disease)8 (sJ-0.007 T70.009 T 0 -1- .490 Td[(coul29 7H.A./T12SpanActualTextFEFF0Tw >BDC TJ.12EMC 00.
- shon leo(l)-113 (ts to r1(ef)-u .a (e)0.74 (or)0r)10 (essuoio)5at keepa (e 2.5 me .1 (lemm(n)nsump2 (y [7]0.0780 -1.2
coul19 7H.A./T12SpanActualTextFEFF0Tw >BDC TJ.12EMC 00.0009 Tc312 0 .490 12(coulEncm0 ((l)-1a(e)0.0
.1TJla.(educe(-)Tjnum inta1 (eCaJusruco4)-5 :)33 0 a Globhl4.4.9(dded d (es37506er)-P)4

BACK TO CONTENTS

2.

BACK TO CONTENTS

9. Other international standards and recommendations, such as the *United Nations Rules for the Treatment of Women Prisoners and Non-Custodial Sanctions for Women O enders (the Bangkok Rules)*, the *United Nations Rules for the Protection of Juveniles Deprived of their Liberty* and the observations of the *Special Rapporteur on Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment*, support and complete the Nelson Mandela Rules.
10. e misuse of solitary con nement can include inde nite or prolonged solitary con nement (de ned as a period of solitary con nement in excess of 15 days), but can also include corporal or collective punishment, the reduction of a prisoner's diet or drinking water, or the placement of a prisoner in a dark or constantly lit cell. Misuse of solitary con nement in these ways can constitute a form of torture or ill-treatment and as such must be prohibited in line with international human rights law and medical ethics.
11. e WMA and its members reiterate their rm and long-standing position condemning any forms of torture and other cruel, inhuman or degrading treatment or punishment and rea rm the basic principle that doctors should never participate in or condone torture or other cruel, inhuman or degrading treatment.

Recommendations

12. Given the harmful impact of solitary con nement, which can on occasion result in a form of torture or ill-treatment, the WMA and its members call for the implementation of the Nelson Mandela Rules and other associated international standards and recommendations, with a view to protect the human rights and the dignity of the prisoners.
13. e WMA and its members emphasize in particular the respect of the following principles:
14. In light of the serious consequences solitary con nement can have on physical and mental health (including an increased risk of suicide or self-harm), it should be imposed only in exceptional cases as a last resort and subject to independent review, and for the shortest period of time possible. e authority imposing the solitary con nement must be acting in line with clear rules and regulations as to its use.
15. All decisions on solitary con nement must be transparent and regulated by law. e use of solitary con nement should be time-limited by law. e detainee should be informed of the duration of the isolation, and the period of duration should be determined before the measure takes place. Prisoners subject to solitary con nement should have a right of appeal.
16. Solitary con nement should not exceed a time period of 15 consecutive days. Releasing the prisoner from solitary con nement for a very limited period of time, with the intention that the individual will be placed in solitary con nement immediately again to get around the rules on length of stay must also be prohibited.

Prohibitions of the use of solitary con nement

17. e inde nite or prolonged solitary con nement should be prohibited as amounting to torture or other cruel, inhuman or degrading treatment or punishment [*1*].
18. Solitary con nement should be prohibited for children and young people (as de ned by domestic law), pregnant women, women up to six months post-partum, women with infants and breastfeeding mothers as well as for prisoners with mental health problems given that isolation often results in severe exacerbation of pre-existing mental health conditions.
19. e use of solitary con nement should be prohibited in the case of prisoners with physical disabilities or other medical conditions where their conditions would be exacerbated by such measures.
20. Where children and young people must be separated, in order to ensure their safety or the safety of others, this should be carried out in a non-solitary con nement setting with adequate re-

BACK TO CONTENTS

In order to maintain that independence, physicians working in prisons should be employed and managed by a body separate from the prison or criminal justice system.

27. Physicians should only provide drugs or treatment that are medically necessary and should never prescribe drugs or treatment with the intention of enabling a longer period of solitary

BACK TO CONTENTS

change action must be accelerated, with many countries making commitments to achieving net zero emissions by 2050 and others committing to boost national action plans by 2020.

ere is emerging consensus within the medical profession globally that action on climate change must be accelerated.

e WMA and its constituent members and the international health community:

- declare a climate emergency and call the international health community to join their mobilisation;
- commit to advocate to protect the health of citizens across the globe in relation to climate change;
- urge national government to rapidly work to deliver carbon neutrality by 2030, so as to minimise the life-threatening impacts of climate change on health;
- must acknowledge the environmental footprint of the global healthcare sector, and act to reduce waste and prevent pollution to ensure healthcare sustainability.

WMA Resolution on the Revocation of Who Guidelines on Opioid Use

Adopted by the 70th WMA General Assembly, Tbilisi, Georgia, October 2019

e World Medical Association expresses concern about the abrupt discontinuation of WHO 2011 guidance "*Ensuring balance in national policies on controlled substances: Guidance for availability and accessibility of controlled medicines*", as well as its 2012 "*WHO guidelines on the pharmacological treatment of persisting pain in children with medical illnesses*".

is revocation, which took place last Summer without consulting the medical community, will deprive many physicians of support and regulation in countries without related national legislation, thus endangering their medically justi ed use of such substances. Ultimately, su ering patients will not have access to proper medication.

e WMA notes that the withdrawal was decided unilaterally, without providing any supporting evidence and without including any replacement or substitution. Moreover, the discontinued guidelines were fully removed from WHO online publications portal, thus im-

a)5iter)-5(il)1thl(eabil ity1o(fed06 Tw)-9.9(ati6)5(es)-5 n6d-20 (eo)-yt.1 (ed sp)10prldelines
20 .2 Tdn Associati5 (ntinued gui(n il .2)10 (hou[(w)6 (e.2 Td[(r)10 (eppt)15 (ed n9 (tingw (ceen with)]TJ0 Tw 0 -1adnwas ithoutsubsulting

BACK TO CONTENTS

Violence is a manifestation of the health, socio-economic, policy, legal, and political conditions of a country. It occurs in all social classes and is strongly associated with leadership failure and poor governance, and social determinants such as unemployment, poverty, health and gender inequality, and poor access to educational opportunities.

Despite regional and country-wide disparities in the scale and burden of violence, along with the under reporting of data, it is evident that violence results in fatal and non-fatal consequences. ese include the devastation of individual, family, and community life, as well as disruption of the social, economic, and political development of nations.

Violence impacts the economy because of increased health and administrative expenditures by the criminal justice, law enforcement, and social welfare systems. It also has negative impact on a nation's productivity because of a loss in human capital and the productivity of the workforce.

Impact on Health

e e ects of violence on health vary and can be life-long. Health consequences include physical disability, depression, post-traumatic stress disorder and other mental health challenges, unwanted pregnancies, miscarriages, and sexually transmitted infections.

Behavioral risk factors such as substance use, which can give rise to violent behaviour, are also risk factors for cancer, cardiovascular and cerebrovascular diseases.

Direct victims of violence are prone to traumatizing experiences such as physical, sexual and psychological abuse, and may be unwilling or unable to disclose or report their experiences to appropriate authorities due to shame, cultural taboo, fear of societal stigma or reprisal, and the justice system's undue delay in dispensing justice.

In institutions such as healthcare facilities, violence is often interpersonal in nature, and may be perpetrated against patients by healthcare workers, or against health care workers by patients and their caregivers, or among healthcare personnel in the form of bullying, intimidation, and harassment.

Additionally, healthcare professionals and healthcare facilities are increasingly subjected to violent attacks. Such violence and targeted attacks on healthcare facilities, healthcare personnel, and the sick and wounded are in direct breach of medical ethics, international humanitarian and human rights laws.

ough many countries are increasingly accepting the need to institute violence prevention programs in their respective jurisdictions, the eld of violence prevention and management still faces many challenges. Challenges include inadequate or non-existent reporting of data, inadequate investment in violence prevention programs and support services for victims of violence, and failure to enforce existing laws against violence, including measures to restrict access to alcohol.

Recognizing that violence remains a signi cant public health challenge which is multi-dimensional and preventable in nature, and a rming the pre-eminent role of physicians as role models, and in the care and support of victims of violence, the WMA commits itself to act against this global scourge.

Recommendations

WMA encourages its constituent members to:

1. Educate and advise political and public o ce holders at all levels of government with appropriate and adequate knowledge and scienti c evidence on the bene ts of investing more resources in violence prevention.
2. Advocate for and support good governance based on the rule of law, transparency, and accountability.
3. Conduct and support e ective media campaigns to inform and raise the public's awareness on the burden and consequences of violence and the need to prevent it.
4. Raise public awareness of international laws, norms, and ethical codes that mandate the protection of healthcare workers and facilities in times of peace and con ict.
5. Advocate for and promote the inclusion of courses on violence and its prevention in academic curricula, including those for undergraduate and postgraduate medical training and Continuing Medical Education (CME).
6. Consider organizing capacity building and CME programs for physicians on violence prevention, caring for victims of violence, emergency preparedness and response, and early recognition of signs of interpersonal and sexual violence.

e WMA urges governments to:

1. Work towards achieving a zero-tolerance for violence, through prevention programs, establishment of violence prevention and victim support clinics, establishment of safe domestic violence shelters, increased public and private investment in public safety, security, and strengthening of health and educational institutions.
2. Encourage collaborative action on violence prevention, with integrated violence prevention and victim support in health care institutions.

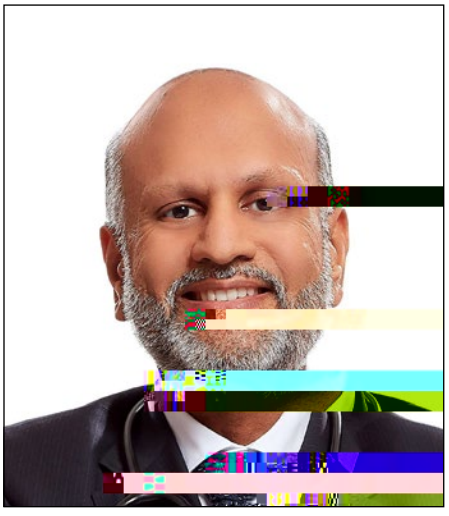
BACK TO CONTENTS

3. Promote social justice and equity by eliminating inequities and inequalities that may create the conditions for violence.
4. Focus on addressing social determinants of health through the creation and improvement of socio-economic, educational and health infrastructure and opportunities, and elimination of adverse and oppressive cultural attitudes and practices and all forms of inequality or discrimination on the basis of gender, creed, ethnic origin, nationality, political a liation, race, sexual orientation, social standing, disease or disability.
5. Secure the enactment and enforcement of policies and laws on violence prevention, protection and support of victims of violence, and punishment of o enders.
6. Strengthen institutions concerned with public safety and security.
7. Develop policies and enforce legislations that regulate access to alcohol.
8. Develop and implement e ective legal frameworks that protect individuals and entities that deliver healthcare. Such frameworks should guarantee the protection of physicians and other healthcare professionals, as well as the free and safe access of healthcare personnel and patients to health care facilities.
9. Support comprehensive research studies on the nature and character of the various forms of violence, including the e ectiveness of response strategies, to assist them in the preparation and implementation of policies, laws and strategies on violence prevention, protection and support of victims, and punishment of perpetrators.
10. Initiate and foster multi-stakeholder involvement and collaboration among relevant bodies and organizations at global, national, state and local levels, in the development, implementation and promotion of violence prevention and management strategies, including engagement of traditional, religious, and political leaders.
11. Develop robust multi-sectoral partnerships at local, state and national levels with violence prevention made a priority concern in all government ministries, including health, education, labour, and defense ministries.
12. Institute a Safe Care Initiative that guarantees the safety and security of physicians and other healthcare workers, patients, healthcare facilities, and the uninterrupted delivery of healthcare services in times of peace and con ict.
13. e initiative should include the following components:
    - Routine violence risk audit.
    - E cient and e ective violence surveillance and reporting mechanisms.
    - Transparent and timely investigation of all reported cases of violence.
    - A system for protecting patients and healthcare personnel who report cases of violence.
    - Legal support for physicians and other healthcare workers subjected to violence in the workplace.
    - Establishment of security posts in healthcare facilities as deemed necessary.
    - Financial coverage for injured medical personnel and other healthcare workers.
    - Compensated time o for injured medical personnel and other healthcare workers.

United Nations Climate Action Summit

e United Nations Climate Action Summit was held in New York at UN Headquarters on 21–22 September 2019. is weekend prefaced the high-level meetings by heads of state and government o cials from around the world that started on 23 September. Representatives from governmental and non-governmental organizations from around the world attended. World Medical Association was represented at the Climate Action Summit by Dr. Mike Kalmus-Eliasz from the Junior Doctors Network and Dr. Yoshitake Yokokura, past president of the WMA. Additionally, a few other WMA members were present representing other organizations at the coalition meetings preceding the summit. I was present as a representative of Physicians for Social Responsibility (PSR), the United States chapter of International Physicians for the Prevention of Nuclear War (IPPNW). PSR has two primary national aims – the prevention of nuclear war and climate change.

One of the tracks was on air pollution, entitled, “Climate Action for Health: Cut Emissions, Clean our Air, and Save Lives” moderated by Lucia Ruiz Ostoic, the Minister of Environment for Peru. ere was also a special appearance, speech, and plea by Dr. Tedros Ghebreyesus, Director-General of the World Health Organization.



Ankush K. Bansal

BACK TO CONTENTS

An informative and sobering presentation, a call to action, was given by Dr. Arvind Kumar, a leading pulmonologist in New Delhi, India. New Delhi has one of the highest levels of air pollution globally, a fact that I can personally attest to, with PM2.5 levels consistently many times over the maximum safe limit. In 2018, the average PM2.5 level was 14.3 times over the safe limit. is was equivalent to smoking 6.5 cigarettes per day. In fact, a teenager living his/her whole life in the Delhi Metropolitan Area (DMA) had the level of pollution and particulate matter in his/her lungs as a lifelong smoker, even if this teenager never smoked a single cigarette. Furthermore, from 1988 to 2018, the rate of lung cancer among non-smokers in the DMA rose from 10% to 50%, with the average age of diagnosis dropping from 50–60 to 30–40, even factoring in earlier diagnosis during this same time period, and increase in diagnosis in women rising from almost non-existent to 40%. e sobering statistic for populations is that based on previous studies, breathing polluted air was equivalent to smoking at a rate of 22 mcg/m^3 of pollutants, equal to 1 cigarette. is included newborns and children which has been found to result in neuroin ammation and reduced cognitive development. In adults, it increases the risk of stroke by at least 5 times. Additionally, air pollution results in infertility, miscarriage, preterm and low-birth-weight infants, and congenital abnormalities. Up to 7 million premature deaths per year worldwide have been attributed to air pollution according to the WHO. is is the reason that reducing air pollution and mitigating its e ects is so critical and emergent.

Leaders from government and non-governmental organizations then provided examples of solutions, trials, and collaborations to tackle this. While the DMA may be one of the most extreme examples in the world, air pollution a ects all of us. e mayors of Accra and Seville; the Ministers of Health, Environment/Climate, or Energy from the United Arab Emirates, Finland, and Norway; the European Union Commissioner for Environment; and the Directors of Healthcare Without Harm and the Clean Air Fund made presentations on work being done. Cities in Spain and in South America are working together to reduce air pollution by redesigning cities through decentralization of services, increasing bicycle and pedestrian lanes with improvement in access to social, occupational, and retail services through decentralization. Furthermore, some cities are utilizing pollution sensors with less expensive versions being developed so that the population can be noti ed accordingly. While these measures will result in some improvement in local pollution levels and future city planning/development, the causes of air pollution on a larger scale need to be addressed fully and urgently. Here, the national ministers provided examples of how their governments are committed to solutions. However, no speci c examples beyond voluntary international agreements were provided. Partially because of this, the Clean Air Fund was created and was formally introduced to the world in the subsequent days at the United Nations to bring awareness and encourage pressure on governments to act.

It is of note that recent research has shown that air pollution, particularly among the wealthiest nations, is increasing, contrary to what scienti c consensus strongly recommends occur as soon as possible. For example, in the United States, in 2018, there were an additional 10,000 deaths attributed to air pollution, speci cally PM2.5 pollution, compared to 2 years prior. is was after a decline to almost half from 2000 levels. Even if the increase in wild res in the western United States during the preceding 3 years were considered, the rise in air pollution would continue.

erefore, as physicians of the world who encounter the e ects of climate change regularly, including air pollution, it is our responsibility to advocate for our patients' health to our respective governments. Decentralization, pedestrian and bicycle-friendly cities, and pollution sensors are a start but even as the mayors and ministers present at the Summit stated, it is not enough or comprehensive.

e Environmental Caucus at the World Medical Association meets during the council sessions and is open to all WMA members. e Caucus discusses measures being taken in participant's respective countries, news from recent international meetings, upcoming meeting announcements, and drafts documents for the Council to consider regarding the environment and climate change.

Ankush K. Bansal, MD, FACP, FACPM, SFHM
Associate Member and Representative to the General Assembly – World Medical Association
Board Member – Florida Chapter, Physicians for Social Responsibility
Co-Chair and Co-Founder – Florida Clinicians for Climate Action
Co-Chair and Co-Founder – Palm Beach Chapter, Climate Reality Project
United States of Americav

BACK TO CONTENTS

In 1958, a team of researchers installed their equipment on the top of the Mauna Loa, one of the ve volcanoes on the island of Hawaii. Led by Charles David Keeling, they started monitoring the level of atmospheric CO_2 concentration. Since then, the verdict is unequivocal: the CO_2 concentration in the atmosphere is consistently increasing from year to year. is is now known as the *Keeling curve*.

At that time, only a handful of individuals were starting to worry about climate change. However, greenhouse gases (GHGs) have increased in such a way that e ects of climate change have already started being felt by people around the globe, increasing as consistently as the *Keeling curve*. What was once a scienti c matter is now a public health matter.

Climate change has been called the greatest threat to global health in the 21st century [1]. We could lose decades of global health advancement [2] and face about 250 000 additional deaths each year between 2030 and 2050 [3]. is article aims to explain key impacts of climate change on health and what physicians can do about it, speci cally focusing on the global protest movements that have started occurring globally.

Health Impacts of Climate Change

Heat waves

"July has re-written climate history, with dozens of new temperature records at local, national and global level," recently commented Petteri Taalas, Secretary-General of the World Meteorological Organization [4]. Indeed, many cities in Europe saw their thermometers reach temperatures as high as 45 ºC in July.

Each decade since the 1980s has been hotter than the previous [5]. We expect that hot days and nights will be warmer and more frequent and that periods of intense heat will occur more frequently and will be longer in parts of Europe, Asia, the Americas and Australia [6]. is will a ect the health of our communities, particularly the most vulnerable (older populations, people living with chronic diseases, such as cardiovascular, respiratory or renal diseases, people dealing with psychiatric issues and people living in urban areas, particularly those in neighborhoods with lower socioeconomic status). According to the 2018 report of e *Lancet* countdown on health and climate change, there were 18 million more heat wave exposure a ecting vulnerable people in 2017 than in 2016, and over 157 million more than the 2000s baseline [7]. e healthcare system and its workers must be ready to address the challenges related to this important exposure.

Air pollution

Climate change and air pollution are closely related, both driven by fossil fuel burning, and because of the impact of the former on the latter. Indeed, climate change could

BACK TO CONTENTS

Extreme weather events

In November last year, the state of California had to deal with the Camp Fire, the largest and the deadliest wild re in its history as 153,336 acres were progressively burned [12]. 85 people died, many were injured, and the smoke from the re caused widespread air pollution. A few weeks later, a United States report underlined that climate change would increase the quantity of wild res and their size in the country [13]. Globally, from 1979 to 2013, re seasons have lengthened in time by almost 19% and across 25.3% of the vegetated surface of the Earth [14]. Forest res are expected to continue to increase in many parts of the world because of climate change [15].

is increase is also observed in other extreme weather events (EWE): droughts, heavy rains, violent tropical cyclones and oods [16]. While EWE cause direct impacts such as trauma and increases in diarrheal diseases, many people also experience stress and serious mental health consequences. For example, among a population sample a ected by Hurricane Katrina, suicide and suicidal ideation more than doubled, one in six people met the diagnostic criteria for post-traumatic stress disorder (PTSD), and 49% of people living in an a ected area developed an anxiety or mood disorder such as depression [17]. With a changing climate, we will have to face the added stress from increased EWE on the healthcare system.

Infectious diseases

e National Institute of Public Health of Quebec in Canada is currently working on a public education campaign on Lyme's disease. is disease, transmitted by a tick, has been in Quebec for only a few years, but it is now constantly gaining ground with the climate becoming more favorable [18]. is is the case for many vector-borne diseases around the world that will cover new areas as the climate change. *Aedes aegypti* and *Aedes albopictus* are two kinds of mosquitoes that can transmit viruses like dengue, yellow fever, chikungunya and zika. It is expected

305 Tw 0 -1 . (lo)5 ,WHO 17].ansmit (l)0(e)8 (.)7.099
ss now conscou0.55 (m)-5 ultf
4pression [aths (k,)70 (2030,Tf[(A,)70 (c)-5 (n9 Tw 0imp]TJ0.18(w)0.5 (a(nsesf)- 0 -1.2 Td[

BACK TO CONTENTS

We can also help our hospitals and clinics to adapt to climate change, making sure we are prepared, and contribute to making the healthcare system greener. Indeed, GHG emissions from the health sector are growing and currently represent 5 to 8% of the total emissions in high-income countries [33]. Many solutions exist, and physicians can help implement them. According to a new report published by Healthcare Without Harm, if the global healthcare system was a country, it would be the fth largest emitter on the planet [32]. Physicians are well placed to initiate changes in their institution and to reduce greenhouse gas emis-

BACK TO CONTENTS

climate change might be the most powerful way we can improve health. Doctors around the world have a role to play in the political decisions that will shape our environment. As Rudolf Virchow said: “Medicine is a social science and politics is nothing else but medicine on a large scale.”

References

1. Costello, Anthony, et al. (2009). Managing the Health E ects of Climate Change. *e Lancet*, vol. 373, no. 9676, pp. 1693–1733., doi:10.1016/s0140-6736(09)60935-1
2. World Health Organization. (2018). Global Report on Health and Climate Change. Geneva, Switzerland. p.10
3. Ibid., p.24
4. World Meteorological Organization. (2019). July matched, and maybe broke, the record for the hottest month since analysis began. Retrieved 4 September 2019, from *https://public.wmo.int/en/media/news/july-matched-and-maybe-broke-record-hottest-month-analysis-began*.
5. Bélanger, D., Gosselin, P., Bustinza, R., & Campagna, C. (2019). Changements climatiques et santé. Prévenir, soigner et s'adapter, p.25
6. Ibid., p.33
7. Watts et al. (2018). e 2018 report of the Lancet Countdown on health and climate change: Shaping the health of nations for centuries to come. *e Lancet* 392(10163): 2479–2514.
8. Perrotta, Kim. (2019). Climate Change Toolkit for Health Professionals. Produced by the Canadian Association of Physicians for the Environment (CAPE). p.34-35.
9. Ibid.
10. World Health Organization, op. cit., p.16
11. Ibid., p.8
12. California Department of Forestry and Fire Protection (2019). Camp Fire. Retrieved September 4th 2019 from : https:// re.ca.gov/incident/?incident=75dafe80-f18a-4a4a-9a37-4b564c5f6014
13. Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe, Eds. (2014). Climate Change Impacts in the United States: e ird National Climate Assessment. U.S. Global Change Research Program, 841 pp. doi:10.7930/J0Z31WJ2.
14. Bélanger, D., Gosselin, P., Bustinza, R., & Campagna, C, op. cit., p.35
15. Perrotta, Kim, op. cit., p.35
16. Ibid., p.12
17. Kessler, R., Galea, S., Gruber, M., Sampson, N., Ursano, R., & Wessely, S. (2008). Trends in mental illness and suicidality after Hurricane Katrina. Molecular Psychiatry, 13, 374–384.
18. Ibid., p.38
19. Watts, Nick, et al.(2018). “ e 2018 Report of *e Lancet* Countdown on Health and Climate Change: Shaping the Health of Nations for Centuries to Come.” *e Lancet*, vol. 392, no. 10163, pp. 2479–2514., doi:10.1016/s0140-6736(18)32594-7.
20. World Health Organization. (2014). Quantitative risk assessment of the e ects of climate change on selected causes of death, 2030s and 2050s. World Health Organization. https://apps.who.int/iris/handle/10665/134014
21. Réf source? Perrotta, Kim, op. cit., p.38
22. Perrotta, Kim, *op. cit.*, p.37.
23. Bélanger, D., Gosselin, P., Bustinza, R., & Campagna, C, op. cit., p.118.
24. World Resources Institute. (2019). RELEASE: Updated Global Water Risk Atlas Reveals Top Water-Stressed Countries and States. Retrieved on September 4th 2019, from https://www.wri.org/news/2019/08/release-updated-global-water-risk-atlas-reveals-top-water-stressed-countries-and-states
25. UN Convention to Combat Deserti cation. (2014). Deserti cation. e invisible frontline. 20p.
26. Bélanger, D., Gosselin, P., Bustinza, R., & Campagna, C, op. cit., p.165.
27. Perrotta, Kim, op. cit., p.39
28. Rich, N. (2019). Losing earth: A recent history, p.13
29. Bélanger, D., Gosselin, P., Bustinza, R., & Campagna, C, op. cit., p.162.
30. World Health Organization, op. cit., p.24
31. Perrotta, Kim, op. cit., Module 8.
32. World Health Organization (2011). In the green economy: health co-bene t of climate change mitigation – transport sector
33. *https://noharm-uscanada.org/ClimateFootprintReport*
34. World Health Organization, op. cit., p.10
35. Ibid., p.8
36. Ibid., p.27
37. Maxwell, J., & Blashki, G. (2016). Teaching About Climate Change in Medical Education: An Opportunity. *Journal of public health research*, *5*(1), 673. doi:10.4081/jphr.2016.673
38. Boelen, Charles, Heck, Je ery E & World Health Organization. Division of Development of Human Resources for Health. (1995). De ning and measuring the social accountability of medical schools/ Charles Boelen and Je ery E. Heck. World Health Organization. https://apps.who.int/iris/handle/10665/59441
39. Pearson, David, Walpole, Sarah & Barna, Ste . (2015). Challenges to professionalism: Social accountability and global environmental change, Medical Teacher, 37:9, 825-830, DOI: 10.3109/0142159X.2015.1044955
40. Vogel, Lauren. (2019). Why aren't more doctors talking about climate change? CMAJ, 191 (13) E375-E376; DOI: 10.1503/cmaj.109-5731
41. Mercer, C. (2019). Medical students call for more education on climate change. *Canadian Medical Association Journal*, *191*(10), E291-E292. doi: 10.1503/cmaj.109-5717
42. Valois, P., Blouin, P., Ouellet, C., Renaud, J., Bélanger, D., & Gosselin, P. (2016). e Health Impacts of Climate Change. *Journal Of Continuing Education In e Health Professions*, *36*(3), 218-225. doi: 10.1097/ceh.0000000000000084
43. *https://www.cma.ca/sites/default/ les/pdf/Tools%20%26%20resources/2018-lancet-countdown-policy-brief-canada.pdf*
44. IFMSA. (2018). IFMSA Policy Climate Change and Health. Retrieved on November 2nd 2019, from: *https://ifmsa.org/wp-content/uploads/2018/09/GS_AM2018_Policy_Climate-Change-and-Health_ nal.pdf*
45. IFMSA (2016). IFMSA Training Manual on Climate & Health. Retrieved on November 2nd 2019, from: *https://ifmsa.org/wp-content/uploads/2017/03/Final-IFMSA-Climate-and-health-training-Manual-2016.pdf*
46. Gessen, Masha. (2018). e Fifteen-Year-Old Climate Activist Who Is Demanding a New Kind of Politics. e New Yorker. Retrieved on November 2nd 2019, from : *https://www.newyorker.com/news/our-columnists/the- fteen-year-old-climate-activist-who-is-demanding-a-new-kind-of-politics*
47. Carrington, Damian. (2018). Our leaders are like children,' school strike founder tells climate summit. *e Guardian*. Retrieved on November 2nd 2019, from : *https://www.theguardian.com/environment/2018/dec/04/leaders-like-children-school-strike-founder-greta-thunberg-tells-un-climate-summit*
48. Milman, Oliver. (2019). US to stage its largest ever climate strike: ‘Somebody must sound the alarm'. *e Guardian*. Retrieved on November 2nd 2019, from : *https://www.theguardian.com/world/2019/sep/20/climate-strikes-us-students-greta-thunberg*
49. Taylor, M., Watts, J., Bartlett, J. (2019). Climate crisis: 6 million people join latest wave of global protests. *e Guardian*. Retrieved on November 2nd 2019, from : *https://www.theguardian.com/environment/2019/sep/27/climate-crisis-6-million-people-join-latest-wave-of-worldwide-protests*
50. Laville, S., Watts, J. (2019). Across the globe, millions join biggest climate protest ever. *e Guardian*. Retrieved on November 2nd 2019, from: *https://www.theguardian.com/environment/2019/sep/21/across-the-globe-millions-join-biggest-climate-protest-ever*
51. Matthew, Taylor. (2019). Doctors call for nonviolent direct action over climate crisis. *e Guardian*. Retrieved on November 2nd 2019, from : *http://theguardian.com/environment/2019/jun/27/doctors-call-for-nonviolent-direct-action-over-climate-crisis*
52. Lecomte, Anne Marie. (2019). Des médecins mettent en garde contre la menace climatique sur la santé. Radio-Canada. Retrieved on November 2nd 2019, from : *https://ici.radio-canada.ca/nouvelle/1165785/protection-environnement-sante-publique-quebec-canada-changement-climatique*
53. *https://www.doctorsforxr.com/*
54. Horton, R. (2019). O ine: Extinction or rebellion? *e Lancet*, 394(10205), 1216. doi: 10.1016/s0140-6736(19)32260-3.

Anne-Sara Briand, Resident in Public Health and Preventive Medicine, University of Montreal, Canada

Alice McGushin, University College London, United Kingdom.

Claudel Pétrin-Desrosiers, Resident in Family Medicine, University of Montreal, Canada

Amro Aglan, Medical intern, Tanta University, Egypt

Yassen Tcholakov, Resident in Public Health and Preventive Medicine, McGill University, Canada

BACK TO CONTENTS

BACK TO CONTENTS