Health in the Occupied Palestinian Territory 2009
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Executive summary

"Hope for improving health and quality of life of Palestinians will exist only once people recognise that the structural and political conditions that they endure in the occupied Palestinian territory are the key determinants of population health", states the first report in the Series.

This Series on the health status of 3.8 million people living in the occupied Palestinian territory details one of the most important flashpoints not only in Middle East politics, but for global security. *The Lancet* report examines aspects of the Palestinian health predicament: health services; maternal and child health; cardiovascular diseases; diabetes and cancer; health and human security; and the future of the healthcare system. The report has been written by a team of health scientists in the occupied Palestinian territory, together with international colleagues from WHO, associated UN agencies, and academic institutions in the USA, UK, Norway, and France.

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The occupied Palestinian territory: peace, justice, and health

Richard Horton [a]

The distances seem short. From Jerusalem to Ramallah is only a few kilometres; from Gaza City in the north of the Gaza Strip to Rafah in the south, 30 km; from Ramallah to Gaza, 70 km. One can drive the length of the West Bank in just a few hours. Yet for those living outside the occupied Palestinian territory, the distances—to peace and justice—seem impossibly vast. The impression conveyed through western media is of a land in perpetual war, a people drenched in hatred, aggression, and violence. Visiting the territory reveals a very different reality.[1] This week, *The Lancet* publishes the results of a 2-year collaboration between Palestinian public-health scientists, WHO and associated UN agencies, and a broad group of international scientists from the USA, UK, Norway, and France.[2–6] The goal of this Series on Palestinian health is to change the way health professionals, politicians, policy makers, media, and the public view, think about, and discuss the predicament facing this region of the Middle East.

The pursuit of health as a political objective and the creation of a strong health system for Palestinians could be one fruitful diplomatic path to reconciliation, peace, and justice. The people of the Palestinian territory matter, most importantly, because their lives and communities are continuing to experience an occupation that has produced chronic de-development for

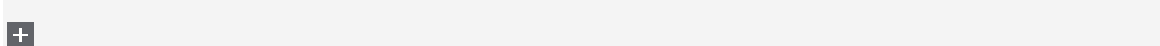
nearly 4 million people over many decades. But the future of Palestinians also matters because of the continued conflict with Israel, the failure of the peace process to make any substantial progress, and the internally catastrophic and violent divisions within Palestinian politics. These characteristics are, in the words of one respected commentator, “the oldest and most powerful driver of discontent, disequilibrium, and radicalism in our region”.[7] If a way could be found to strengthen Palestinian political institutions and find common ground for negotiations with Israel and western governments, great regional and even international benefits could follow.

Another reason why the facts of Palestinian health under occupation matter is that, as *The Lancet* has learned from its previous country series,[8], [9] national experiences may yield valuable global lessons. The knowledge gained from the occupied Palestinian territory may be important for others enduring similar long-term conflicts. A serious analysis of the health situation in the occupied territory therefore has potentially deep intrinsic and instrumental value.

The purpose of our alliance with Palestinian, UN, and international health scientists and policy makers is to bring the best descriptive and experimental evidence to bear on the health of Palestinians and the performance of the Palestinian health system. A thorough review of available data should allow rational evaluation of future options for health improvement and health-system strengthening. Our Series might also be useful as a scientifically sound platform for advocacy, awareness, and action around health. We see this work as a starting point for a new approach and attitude to the occupied territory.

The method we adopted was to gather and appraise evidence according to strict epidemiological norms, to be cautious in our interpretations of that evidence, and to look for solutions as well as problems. Amid a mass of data, and a range of issues that we could have covered, we identified five domains that provide the governing structure for this Series: a historical overview of Palestinian health conditions and health services, including an organising framework for examining these issues—namely, human security;[10] maternal and child health; non-communicable diseases (cardiovascular disease, diabetes, and cancer); violence and health; and, finally, an assessment of the Palestinian health system, together with an agenda for its reform.

Our main collaborating centre was the Institute of Community and Public Health at Birzeit University. Birzeit was founded in 1924 as a school for girls. It now exists on a large, modern, and well equipped campus on the edge of Ramallah. It has almost 8000 students, of whom over half are women, taught by 400 faculty members. The Institute of Community and Public Health was established in 1978 and was the university's response to an urgent need for independent research to strengthen Palestinian health services. It is led by Rana Khatib and Rita Giacaman. We also received assistance from the Palestine Central Bureau of Statistics, the Palestinian Ministry of Health, the Palestine Medical Relief Society, the Gaza Community Mental Health Programme, and the American University of Beirut. WHO, through its Regional Office for the Eastern Mediterranean region and its country office for the West Bank and Gaza Strip, together with the UN Population Fund (UNFPA) and UN Relief and Works Agency (UNRWA) for Palestine Refugees, provided additional support.



Full-size image (86K) Getty Images

Palestinian child approaches Erez crossing en route to medical treatment in Israel, 2008

The authors of this Series also had the help of an editorial steering committee—Iain Chalmers (James Lind Initiative), Harry Shannon (McMaster University), Jennifer Leaning (Harvard University), and Huda Zurayk (American University of Beirut).[11] Draft papers were presented and scrutinised at three peer-review meetings held in Ramallah, where invited international discussants critiqued manuscripts and offered advice for improvement. When final papers were submitted to *The Lancet*, they underwent a further round of external peer review.

The central arguments presented in this Series are therefore backed by ample and carefully appraised evidence. Since 2000, the occupied Palestinian territory has experienced increasing human insecurity, with the erosion and reversal of many health gains made in earlier years. These setbacks, together with the latest Israeli air and ground attacks on Gaza, have plunged the region into a humanitarian crisis—defined as population dislocation, destruction of social networks, insecurity, and violations of human rights. Steep inequities in health between the West Bank and Gaza are now visible, inequities that began to appear long before Hamas won elections in 2006. And qualitative measures of health—suffering, stress, fear, humiliation, and exposure to violence—are increasing.

The causes of the Palestinian predicament are complex—occupation, internal governance failures, absence of resources, actions and inactions of the international community, aid dependency, and a rapid epidemiological transition. The territory's health system is fragmented and incoherent. It is composed of at least four parts: the Palestinian Authority's Ministry of Health and national health service, UNRWA, non-governmental organisations, and the private sector. One particular difficulty is the weakness of the territory's health-information system, which should support the planning of services. Another is that the Palestinian Authority has little control over key determinants of health—land, water, the environment, infrastructure, and human movement.

The health of pregnant women, mothers, newborn babies, and children is a special concern, since these groups are especially vulnerable and they represent two-thirds of the Palestinian population. Palestinians face the same difficulties as other countries struggling to reach Millennium Development Goals 4 (child survival) and 5 (maternal and reproductive health). But there are also uniquely Palestinian dimensions to these concerns, not least the restriction of movement imposed by the

separation wall and armed checkpoints. The Palestinian experience in maternal and child health is a good example of how the territory can usefully inform global conversations about health—eg, by revealing the sometimes overly quantitative nature of indicators to monitor development goals.

Chronic diseases are, and will increasingly be, major health challenges to the territory. There are clear, well evidenced, and concrete actions the Palestinian National Authority can take to reduce the risks of non-communicable diseases. Palestinian health improvements require parallel solutions—technical, economic, social, and political. The health community can contribute to all of these parallel initiatives and create the motivating conditions to promote progress across non-health sectors.

The occupied territory exposes several important Palestinian particularities for study and reflection, not least occupation, coercion, violence, and insecurity. Yet the conclusion of this Series is optimistic: progress is possible, and it should start with the idea of protecting and advancing the right to the highest attainable standard of health for all Palestinian citizens.[12] International law protects that right.

Our work builds on a large and respected body of evidence from others. WHO has repeatedly drawn attention to its concern about the health situation in the occupied territory, especially Gaza.[13, 14] John Dugard, the UN special rapporteur on the situation of human rights in the Israeli—Palestinian disputed territories, has identified health as an urgent concern in the overall humanitarian crisis across the region.[15] The World Bank has concluded that occupation has left the territory "distorted", with "the hallmarks of a less developed economy".[16] The UK's Parliamentary International Development Committee reported on perilous aspects of health as part of its review of development assistance and the occupied Palestinian territory.[17] And a small but steady stream of research papers continues to emerge on all of these themes.[18, 19]

To be clear, our Series is not about long-standing disagreements over land, statehood, settlements, the separation wall, the right of return of refugees, or the guardianship of important religious symbols and sanctuaries. It is not about Arab politics, the status of Israel, or existing conventional diplomatic efforts to broker peace. It is about normalising our understanding and discussion of Palestinian society by locating that dialogue within a broad and universally agreed health agenda—maternal, newborn, and child health; non-communicable disease; violence and health; and health-systems performance and strengthening. In this Series, Palestinian predicaments share many of the same challenges facing other low-income and middle-income nations. Palestinian concerns should be integrated into this international discussion—an integration that has yet to take place. Too often, Palestinian voices are marginalised from international fora and debates around health. The purpose of this *Lancet* Series is to outline the contours of these concerns and to provide a framework for greater international understanding of Palestinian health priorities.

Health offers an original way into a new dialogue for peace and justice, a point of departure for a new era of cooperation internally, regionally, and internationally. Making health a shared objective for all parties could provide a catalyst for unprecedented collaboration through nascent networks of scientific and medical exchange. In their own way, the alliances that

have produced the report we publish this week are examples of how science, medicine, and public health can channel geographically and culturally diverse intellectual resources to constructive human—and political—ends.

The latest storm of violence to engulf Gaza has been heartbreaking to watch, especially for those who have seen first hand the predicaments faced by health professionals trying to maintain a rudimentary, but ultimately failing, health system there. The goal of peace is one most observers crave. But the lesson I have learned personally in 2 years of discussion and debates about Palestinian health is that peace without justice is no peace at all. The prison-like cage built around Gaza, the daily humiliations for women, children, and workers passing through checkpoints, the paralysis of the West Bank caused by occupation, the obstacles imposed on communities trying to build schools, clinics, and homes for their children is a daily reality that any visitor will witness and which goes largely unreported in western media. The repeated failure of leaders—Arab, Israeli, and western—to grasp the magnitude of the small daily atrocities that are continuously eroding the futures of Palestinian families is numbing. What one observes among the overwhelming majority of the population in this atmosphere of political incompetence and irresponsibility is a quiet civic resistance and resilience to chronic terror. What one sees is a demand for peace, justice, and internationally recognised nationhood by the civilian Palestinian community.

Health professionals have a vital part to play by planning for this more hopeful future as active citizens demanding a different life, effective institutions, a functioning health system, and a politics of integrity. Palestinian health workers are not victims waiting for others to solve their problems. They are self-determining professionals who urgently seek to devise new alliances to protect the future of their communities and to inform their politicians with the best available evidence and data to guide health-system reform. These professionals need to be more fully recognised by international agencies, drawn into policy making, and given opportunities to shape and lead national, regional, and global health agendas. *The Lancet*—Palestinian Health Alliance, which includes all those who have taken part in the report published today, is our modest contribution to this revisioning of Palestinian health and health politics.

These past 2 years have left me with several personal hopes. These include strengthened medical and nursing undergraduate and postgraduate education (perhaps the creation of a new medical school at Birzeit, together with scaled-up specialty training programmes for locally graduating doctors); expanded medical and public-health research (to create capacity to produce local knowledge to solve local problems); greater freedom of movement for health professionals in the West Bank and Gaza Strip so they can not only organise their work strategically across the occupied Palestinian territory but also join and contribute to the transnational community of medicine; and new opportunities for those outside the territory to collaborate with Palestinians to learn about the genuinely imaginative health initiatives launched in response to difficulties created by conflict and occupation.

Our ultimate hope is that this Series could contribute to a mass international social movement for peace and justice through health in, and with the people of, the occupied Palestinian land.[20] Justice in this context is about fashioning a fair and

sustainable future for the people of Palestine. Health can be a magnetic nucleus to draw together the necessary critical mass of agreement to make this idea more than simply an aspiration.

Warm thanks are owed to the following for their special help in making the idea for this Series a reality: Heidar Abu Ghosh (Palestinian Medical Relief Society), Fahed Alsayed (Palestinian Ministry of Health), Nadim Barghuthi (Palestinian Ministry of Health), Rajaie Batniji (University of Oxford), Espen Bjertness (University of Oslo), Thomas Bossert (Harvard School of Public Health), Will Boyce (Queen's University), Iain Chalmers (James Lind Initiative), Cam Donaldson (Newcastle University), Rita Giacaman (Birzeit University), Patricia Hamilton (Royal College of Paediatrics and Child Health), Gerd Holmboe-Ottesen (University of Oslo), David Hunter (Durham University), Jak Jervell (University of Oslo), Mohammad Khalili (UNRWA), Rana Khatib (Birzeit University), Marwan Khawaja (American University of Beirut), Tony Laurance (WHO), Jennifer Leaning (Harvard School of Public Health), Medical Aid for Palestinians, Jean-Paul Moatti (University of the Mediterranean), Raija—Leena Punamaki (University of Tampere), Asad Ramlawi (Palestinian Ministry of Health), Guido Sabatinelli (UNRWA), Belgacem Sabri (WHO EMRO), Eyad Sarraj (Gaza Community Mental Health Programme), Luay Shabaneh (Palestinian Central Bureau of Statistics), Harry Shannon (McMaster University), Belgin Tekce (Bogazici University), Tony Waterston (Newcastle General Hospital), Graham Watt (University of Glasgow), and Huda Zurayk (American University of Beirut).

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Peace and health in the occupied Palestinian territory

Jimmy Carter [a]

32 years ago, one of my highest priorities as President of the USA was to bring peace to the Middle East. For 13 days, I led intense negotiations between Israel and Egypt, resulting in the Camp David Accords in 1978.[1] There were two agreements, ratified by an overwhelming vote of the Israeli Knesset. One was a peace treaty that was signed 6 months later between Egypt and Israel, and which has been meticulously honoured by both sides. The other was a commitment by Israel to withdraw its political and military forces from Palestinian territory and grant the Palestinians full autonomy over their own affairs. This part has been consistently violated. There has been no withdrawal from the West Bank and the Palestinians here and in the Gaza Strip have been increasingly strangled. Therefore the conflict within the occupied Palestinian territory has not abated and, by any objective measure, has worsened since I left office.

The 18-month blockade and recent Israeli bombardment and invasion of Gaza, one of the most densely populated areas on earth, have compounded the impoverishment and suffering there, and recently caused the deaths of more than 1300 Palestinians,[2] many women and children, helpless in the face of overwhelming firepower. During my visits to the region, I have seen how basic survival is gravely hindered by limited supplies of food, fuel, electricity, and potable water. It is devastatingly apparent how decades of military occupation, unemployment, poverty, imprisonment, and fighting have left the Palestinian people vulnerable to ideological extremism and without hope for a more peaceful future.

The Gazan health-care system is severely damaged, overstretched, demoralised, and short on essential supplies. Skilled health personnel are scarce, and those that are available often are encumbered by inefficiencies and danger from military attack. 1 500 000 people are imprisoned in Gaza, with no access to the air or sea and extremely limited—mostly non-existent—opportunities to enter or leave through land portals. Many needless deaths have occurred as a result of Israel's denial of permits to those seeking tertiary care. Even in the West Bank, despite heroic efforts by Palestinian doctors, the tightening occupation results in severe restrictions on movement that cost lives and feed deep resentments.

The health situation in the occupied Palestinian territory shows the urgency of finding a political solution, as restraints and insecurities will continue to undermine the creation of a health infrastructure able to address the dire public-health needs of

Palestinians. And as long as significant segments of Palestinians are hungry, sick, and without hope of alleviating their plight, a meaningful peace cannot be achieved.

This *Lancet* Series on health in the occupied Palestinian territory[3–7] highlights the important relation between human security and sustainable peace in the Holy Land. By shedding more light on the public-health challenges at hand, be they maternal and child health, trauma, or the transition from infectious to non-communicable diseases, the Series provides a basis for understanding the greater picture of need in Palestine. The Series also includes solutions to improving the Palestinian health-care system, with an emphasis on primary care.

Under the new Obama Administration in the USA, there is hope that the USA and other members of the Quartet (European Union, Russia, and the UN)[8] might achieve a sustainable peace settlement. Already, President Obama has taken steps for this effort to begin in earnest by appointing a proven peacemaker and skilled negotiator, Senator George Mitchell, as his envoy to the area.[9]

Full-size image (137K) Getty Images

Anwar Sadat and Menachem Begin at signing of peace agreement with US President Carter, 1978

After service in the White House, I have devoted my efforts to advancing peace and health worldwide through the Carter Center.[10] Recognising the impact that peace and health have on each other, the Center works to address the root causes of violence and to protect basic human rights, including health. We have concentrated our attention on neglected tropical diseases, mostly in Africa.

People everywhere share the dream of a caring global community that prevents unnecessary suffering from disease, war, and oppression. This Series should give the international community added urgency to resolve this enduring conflict and bring both Palestinians and Israelis the peace, health, and hope they deserve.

I declare that I have no conflict of interest.

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Lancet Steering Group on the occupied Palestinian territory

Iain Chalmers [a], Jennifer Leaning [b], Harry S Shannon [c] , Huda Zurayk [d]

Rita Giacaman (founding director of the Institute of Community and Public Health at Birzeit University, Birzeit, occupied Palestinian territory) and Richard Horton (Editor, *The Lancet*) invited us early in 2007 to join them in a steering group for a Series of reports[1–5] about health and health services in the occupied Palestinian territory. Who are we and what did we do?

Iain Chalmers is a British health-services researcher, formerly director of the National Perinatal Epidemiology Unit and the UK Cochrane Centre in Oxford, and is now coordinator of the James Lind Initiative. During his first visit to Palestine, in 1963, he learned about the UK's key role in creating the Israeli—Palestinian conflict. He worked as a medical officer in the UN Relief and Works Agency's clinic in Khan Younis in 1969 and 1970, and has returned to Gaza on several occasions since then, most recently in June, 2008.

Jennifer Leaning is a US physician, working at the Harvard School of Public Health, whose research and writings have focused on the impact of crises on civilians. She went to Israel for the first time in 1969 to visit a friend in a kibbutz in the Beit She'an valley. In 1984, she was asked by the American Friends Service Committee to join a study tour exploring dimensions of the Israeli—Palestinian conflict. In 1988 and 1990, she participated in human-rights investigations sponsored by Physicians for Human Rights—USA in Israel and the occupied Palestinian territory during and soon after the first *intifada* (popular uprising against occupation).

Harry Shannon is a biostatistician who has worked for many years at McMaster University, Hamilton, ON, Canada in occupational health epidemiology. He has been to Israel many times since 1967 and visited the Institute of Community and Public Health in 2004 and 2006, assisting in capacity building for scientific research, and has written a report with Rita Giacaman and her colleagues there.

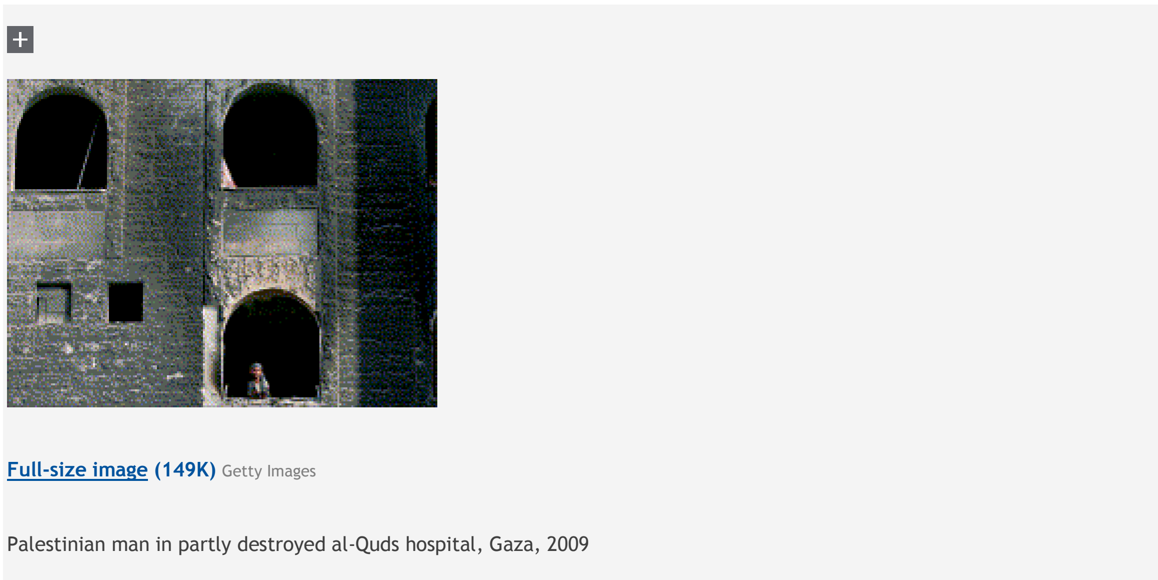
Huda Zurayk is a Lebanese biostatistician and was dean of the Faculty of Health Sciences at the American University of Beirut, Beirut, Lebanon, up to August, 2008. Her association with the Institute of Community and Public Health at Birzeit began more than 20 years ago; however, because she is Lebanese, it was never possible for her to travel there to visit this institute. She established the regional Reproductive Health Working Group and has raised funds to enable researchers at the Institute of

Community and Public Health to visit the American University of Beirut during the summers to write, exchange ideas, and complete joint research.

A Medline search shows that researchers associated with the Institute of Community and Public Health at Birzeit University have an impressive record of research that has been reported in internationally respected journals. Despite this record, they were daunted by the invitation to prepare and submit a series of five reports for *The Lancet*. The institute's main research strengths are epidemiological surveys and multidisciplinary public-health research rather than clinical trials and intervention studies, both of which are also needed to inform health-service practices and policies.

Our aim as a steering group was to support staff at the institute and their colleagues in responding to the challenge and opportunity provided by the invitation. Our initial task involved commenting on the aims of the Series and the proposed themes of the five reports, and we asked the lead authors to draft protocols for each of these. Although IC has a research background in maternal and child health, his main contribution to the Series was as a generalist with some editorial experience. He made four visits to the institute, raising questions about the evolving conceptualisation of the Series, encouraging clearly structured and written texts, and sometimes challenging inadequately supported causal inferences.

JL and HS made their input by email during the months before the final meeting of the steering group and authors in July, 2008. JL's contribution at the final meeting was to propose that human security might be an appropriate framework[6] within which to conceptualise the evidence assembled in the Series. As a statistician, HS provided advice about the analysis and presentation of data in the reports, and commented more generally on their content.



Full-size image (149K) Getty Images

Palestinian man in partly destroyed al-Quds hospital, Gaza, 2009

HZ commented on the reports and provided a regional perspective for the analyses. Because she could not visit the institute, she made her contributions through email and in three meetings with Rita Giacaman outside the occupied Palestinian territory.

Irrespective of our political opinions, our role was to try to ensure that rigorous scientific standards were applied throughout the Series. So we were pleased to learn that all five reports passed *The Lancet's* rigorous, anonymous external peer review, and we are confident that readers will agree that the Series matches the high standards expected of *The Lancet*. That said, we are under no illusions that these reports constitute the last words on health and health services in the occupied Palestinian territory. We look forward to making our contributions to *The Lancet*—Palestinian Health Alliance,7 and we urge others to do so too.

IC makes financial donations to several Israeli and Palestinian human-rights organisations and charities. HSS has immediate family members in Israel, and is an active member of the (Canadian) Independent Jewish Voices. JL and HZ declare that they have no conflict of interest.

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Teaching child health in the occupied Palestinian territory

Tony Waterston [a], Samia Halileh [b], Jumana Odeh [c], Mary Rudolf [d], Patricia Hamilton [e]

Since 1999, the UK's Royal College of Paediatrics and Child Health (RCPCH) has been working to establish a sustainable teaching programme[1] in child health in the occupied Palestinian territory. The aim is to upgrade the knowledge and skills of doctors and nurses who work with children. This Series in *The Lancet* describes the serious and in some ways intractable health issues in the Palestinian territory.[2–6]

The RCPCH programme was conceived in 1998 by David Baum, at that time President of the RCPCH, after a request from the Palestinian Minister of Health who had been approached by Medical Aid for Palestinians[7] following their experience in teaching child-health nurses in the territory. The original intention was to provide a basic training of paediatricians with the UK Diploma in Child Health as a model.

A needs assessment[8] with the support of the UK's Department for International Development showed that there would be a greater effect on child health if the focus was primary care, because most children first see health professionals at this level. We recognised a considerable difference in local needs which made the UK Diploma (aimed at general practitioners in the UK) not ideal for purpose in this context.

Hence it was agreed between the partners (RCPCH, Palestinian Ministry of Health, Medical Aid for Palestinians, and the Department for International Development) that there would be an educational programme directed towards improving the quality of primary child-health care through the training of doctors and nurses from Palestinian, UN, and non-governmental organisations. An educational model was mapped out in partnership with local tutors and a course to train the trainers was provided for all of the tutors.[9] This course has built expertise as well as friendship, and is raising the capacity for further education in the occupied Palestinian territory. Local tutors are facilitating learning rather than teaching directly.

Our intention was to offer a child-health training programme which was relevant to the needs of the child population, learner centred, and using up-to-date educational methods. Hence the teaching was designed to be multidisciplinary, problem oriented, and holistic. Educational objectives were defined with each module delivered mainly by Palestinian professionals, so building in sustainability and local ownership. The model is modular (panel).

Panel

Modular approach of the educational model

- 11 modules, each 5 weeks, that cover topics such as chronic illness, clinical skills, disability, growth and nutrition, paediatric emergencies, child protection, and health promotion
- Each module is written by a UK tutor using relevant literature and conditions, then jointly discussed and modified, if needed, by a local tutor
- Students meet weekly to discuss questions which they had worked on during the week, and to be offered some teaching by a local paediatrician
- Website hosted by Royal College of Paediatrics and Child Health with resource materials and discussion group for students and tutors, used also for feedback
- Two monthly visits by UK tutors to meet students and participate in teaching
- Assignment at end of each module is jointly marked by UK and Palestinian tutors
- Incourse formative assessment
- Portfolio kept by each student
- Final summative assessment

We did meet some challenges. An essential feature of the programme is close collaboration between the UK and the Palestinian Ministry of Health. The Ministry is in charge of primary-care services for children, runs the largest portion of primary health-care centres, and has at least one hospital in every district. Although the course is intended for primary care, it became apparent that there was a benefit to working with local paediatricians to develop the curriculum and deliver it. Collaboration with the Ministry took time to develop as Ministers changed frequently, at least five times between 1999 and 2008.

Full-size image (30K) Royal College of Paediatrics and Child Health

Another challenge was our conviction that nurses should be included in the programme. We saw a real need to offer training to them because most run clinics and centres alone and in isolation. Whilst this issue initially had to be left for future evaluation, our pilot work had shown that the course meets their needs and that they provide valuable contributions to the course discussion and learning.

Other challenges included adjusting the curriculum content to ensure it was relevant to local needs, facing the inevitable obstacles of permits for students and teachers to cross the barriers and road blocks, and helping the students to become accustomed to the use of the internet and newer educational methods.

Over the past year, the programme was extended to include the first-year paediatric-resident group in Makassed Hospital, the main teaching hospital for paediatrics in East Jerusalem. This group was introduced at the request of local paediatricians because they saw the value in providing the residents with a good grounding in community child health as well as paediatrics. A second group consisting of general practitioners and nurses continues in Ramallah with a primary-care focus.

The first group of doctors and nurses graduated at the end of 2007 at a ceremony attended by the RCPCH President.[10] In future, graduates will receive the Palestinian Child Health Diploma issued by the RCPCH and recognised by the Palestinian Medical Council, and will hopefully have enhanced status in their work. We are working for sustainability under an appropriate educational institution in the occupied Palestinian territory.

The aims of the programme are to improve the quality of primary child-health care in the various sectors, and thereby to improve children's health. These are hard objectives to meet because the main determinants of child health are poverty, violence, and stress exacerbated by the occupation. The relation between child-health services and child-health status is not direct, but we believe that it is possible to reduce the burden of disease through such a programme. However, without a political solution in the area, the long-term sustainability and benefits of such a programme are not guaranteed. We hope to measure the quality of care in the future. Feedback from participants in the first course was very positive and included quotes such as: “More attention is now paid to complaints that are not physical when attending to the child patient”; “Illnesses are now being treated more locally rather than being transferred immediately to a specialist”; and “With disabled children, Dr R now thinks firstly about how to support the parent and child”.

Field visits to students at their work place in the Ramallah group are made regularly by College members during their visits. This helps provide us with an understanding of working conditions and obstacles to implementation relating to clinic supervision, teamwork, and length of time for consultations.

Inevitably, human-rights issues present in any programme that is run in an area of conflict: child health is inseparable from politics.[11] The current situation in the occupied Palestinian territory is damaging to child health because it impedes access and disrupts the social network which is necessary for child wellbeing, especially in the rural community. In Gaza, the situation is particularly perilous and we have no programme there at present, even though it was the initial focus for our work. We hope to

start teaching in Gaza as soon as it is possible to enter and travel safely. As an organisation which sees children's rights as fundamental to child health, the RCPCH will advocate for measures that will allow children everywhere to attend school without fear, live in economic security, have access to a high standard of health care, and be free from the effects of violence.

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Keys to health: justice, sovereignty, and self-determination

Andrea Becker [a], Katherine Al Ju'beh [a], Graham Watt [b]

In this *Lancet* Series on the occupied Palestinian territory,[1–5] a team of nearly 40 Palestinian and international academics present evidence both to the scientific community and to the powers that have determined the health status of Palestinians living in the occupied territory of the West Bank (including East Jerusalem) and Gaza Strip.

A very powerful determinant of Palestinian health is the State of Israel, whose economic, political, and military superiority continue to be applied, not only to the blockade and recent bombardment and invasion of Gaza, but also to the territorial project within the West Bank, involving 149 new Israeli settlements (housing nearly half a million settlers), and their exclusive road systems, the separation wall, military checkpoints, confiscations, and economic uses of 70% of land in the West Bank over which the Palestinian Authority has no control. The international community, led by the USA, either endorses or largely tolerates these uses of Israel's power.

Full-size image (144K) Getty Images

Palestinian medical workers pass through checkpoint to enter West Bank

Lesser powers include many internationally funded agencies, whose combined activities, despite huge financial investment, lack coordination and coherence, and the Palestinian Authority, which has lacked the ability to develop a coherent health system and has failed too often to rise above factional interests.

Although any current assessment of the health of Palestinians is dominated by the consequences of Israel's siege, bombardment, and invasion of the Gaza Strip, the Series describes the more complex background of a strangulated Palestinian economy, gross restrictions on ordinary movement, and a pervasive environment of intimidation, uncertainty, and insecurity, in which attempts to establish a coherent health system are set to fail.

That academic work is possible at all in such circumstances is remarkable, but the Series includes examples of enterprising and novel research, including a classically simple study of the epidemiology of bullet wounds,[6] health assessments of local communities in the wake of military invasion,[7] and the effects on adolescent mental health of individual and collective exposures to violence.[8]

Surprises for those not familiar with life in the occupied Palestinian territory might be the extent of the Israeli presence and activity within the West Bank; and the predicament of the Palestinian Authority, being expected by the international community to behave as a nation state, while lacking the power and means to do so.

As a UK charity, formed in response to the suffering that followed the massacres of Palestinians at the Sabra and Shatila refugee camps in the Lebanon, Medical Aid for Palestinians has 25 years of experience of investing donated funds where they can best be used to protect and promote the health of Palestinians in the occupied territory and in Lebanon, where over 200 000 Palestinian refugees of the 1948 Arab—Israeli war live. Emergency and humanitarian projects still dominate the programme, but there have been many other projects, filling gaps in services, supporting primary health care, developing human resource training and capacity, and helping to counter increasing problems of access to services. Underlying these activities, however, the central problem remains.

In a recent *Lancet* review of health systems and the right to health in 194 countries,[9] the occupied Palestinian territory did not feature at all, despite the fact that, with 3·8 million inhabitants, its population is larger than 75 of the countries surveyed. The occupied Palestinian territory is unique among these populations, not only for being under external military and economic control, but also because of the 40-year duration of these circumstances. This Series illustrates the many ways in which the Palestinian right to health is compromised by the current extraordinary circumstances of occupation, siege, and invasion.

The recent report[10] of WHO's Commission on the Social Determinants of Health affirmed three principles of action to provide improved health equity. First, improve the conditions of daily life. Second, tackle the inequitable distribution of power, money, and resources. Third, measure the problem, evaluate action, expand the knowledge base, develop a workforce that is trained in the social determinants of health, and raise public awareness of these determinants.

This *Lancet* Series shows that there is ample ability, if not capacity, within Palestinian society to address the third challenge. Addressing the first challenge requires an end to the current conditions of occupation and siege. Addressing the second challenge requires an end both to factional government and the culture of donor dependency.

For too long, the health and welfare of Palestinians within the occupied territory have been secondary to powerful outside interests. As Virchow might have put it,[11] the solution lies in justice, sovereignty, and self-determination for the people of the West Bank and Gaza Strip.

AB and KAJ declare that they have no conflict of interest. AB is acknowledged in two of the Series papers. GW is an author on one of the Series papers, and acknowledged in the others.

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Palestinian refugees outside the occupied Palestinian territory

Guido Sabatinelli [a], Stefania Pace-Shanklin [a], Flavia Riccardo [a], Yousef Shahin [a]

The 1948 Arab—Israeli war not only marked a crucial moment in the history of Palestine, but generated the largest refugee population in the world, thus affecting all its neighbouring countries. Of 4·6 million Palestinians with refugee status, 2·8 million reside outside the occupied Palestinian territory, in Syria, Lebanon, and Jordan. They are assisted by the UN Relief and Works Agency (UNRWA) for Palestine Refugees, which is their main health provider and therefore the most accurate source of information on their health status.[1]

The political and economic situation, the recognition of refugee status, and the level and possibility of access to governmental services in the hosting countries strongly influence the quality of life and health status of Palestinian refugees living outside the occupied Palestinian territory. In Lebanon, UNRWA is assisting about 417 000 refugees who are exonerated from the national taxation system but excluded from social security, and are prevented from practising 70 different professions including medicine.[2] All these factors contribute to making this refugee community the most vulnerable and financially dependent of those served by UNRWA outside the occupied Palestinian territory.[3] Almost 2 million Palestinian refugees reside in Jordan where they are entitled to full citizenship except for those who arrived from the Gaza Strip, who face restrictions on access to higher education and civil services.[4] About 457 000 refugees live in Syria where, even though they are not considered citizens, they enjoy full social rights. A particularly vulnerable group are 2700 Palestinians with refugee status who recently left Iraq and are stranded in camps in Syria and in the no-man's land between Syria and Iraq. The UN High Commissioner for Refugees and UNRWA provide them with basic relief while awaiting resettlement.

Palestinian refugees who live outside the occupied Palestinian territory are a young population with a 2005 fertility rate of 2·4 in Syria, 2·3 in Lebanon, and 3·3 in Jordan on average (number of children per woman). Similar rates are reported by hosting countries,[1] although fertility is higher in refugees in the Gaza Strip.

The infant mortality rate of Palestinian refugees declined from 180 deaths per 1000 livebirths in the 1960s to 32 per 1000 in the 1990s (32 in Jordan, 35 in Lebanon, and 29 in Syria).[1] In 2004, the infant mortality rate was 22 per 1000 (22·5 in Jordan, 19·2 in Lebanon, and 28·1 in Syria).[5] Communicable diseases have been replaced by prematurity, low birthweight, and malformations as major causes of infant death. Since the infrastructural and professional quality of postdelivery and neonatal

assistance, including neonatal intensive care, are essential to preventing neonatal deaths and since refugees give birth in local public hospitals, the infant mortality rates are now similar to those in most host countries. The other health-related Millennium Development Goal indicators for Palestinian refugees who live outside the occupied Palestinian territory are similar to those of the respective host countries, except for the vaccination coverage rate (96·8% in Jordan, 100% in Lebanon, and 99·3% in Syria), and the proportion of births attended by health personnel (99·9% in Jordan, 99·9% in Lebanon, and 99·2% in Syria) that are consistently higher, which suggests effective health-service delivery and referral by UNRWA.

+

Full-size image (153K) Getty Images

Palestinian refugee camp at Baqaa, Jordan

Communicable diseases associated with poor sanitation, such as viral hepatitis and enteric fevers, are still a public-health threat that reflects an endemicity pattern observed in the near East. The incidence of acute hepatitis per 100 000 refugees who live outside the occupied Palestinian territory in 2007 was 107·8 in Syria, 80·5 in Lebanon, and 17·4 in Jordan, and for typhoid fever was 25·4, 3·5, and 1·0, respectively. Notwithstanding the high vaccination coverage rate, an outbreak of mumps occurred in Lebanon in 2007 with a total of 133 cases over 231 000 assisted refugees (ten-fold the average incidence in the previous 5 years).[1]

The reduction of communicable disease incidence combined with a longer life expectancy and modifications in lifestyle have led to a change in the refugees' morbidity profile with the emergence of non-communicable diseases. The highest detection rate of diabetes mellitus in Palestinian refugees older than 40 years accessing non-communicable disease clinics run by UNRWA was noted in Syria (10·8%) and the highest prevalence of hypertension in Lebanon (20·2%).[1] These rates are service based and therefore lower than the expected prevalence rates in the eastern Mediterranean Region, where almost 26% of the adult population is estimated to be affected by hypertension and 7·7% by diabetes.[6] The global change in eating habits and lifestyles is also leading to higher caloric intakes and physical inactivity in Palestinian refugees who live outside the occupied Palestinian territory. However, this higher caloric intake is not associated with mitigation of existing nutritional deficiencies, which leads to a new and perhaps more unsettling kind of malnutrition, in which an excessive caloric intake, in the form of fat and carbohydrates, accompanies a persistent lack of micronutrients. Obesity is highly prevalent, reaching 53·7% in women in

Jordan, while the lowest prevalence was found in Lebanon (men 23·6%, women 40·6%).[6] Meanwhile, iron-deficiency anaemia and vitamin-A deficiency remain severe public-health problems. In Lebanon, the prevalence of anaemia in Palestinian refugee children younger than 3 years in 2004 was 33·4%, which makes it the highest in Palestinian refugees who live outside the occupied Palestinian territory (28·4% in Jordan and 17·2% in Syria). In the same survey, the prevalence of anaemia in the West Bank and Gaza Strip was higher (34·2% and 54·7%, respectively).[1] Mental disorders, related to the chronically harsh living conditions and long-term political instability, violence, and uncertainty are becoming a public-health concern. In Lebanon, 19·5% of Palestinian refugee adolescents suffer from mental distress, and 30·4% of women in the same refugee camps reported mental distress.[7]

The data depict a complex situation, with emerging diseases and chronic and endemic unsolved health problems. Although UNRWA has effectively assisted refugees so far, their increasing economic vulnerability makes them increasingly dependent. The future of Palestinian refugees will be conditioned by how children are followed up in their development and growth, how women are protected from negative outcomes of pregnancy, and how the adult population is treated and counselled for leading diseases. By providing the best possible primary-health-care services, UNRWA is enabling these refugees to hold their destiny in their own hands.

We have summarised the health status of Palestinian refugees who live outside the occupied Palestinian territory. These refugees do need remembering as well, in addition to those populations described in *The Lancet* Series on health in the occupied Palestinian territory.[8–12]

We declare that we have no conflict of interest.

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The responsibilities of the World Medical Association President

John S Yudkin [a]

Yoram Blachar's accession to the Presidency of the World Medical Association[1] comes with responsibilities. The World Medical Association was founded to work for the highest possible standards of ethical behaviour and care by physicians at all times. The Israeli Medical Association, of which he is also President, has on its website powerful position statements on health care during conflict[2] and on torture,[3] which deserve strong support. Yet despite these statements, the Israeli Medical Association has been criticised for its reluctance fully to endorse international humanitarian codes.[4] *The Lancet* has recently argued that it is the responsibility of medical professionals, and their professional bodies, explicitly to condemn unethical acts, even when such a challenge might prove unpopular.[5] Blachar's Presidency of the World Medical Association offers the opportunity to restore respect for the Israeli Medical Association from the global medical community, and creates opportunities for doctors to play a vital role in the search for peace.

Israel has a right to act in pursuit of its security, but security might be used as a cover for many authoritarian actions. Some actions of the Israeli General Security Services, under the umbrella of security, have superseded human rights, including the right to health care. Recent events in Gaza have led to widespread distress at the suffering of civilians; international agencies have reported the Israeli Defense Force targeting medical stores and ambulances, and health workers have been killed. There were disturbing reports of the military refusing access to care for the injured, including one of children in a building found clinging to their dead mother 4 days after the house was shelled.[6] Such acts are contrary to the principles stated in the Israeli Medical Association's paper, *Assurance of medical and health services during the Israel-Palestine conflict*,[2] as well as contravening international conventions. Yet the Israeli Medical Association has been disturbingly unforthcoming about these events. Blachar responded to my request for a statement of protest[7] by claiming that Hamas was using medical facilities to store weapons and employing human shields.[8] These reports are unverified and, according to international conventions, do not justify indiscriminate attacks on such targets.

Just before the recent conflict, I visited the occupied Palestinian territory. Health care in the West Bank, as for most aspects of daily life, has been completely undermined by the matrix of control exerted by the security forces. The separation wall and the checkpoints make travel difficult. We saw children in the East Jerusalem paediatric intensive care unit who had been transferred from Gaza without their parents being permitted to accompany them on security grounds, including newborn triplets.[9] Teenage boys with type 1 diabetes are not allowed to cross the Israeli checkpoints to visit their specialist, because of

ostensible security risks, even though their home and clinic are both on Palestinian land (Alem I, Ministry of Health, Nablus, occupied Palestinian territory; personal communication). The blockade of Gaza has exacerbated the need for patients to access health care in the West Bank and Israel. But in the first 6 months of 2008, 34% of patients were refused permission on security grounds to leave Gaza for health care, compared with around 10% a year earlier, an increase in absolute numbers from 59 to 724 per month.[10] It might be argued that, once explosives and weapons have been excluded, if it is still felt that patients present a security risk, they should be provided with military escorts. But perhaps in this setting, security has a different connotation. An August, 2008, report[10] documents that the security grounds for refusing entry can be the refusal to provide information on Hamas suspects to the General Security Services. The Israeli Medical Association has not responded to this report.

Full-size image (127K) B'Tselem

Mobile clinic in Gaza destroyed by air bombardment, January, 2009

The Israeli Medical Association is to be congratulated for its clear statement on torture,[3] ratifying the Tokyo Declaration of the World Medical Association, but there seems to be a disconnect between word and deed. The abuse of human rights by the Israeli Security and Prison Services has been documented. A May 2007, report, *Ticking bombs: testimonies of torture victims in Israel*,[11] recounted the cases of nine Palestinian torture victims, with named medical personnel having been involved in their management. Again, the Israeli Medical Association has not responded to this report, and has not investigated the six doctors who are members.

The Israeli Medical Association argues that its stance must reflect its spectrum of membership. This might be why the position paper on health services during conflict is in the international relations section of its English language website,[2] but not in the Hebrew one (Weingarten M, Occupied Territories Project of Physicians for Human Rights-Israel; personal communication). It would seem unthinkable that Israeli doctors could condone attacks on health-care facilities or medical involvement in torture, so the Israeli Medical Association should be prepared to speak out, rather than appearing to neglect its humanitarian leadership role. Such an action might help divert calls for a boycott of the Association.[4]

Failing that, the World Medical Association President now needs to re-examine the situation from his new perspective, no longer hidebound by the constraints of the national association, to make a clear stand on each of these issues. Health care is a fundamental human right, and the medical profession worldwide should adhere to universal humanitarian codes. Doctors and medical associations in the region could build bridges to create conditions to help alleviate suffering in the West Bank and Gaza. This could remove one of the grievances which drive people to violence. Without the tacit connivance of the medical profession, the General Security Services, the Defense Force, and the State would find it difficult to continue with policies, including torture[11](even of children[12]) and denying patients access to health care.[10] Such a move would require a bold step, but one which could secure Blachar's place in history as a leader prepared to stand firmly for international humanitarian law, rather than one whose Association rationalises actions which are clearly unacceptable.

I thank Hadas Ziv and Miri Weingarten of Physicians for Human Rights-Israel for their help. I declare that I have no conflict of interest.

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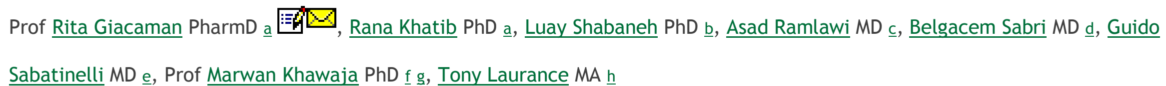
Health status and health services in the occupied Palestinian territory

Prof Rita Giacaman PharmD [a] , Rana Khatib PhD [a], Luay Shabaneh PhD [b], Asad Ramlawi MD [c], Belgacem Sabri MD [d], Guido Sabatinelli MD [e], Prof Marwan Khawaja PhD [f] [g], Tony Laurance MA [h]

Summary

We describe the demographic characteristics, health status, and health services of the Palestinian population living in Israeli-occupied Palestinian territory, and the way they have been modified by 60 years of continuing war conditions and 40 years of Israeli military occupation. Although health, literacy, and education currently have a higher standard in the Israeli-occupied Palestinian territory than they have in several Arab countries, 52% of families (40% in the West Bank and 74% in the Gaza Strip) were living below the poverty line of US$3·15 per person per day in 2007. To describe health status, we use not only conventional indicators, such as infant mortality and stunting in children, but also subjective measures, which are based on people's experiences and perceptions of their health status and life quality. We review the disjointed and inadequate public-health and health-service response to health problems. Finally, we consider the implications of our findings for the protection and promotion of health of the Palestinian population, and the relevance of our indicators and analytical framework for the assessment of health in other populations living in continuous war conditions.

This is the first in a **Series** of five papers on health in the occupied Palestinian territory

Introduction

"The conditions in which people live and work can help to create or destroy their health".

Commission on Social Determinants of Health[1]

WHO's Commission on Social Determinants of Health[2] has drawn attention to the effects on health of low income, inadequate housing, unsafe workplaces, and lack of access to health facilities. Conflict is an additional hazard to health, not only because it causes injury, death, and disability, but also because it increases physical displacement, discrimination and marginalisation,

and prevents access to health services. Constant exposure to life-threatening situations in a conflict setting is an additional, specific social determinant of health, which can lead to disease.[3], [4]

This is the first of five reports about the health status and health services in the Israeli-occupied Palestinian territory—the West Bank (including Palestinian Arab East Jerusalem) and the Gaza Strip. We emphasise the complexity of factors that contribute to Palestinian health and health-system problems: ongoing colonisation—ie, continued land confiscation and the building of Israeli settlements on Palestinian land; fragmentation of communities and land; acute and constant insecurities; routine violations of human rights; poor governance and mismanagement in the Palestinian National Authority; and dependence on international aid for resources. These and other factors have distorted and fragmented the Palestinian health system and adversely affected population health.

Here, we describe the demographic characteristics and the health status of the Palestinian population living in the occupied Palestinian territory. We have used not only conventional indicators, such as infant mortality, but also subjective measures based on people's experiences and perceptions of their health status and quality of life. We draw on the human-security framework to analyse and understand the effects on health and wellbeing of the sociopolitical conditions in the occupied Palestinian territory.

First developed by the UN development programme (UNDP) for the 1994 human development report, the human-security framework is used to explore multiple threats and new causes of insecurity.[5], [6] This framework focuses on people and their protection from social, psychological, political, and economic threats that undermine their wellbeing.[7] Also, it emphasises the capability of people to manage daily life, and the importance of social functioning and health. The framework has important implications for health and human development[8] because health is a vital core of human security and is susceptible to various threats and insecurities, such as destruction of infrastructure, lack of access to health services, food shortage, job insecurity, and poor quality of health care,[9] all in addition to the toll of death, morbidity, and disability caused by war.

We also briefly look at public-health and health-services responses to prevailing health problems, which will be dealt with in detail in the last report of this Series.[10] We conclude by considering the implications of our findings for protection and promotion of health of the Palestinian population, and the relevance of the indicators and analytical framework we have adopted for the assessment of health in other situations of constant conflict.

Historical overview

The term Palestinians refers to the people who lived in British Mandate Palestine before 1948, when the state of Israel was established, and their descendants. As documented by several Israeli historians,[11] more than three-quarters of the Palestinian population were forcibly dispossessed and expelled between 1947 and 1949, becoming refugees in neighbouring Arab states.[12]This traumatic situation—called the *nakba* (or catastrophe) by Palestinians—is engrained in the collective memory, and

is still felt by third-generation refugees, especially those living in refugee camps.[13] Since then, Palestinian identity has been reinforced through resistance to dispossession and extinction.[14]

Palestinians identify themselves as Arabs because of the common language and culture with other Arab nationalities, but maintain their distinctive identity as Palestinians.[15] Most Palestinians are Muslim (94%), about 6% are Christian, and only a few are Jewish.[16] At present, about 4·5 million Palestinians are refugees from the 1948 Arab—Israeli war and their descendants are registered by the UN Relief and Works Agency for Palestine Refugees in the Near East. Almost a third of Palestinian refugees still live in camps inside and outside the occupied Palestinian territory,[17] although these camps are now urban settlements, not tents.

The occupied Palestinian territory is the term used by the UN for those parts of Palestine occupied by Israel after the Arab—Israeli war of 1967 (panel).[18] It consists of the West Bank, including East Jerusalem (figure 1), and the Gaza Strip, and has a population of 3·77 million, 1·8 million of whom are registered refugees.

Panel

A brief history of the occupied Palestinian territory

1917

The Balfour Declaration stated that the British Government favours the establishment of a home for the Jewish people in Palestine, emphasising that nothing should be done to undermine the civil and religious rights of non-Jewish communities in Palestine.

1920—48

British Mandate of Palestine.

1948

First Arab—Israeli war. Creation of Israel on most of British Mandate of Palestine, with two-thirds of Palestinians forcibly dispossessed and dispersed, and made into refugees in neighbouring Arab countries.

1950—67

West Bank annexed by the Hashemite Kingdom of Jordan. Gaza Strip came under Egyptian military administration.

1967

Arab—Israeli war. Israel occupied the rest of Palestine (the West Bank, including Palestinian Arab East Jerusalem, and the Gaza Strip) and parts of Syria.

1987

First Palestinian popular uprising (intifada) against Israeli military occupation.

1993

The signing of the Declaration of Principles on Interim Self-Government Arrangements (the Oslo Accords), and handing over of selected spheres of administration, including health care, to an interim Palestinian National Authority. This authority was intended to govern parts of the West Bank and Gaza Strip during a transitional period when negotiations of a final peace treaty would be completed.

2000

Interim political solution exploded with the second Palestinian uprising, fuelled by widespread discontent with the failure of the Oslo Accords to address accelerating Israeli confiscation and colonisation of Palestinian lands in defiance of international law, and by the shortcomings of the Palestinian National Authority.

2002

Israel's military incursions of the West Bank, and the ransacking of several Palestinian ministries and institutions, including the Palestinian Central Bureau of Statistics, the Palestinian Ministry of Education and Higher Education, various other research and cultural institutions, and radio and television stations.

2005

Israel withdrew its settlements from the Gaza Strip in August, 2005, but continued to retain control over access to the Gaza Strip by land, sea, and air.

2006—08

Democratic election of Islamic Hamas to majority in the Palestinian National Authority. Israel and key western states responded by boycotting its administration.

Diplomatic ties and international donor funding were cut, and Israel withheld Palestinian tax revenues, which together form about 75% of the budget of the Palestinian National Authority.

Israeli military closure policies intensified, and fragmentation continued to be reinforced. By February, 2008, and after the Annapolis summit, the closure system was tightened even further and included over 600 checkpoints and barriers erected by the Israeli military on roads to restrict Palestinian movement, compared with about 518 such barriers to movement in 2006.

November, 2008 to January, 2009

The truce with Hamas is broken (Nov 4, 2008). Israel invades Gaza Strip (Dec 27, 2008). Destruction of infrastructure and buildings, including homes, universities, schools, clinics, mosques, and welfare organisations. Hundreds of civilians are killed and thousands injured, intensifying Gaza's humanitarian crisis.

Figure 1 Full-size image (90K) Download to PowerPoint

Governorates in the occupied Palestinian territory

In 1991, a peace conference on the Middle East was convened in Madrid between Israel and Palestinians and Arab states. Several subsequent negotiations led to mutual recognition between Israel and the Palestine Liberation Organisation and, in 1993, the Declaration of Principles on Interim Self-Government Arrangements,[19] otherwise known as the Oslo Accords.

The Oslo Accords aimed to achieve a resolution to the conflict and established the Palestinian National Authority for a transitional period, during which negotiation of a final peace treaty would be completed.[20] On the basis of these accords, the authority assumed control over some, but not all, areas of the West Bank and Gaza Strip. The agreement divided the occupied Palestinian territory into three zones. The Palestinian National Authority assumed control of all civilian administration, including health, and became responsible for security in zone A, which includes the main urban areas of the West Bank, but only about 3% of the land. The Palestinian National Authority has civilian authority, but shares security responsibility with Israel in zone B, which includes about 450 Palestinian towns and villages, and covers about 27% of the West Bank. The authority has no control over the remaining 70% of the occupied Palestinian territory, zone C, which includes agricultural land, the Jordan valley, natural reserves and areas with low population density, and Israeli settlements and military areas.[21] Fundamental issues, such as the status of East Jerusalem, refugees and the right of return or compensation, Israeli settlements, security arrangements, and borders were left for later negotiations.[22]

The Palestinian National Authority did not have, and still does not have, sovereignty over borders, movement of people and goods, and control over land and water.[23] Over time, the authority became troubled by other shortcomings, including corruption, absence of collective decision making and integrated planning, and the appointment of excessive numbers of civil

servants as reward for the so called revolutionary heroism, political support, or both, causing a major drain on the national budget.[24]

By September, 2000, the Palestinian National Authority collapsed with the second Palestinian uprising (*intifada*). The uprising was fuelled by widespread discontent, on the one hand for the shortcomings of the authority, and on the other for the acceleration of Israeli confiscation and colonisation of Palestinian lands in defiance of international laws.[25] These developments undermined an already fragile system of public services, including health services.

Since 2000, life for Palestinians has become much harder, more dangerous, and less secure. Under the justification of protecting Israelis from Palestinian violence, a massive wall is being constructed between Israel and the West Bank, incorporating areas of the West Bank into Israel, and hundreds of Israeli military checkpoints have been established accompanied by curfews, invasions, detentions, the use of lethal force against civilians, land confiscations, and house demolitions, all of which have made ordinary life almost impossible. These events entail the systematic collective punishment of the Palestinian population living in the occupied Palestinian territory. According to the Israeli human-rights organisation B'tselem, almost 5000 Palestinians—mainly civilians, including more than 900 children—have been killed by Israeli military action between September, 2000, and June, 2008, and over 1000 Israeli civilians and military personnel have been killed by Palestinians,[26] mainly in suicide attacks. Many people were seriously wounded and disabled.[27], [28] During the preparation of this report, almost 1400 Palestinians living in the Gaza Strip were killed, and thousands injured, with many civilians among the casualties. The high burden of injury and trauma on individuals, health services, and society is discussed more fully by Batniji and colleagues[29] in this Series.

Evidence exists of severe damage to infrastructure and institutions, homes, schools, private businesses, cultural heritage sites, and the Palestinian National Authority ministry buildings, equipment, and data-storage facilities, especially during the Israeli invasions of West Bank towns in 2002. The UN, the World Bank, and the Government of Norway have estimated the loss, due to infrastructural and physical damage during the March to April Israeli military invasions of 2002, at about US$361 million.[30] Israeli invasions have also caused widespread food and cash shortages, psychological distress, and serious interruption of basic services, including crucial health services.[31]

Since 2002, the construction of the separation wall has continued, in defiance of the international commission of jurists' decision that the wall constitutes a serious violation of international human-rights law and international humanitarian law.[32] The Israeli high court of justice has repeatedly ruled that the route of the wall should be dictated by security considerations and not by Israeli settlement expansion plans.[33] The construction of this wall has meant the confiscation of thousands of hectares of fertile Palestinian agricultural land, restrictions on freedom of movement, division of communities, and worsening economic conditions. In 2006, although still not defining the state's borders, Israel announced that the route of the separation wall followed official aspirations for a new border.[34] This means that Israel will have annexed about 10% of the West Bank, including Palestinian farmland and key water sources, and incorporated most Israeli settlements. Israeli military

closures and their effects on the movement of goods and people have become increasingly severe in the occupied Palestinian territory, causing an economic crisis (with the gross domestic product per person in 2007 falling to 60% of its value in 1999):[35] rising unemployment and a serious decline in living standards,[36] all of which are associated with negative health outcomes.[37, 38] The Israeli military closures restrict Palestinian access to basic services, such as health and education, and separate communities from their land and places of work. In the West Bank, the physical separation has been tightened even further; by June, 2008, over 600 checkpoints and barriers to movement had been erected by the Israeli military on roads to restrict Palestinian movement, compared with an average of 518 in 2006.[39]

The failure to reach a permanent peace agreement and the continuing expropriation of land for settlements and roads, which has continued unabated since 1967, the failure to establish an independent Palestinian state, and the disillusionment of the population with the Palestinian National Authority could explain the unexpected majority of parliament seats achieved by Hamas (the Islamic resistance movement) in elections for the Palestinian legislative council in January, 2006. Despite the overwhelming electoral support for Hamas, Israel and key western countries responded by boycotting and isolating the newly elected administration because of Hamas' refusal to meet three criteria: recognition of Israel's right to exist, renunciation of violence, and adherence to interim peace agreements with Israel.[40] Diplomatic ties and international donor funding were cut, and Israel withheld Palestinian tax revenues, which together form about 75% of the budget of the Palestinian National Authority.[41]

The withholding of taxes and international aid created a severe political and financial crisis, with the Palestinian National Authority unable to pay the salaries of 165 000 civil servants. This situation led to intermittent strikes by civil servants, including health personnel; worsening service provision; severe shortages of medication and equipment; and a health-system crisis.[42]Poverty and dependence on food aid increased. The World Food Programme indicated sharply reduced access to food, with evidence that a third of Palestinian households were food insecure and highly dependent on assistance.[36] The consequences of this situation were institutional decline, degraded governance, economic crisis, breakdown of social networks, and growing internal violence.

In February, 2007, a national unity government was formed with representatives from the two main Palestinian parties: Fatah (the Palestinian national liberation movement) and Hamas.[43] But the national unity government was not accepted by Israel, most European countries, and North America, and soon collapsed.[44] An emergency government was established, and Israel and the international community finally ended the boycott of the Palestinian Authority. However, factional clashes continued and in June, 2007, Hamas took control of the Gaza Strip.[45] Israel had withdrawn its settlements from the Gaza Strip in August, 2005, but retained control over access to the Gaza Strip by land, sea, and air. A separation wall or fence surrounds Gaza and, since the takeover by Hamas, Israel has maintained a strict siege, with people and goods allowed in or out only for essential humanitarian purposes.[41, 44] Incursions by the Israeli military continued until a limited truce was agreed in June, 2008. The truce was broken on Nov 4, 2008.

The effects of the siege on economic and social conditions in Gaza have been devastating. There is a great shortage of fuel and cooking gas, and power cuts are frequent. Economic activity has almost completely ceased. Unemployment was around 33% of the active workforce in 2007, and rose to 37% in 2008. The percentage of Gazans who live in deep poverty has been steadily increasing, rising from nearly 22% in 1998 to nearly 35% in 2006. With the continued economic decline and the implementation of even stricter closures on Gaza, the poverty rate in 2008 is expected to be higher than it was in 2006. Food insecurity has continued to rise reaching 56% in 2008. 60% of households regard emergency assistance as a secondary source of income, with increased numbers of families relying on assistance, making present coverage by main assistance providers insufficient.[35], [46] The Israeli military invasions in December, 2008, to January, 2009, of the Gaza Strip severely intensified this pre-existing humanitarian crisis.

Health of Palestinians in the occupied Palestinian territory

Table 1 shows data for the 3·77 million Palestinians living in the occupied Palestinian territory, including comparisons with neighbouring countries. 46% of the population younger than 15 years of age, an indication of the high fertility rate and falling infant mortality. The fertility rate was very high during the 1960s until the early 1990s, then declined. Since 2000, fertility has remained stable at about five children per woman (figure 2). Infant mortality rates fell until the mid-1990s (figure 3), contributing to the high proportion of children in the population.[74] Health of children and data quality are discussed in more detail by Abdul Rahim and colleagues[74] in this Series.

Table 1 Table image

Demographic and socioeconomic characteristics of the population living in the occupied Palestinian territory and neighbouring countries[47–65]

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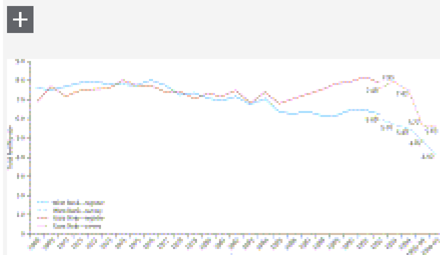

Figure 2 Full-size image (53K) Download to PowerPoint

Palestinian total fertility rate and trends between 1968 and 2003

Data are from Khawaja,66 the Palestinian Central Bureau of Statistics,49, 50, 67 and other sources.

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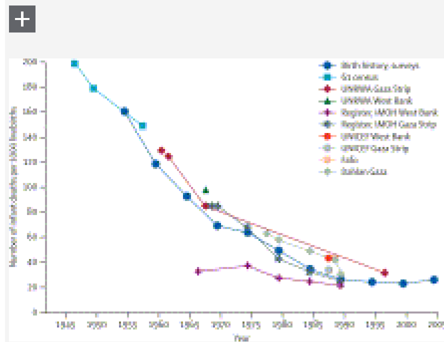

Figure 3 Full-size image (49K) Download to PowerPoint

Number of infant deaths per 1000 livebirths between 1945 and 2005[49,50,67–73]

IMOH=Israeli Ministry of Health. UNRWA=UN Relief and Works Agency.

Palestinians are undergoing a rapid epidemiological transition.75 Non-communicable diseases, such as cardiovascular diseases, hypertension, diabetes, and cancer, have overtaken communicable diseases as the main causes of morbidity and mortality. The prevalence of HIV/AIDS is very low, and the population is deemed free of poliomyelitis, as judged by WHO criteria. Communicable diseases of childhood have already been mostly controlled with effective immunisation programmes.76

Standards of health, literacy, and education are generally higher in the occupied Palestinian territory than in several Arab countries, but substantially lower than in Israel (table 1). By contrast with the decline between 1967 and 1987, infant mortality stalled at around 27 per 1000 during 2000—06, the same as that reported in the 1990s (figure 3), which suggests a slowdown of health improvements, a possible increase in health disparities,77 or an indication of deteriorating conditions.78

The rate of stunting in children younger than 5 years (defined as height for age >2 SDs below the median of the US National Center for Health Statistics and WHO Child Growth Standards79) has risen from 7·2% in 199680 to 10·2% in 2006.81 Stunting during childhood is an indicator of chronic malnutrition, and is associated with increased disease burden and death,82 including compromised cognitive development and educational performance,83, 84 and obesity and chronic diseases in adulthood.85

The incidence of pulmonary tuberculosis increased in the Gaza Strip from 0·83 per 100 000 in 1999 to 1·31 per 100 000 in 2003. The incidence of meningococcal meningitis also rose in the West Bank and Gaza Strip from 3·0 per 100 000 in 1999 to 4·6 per 100 000 in 2003, and that of mental disorders rose by about a third, from 32·0 per 100 000 in 2000 to 42·6 per 100 000 in 2003.86Data for mental disorders are obtained from yearly health reports, which consistently indicate increases in the frequency of most diseases.87 However, whether these data show real changes, including those due to the violence and social damage of Israeli occupation, or due to better information-gathering methods and coverage, is unclear. Furthermore, such data do not distinguish between mild and severe disorders.

To assess the quality of life in Palestinians living in the occupied Palestinian territory, the WHO quality of life-Bref[88] was used in a 2005 survey, containing a representative sample of adults from the general population, after addition of some questions relevant to the Palestinian context.[89] Life quality in the occupied Palestinian territory proved lower than that in almost all other countries included in the WHO study (table 2). Furthermore, the study showed that most responders had high levels of fear; threats to personal safety, safety of their families, and their ability to support their families; loss of incomes, homes, and land; and fear about their future and the future of their families (table 3).

Table 2Table image

Quality of life scores in the occupied Palestinian territory and selected other countries

Table 3Table image

Insecurities and threats in a random sample of the population of the occupied Palestinian territory

Feelings in the population include *hamm*—a local Arabic term that combines different feelings, such as the heaviness of worry, anxiety, grief, sorrow, and distress—frustration, incapacitation, and anger. Feelings of deprivation and suffering were also high. Most people reported being negatively affected by constant conflict and military occupation, closures and siege (including the separation wall), and inter-Palestinian violence.

In a study based on 3415 adolescents of the Ramallah district,[91] Palestinian students reported the lowest life-satisfaction scores compared with 35 other countries (figure 4). Collective exposure to violence was associated with negative mental health. After adjustment for sex, residence, and other measures of exposure to violent events, exposure to humiliation was also significantly associated with increased subjective health complaints. Such subjective data should be interpreted with caution because subjective measures can be complicated by people understanding and responding to questions in different ways.[92] However, self-rating of health measures offer “something more—and something less—than objective medical ratings”,[93] especially because of the incomplete understanding of what true health is.

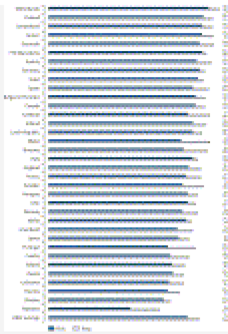

Figure 4 Full-size image (130K) Download to PowerPoint

Life-satisfaction scores of 15-year-old students in 35 selected countries

HBSC=health behaviour in school-aged children.

In May, 2002, in a survey of a representative sample of households in the five West Bank towns invaded by the Israeli military during March and April, 2002,31 responders reported high psychological distress at home, including sleeplessness, uncontrollable fear and shaking episodes, fatigue, depression, and hopelessness, and enuresis and uncontrolled crying episodes in children. Distress was highest in Ramallah (93%), Tulkarm (91%), Jenin (89%), Bethlehem (87%), and Nablus (71%). It was also associated with the imposition of curfews, bombing and shooting, loss of home, displacement, degradation of quality of housing, including interruption of utilities such as electricity and water, and the consequent destruction of food supplies, shortages of food and cash, and no access to medical services.

According to the UN, studies done in the Gaza Strip in 2008 also showed high distress and fears, especially in children.94 Children were highly exposed to traumatic events, such as witnessing a relative being killed, seeing mutilated bodies, and having homes damaged. These studies also reported several psychosocial problems, including behavioural problems, fears, speech difficulties, anxiety, anger, sleeping difficulties, lack of concentration at school, and difficulties in completing homework.

Palestinians are people who were never safe,95 even before the 1967 Israeli occupation of the West Bank and Gaza Strip. The trauma of the 1948 nakba—the dispossession and dispersion of Palestinians—is imprinted in the collective consciousness to this day. Moreover, Palestinians' quality of life is very low, and their daily lives are constantly under threat. People live in alarm and pain because of current life events, but also because of the history of mass trauma that is part of their collective consciousness. Their sense of future is shaped by past and present violations. Their experiences of violations inform their future, and expectation of danger and threats prepares them ceaselessly for how to respond,96 and to undertake daily life.

Palestinians have been enduring social suffering96 associated with war—a notion that includes sociocultural aspects of the experience of pain, and entails new ways of treatment and management that go beyond biomedical conceptualisations. Social

suffering seeks to explain people's realities in ways that cannot be explained by objective measurements.[97] Personal psychological or medical problems are regarded as inseparable from societal issues.[98]

The idea of social suffering combines into a single space conditions that are usually separated into sectors (such as health, welfare, and judicial) because these conditions originate in the overpowering injustices that social forces inflict on human experience.[95] Social suffering removes the artificial division between health and social issues in ways that promote an understanding of how both individual and collective suffering pose threats to health. In the Palestinian context, the shared experience of violence and trauma has implications for a shared sense of need for community security.

Humiliation is a central tactic of war, often cited by the Israeli and international press as one of the daily experiences that Palestinians must withstand[99] and as a form of Israeli control over Palestinian lives. In the occupied Palestinian territory, violence includes chronic exposure to humiliation, which is associated with negative mental health.[100] Humiliation is a form of violation, identified as a component of the suffering of victims of war in need of acknowledgment and restoration of dignity.[101] The strong sense of family and community in Palestinians of the occupied Palestinian territory has helped them to sustain high community cohesion and communal survival[102] despite the realities described above, including constant humiliation.

Health system

The current Palestinian health system is made up of fragmented services that grew and developed over generations and across different regimes. During the 19th century, Christian missionaries from the western countries established some hospitals that are still operating in East Jerusalem. During the early part of the 20th century, the British Mandate expanded these services.[103]

The 1948 nakba led the UN General Assembly to establish the UN Relief and Works Agency in 1949.[104] Since then, the UN Relief and Works Agency has been delivering various key services to registered Palestinian refugees, including food aid, housing, education, and health services, not only in the occupied Palestinian territory, but also in Jordan, Lebanon, and Syria.

From 1950 to 1967, the West Bank was annexed by the Hashemite Kingdom of Jordan, and the Gaza Strip came under Egyptian military administration. Although Egyptian and Jordanian state services for education and health expanded, rural areas in the West Bank, where most people lived, remained mainly untouched by these developments.[105] Palestinians responded by building a network of charitable health services. During this period, private Palestinian medical services also grew and developed.[106]

Between 1967 and 1993, health services for Palestinians in the occupied Palestinian territory were neglected and starved of funds by the Israeli military administration, with shortages of staff, hospital beds, medications, and essential and specialised services, forcing Palestinians to depend on health services in Israel.[107] For example, in 1975 the West Bank health budget was substantially lower than that of one Israeli hospital for the same year.[108] The Palestinian response was to create independent

Palestinian services through health, women's, agricultural, and student social-action groups, all promoting community steadfastness on the land (*sumud*). This response also led to the development of a Palestinian health and medical care infrastructure, independent of the Israeli military, that still helps to meet the health needs of the population, especially during emergencies.

The Palestinian Ministry of Health was established after the Oslo accords in 1994, and inherited, from the Israeli military government, health services that had been neglected. Supported by massive funding from international donors,[109] the ministry has since upgraded and expanded the health-system infrastructure by institution building and human-resource development.[110]The number of hospitals, hospital beds, and primary health-care centres in the country increased, a public-health laboratory was established, and a health-information system and a planning unit were set up. Planning for the development of the health sector began during this period, and entailed some coordination with the UN Relief and Works Agency, local non-governmental organisations, and the private medical sector in developing policies and protocols.[111]

By 2006, the number of hospital beds managed by the Palestinian Ministry of Health had increased by 53% compared with that of 1994, with a similar increase in the number of available hospital beds in non-governmental organisations and private sectors.[76]The Palestinian Ministry of Health currently operates 24 of 78 hospitals, which have 57% of all hospital beds in the West Bank and Gaza Strip (table 4). Also, the number of primary health-care facilities increased between 2000 and 2005 (table 5), with 416 of 654 centres managed by the Palestinian Ministry of Health. 170 facilities opened in less than 13 years. Similarly, the UN Relief and Works Agency facilities have increased in number, but not those of non-governmental organisations.

Table 4Table image

Distribution of hospital beds by health-care provider

Table 5Table image

Distribution of the primary health-care facilities by health-care provider in 2000 and 2005

By 2006, about 40 000 people were employed in different sectors of the health system, with 33% employed by the Palestinian Ministry of Health (table 6). Health-related human resources in Palestinian institutions of higher learning also grew. Although a shortage of health personnel exists in many specialties (especially in family medicine, surgery, internal medicine, neurology, dermatology, psychiatry, pathology, anaesthesiology, nephrology, nursing, and midwifery), there is an excess in others (such as

dentistry, pharmacy, laboratory technology, and radiology technology),[76] suggesting the need for rationalisation of the educational programmes of Palestinian institutions of higher learning.

Table 6Table image

Health employees

At present, all four main health-service providers (the Palestinian Ministry of Health, the UN Relief and Work Agency, non-governmental organisations, and the private medical sector) contribute to all areas of health care. However, because of various factors, including little health-service development under the Israeli military administration between 1967 and 1993, and poor governance and mismanagement of the Palestinian Authority, current services have been unable to provide adequately for people's needs, especially in tertiary health care. Therefore, the Palestinian Ministry of Health continues to refer patients elsewhere (Israel, Egypt, and Jordan), leading to a substantial drain of health resources.

Conventional indicators of health-system function, focusing on the number of patients who use services, the number of hospitals, hospital beds, and primary health-care facilities, and the number of personnel, mask an underlying issue of low quality of care. Several types of health services fail to meet consistent standards for training, equipment, and overall quality. This low quality of care is partly due to restricted mobility inhibiting effective health-system function, management, and accountability; the presence of under-qualified health-care providers; and weak institutional capacity for monitoring and assessment.[109], [112] This issue will be addressed more fully in the other reports of this Series.

The Palestinian Ministry of Health recognises its weak role in the organisation, regulation, and supervision of the health sector, and in the coordination of policy making and planning among health-care providers, especially those of the private sector. Several factors, some internal and some external to the health and political systems, account for the inability of the ministry of health to assume the stewardship role needed to build a health system.

First, despite substantial funding and efforts made by the Palestinian Ministry of Health to build a Palestinian health system, the obstacles to planned development have proved too great. Restrictions placed by Israel since 1993 on the free movement of Palestinian goods and labour across borders between the West Bank and Gaza, and within the West Bank, have had damaging effects not only on the economy and society,[113] but also on the attempts of the Palestinian National Authority at system building. The physical separation[114] and complicated system of permits required to go from the Gaza Strip to the West Bank resulted in the emergence of two Palestinian Authority ministries of health, one in the Gaza Strip and the other in the West Bank. Since 2007, this separation has been further compounded by the political divide between Fatah and Hamas.

Second, the absence of any control by the Palestinian National Authority over water, land, the environment, and movement within the occupied Palestinian territory has made a public-health approach to health-system development difficult, if not impossible. These issues have been exacerbated by the dysfunctional political and institutional systems of the authority; the damaging effects on ministries of using the authority resources for patronage to secure loyalty; marginalisation of the Palestinian Legislative Council; and corruption and cronyism,[44] all of which led to a rapid increase in the number of health-service employees of the Palestinian National Authority without evident improvement in the quality of health services.[111] These factors have adversely affected an already fragile health service.

Third, the multiplicity of donors with different agendas and the dependence of the Palestinian National Authority on donor financial assistance have also caused programme fragmentation. Most occupied Palestinian territory health budget is financed by donor agencies. The Palestinian Authority is estimated to have received US$840·5 million in aid between 1994 and 2000.[44] Donors have an influential role in determining the policy of the authority.[115] The American Rand Corporation has indicated that donors prefer to support infrastructural—mostly equipment and construction—over the operating expenses of the Palestinian National Authority health sector,[109] which have increased as a result of expanded infrastructure and the introduction of modern equipment. The consequences of this substantial but uncoordinated investment will be considered in more detail by Mataria and colleagues[10] in this Series.

All these interacting factors have contributed to undermine the ability of Palestinians to build a health system from existing health services. In addition to the need for control over resources for health care, building an effective health system requires sovereignty, self-determination, authority, and control over land, water, the environment, and movement of people and goods, all of which are relevant for the protection and promotion of health. The international community has not appreciated the degree to which the Palestinian National Authority is “less than a state, yet expected to act like a state”.[44]

Discussion

We have shown that, after a period of improvement in Palestinian health in the occupied Palestinian territory, socioeconomic conditions have deteriorated since the mid-1990s, with a humanitarian crisis emerging in the Gaza Strip and intensifying as a result of the Israeli military invasion in December, 2008, and January, 2009, and because of destruction of homes and infrastructure, the death and injury of civilians, and shortages of food, fuel, medicines, and other essentials, all requiring urgent world concern. We have also described the severe constraints imposed on the Palestinian National Authority in its attempts to build the Palestinian health care and other systems in response to threats to the health of the population. Ironically, the year when the UN announced its Millennium Development Goals was also the year when the occupied Palestinian territory fell into a phase of political and economic crisis, with widespread poverty and a high prevalence of extreme poverty.

Our analysis of Palestinian health in the occupied Palestinian territory has used not only conventional indicators of health, such as infant mortality and stunting in children, but also survey data for subjective measures of people's experiences, life quality,

and ratings of health status. The human security framework prompted us to consider and analyse health more comprehensively, and has shown some of the indicators that need to be measured beyond body counts and traditional measures of morbidity. Indicators of human insecurity and social suffering seem essential in the study of the consequences for health and wellbeing of war and conflict. We hope that our analysis of the Palestinian experience will assist in extending and informing the debate on the notion of health, and on the way that it is monitored and assessed, especially during conflict. Data summarised here indicate that conventional explanations of poor health need to move to grounds that are often ignored, including the consequences for health of social, economic, and political exclusion, and the lack of basic freedoms, disempowerment, fear, and distress.[116]

Because of the current political and contextual constraints, no comprehensive agenda for improving health and services in the occupied Palestinian territory can be outlined with any confidence. Recommendations for improving Palestinian health-service performance and the quality of care will be outlined in the other reports in this Series, in addition to recommendations to assist international donors to develop policies that are appropriate to the extraordinary contextual needs of the population. Policies must take into account the need to protect Palestinians from the severe insecurities of continuous colonisation and war-like conditions, where the home front is the battlefront.[5, 101] Neither the Palestinian National Authority nor the international community have succeeded in protecting Palestinian civilians either from Israeli aggression or from the consequences of recent inter-Palestinian violence.

Our account of Palestinian health under Israeli military occupation—the longest occupation in modern history—also calls for the protection of the basic human rights of Palestinians, in compliance with the Geneva Conventions, including the right to justice and to health. This demand for rights and justice is at the centre of plans to improve Palestinian health. However, it cannot be met by medical and humanitarian interventions alone, because such interventions leave the causes of ill health in the occupied Palestinian territory untouched. We concur with the judgment of the World Bank that economic growth cannot be achieved and donor assistance will not produce durable results without serious improvements in security, dismantling Israeli restrictions on the movement of people and goods, and achieving progress on Palestinian reform and institution building.[117]

Finally, we return to where we started—the WHO Commission on Social Determinants of Health—and the evidence that it has assembled on the factors that affect health and identifying what can be done to improve health.[118] Our analysis shows that, although substantial aid can alleviate some of the short-term effects of a socioeconomic crisis, it does not tackle the root causes of ill health. Hope for improving the health and quality of life of Palestinians will exist only once people recognise that the structural and political conditions that they endure in the occupied Palestinian territory are the key determinants of population health.

Contributors

All authors have contributed to the conceptualisation and writing of this report, and have approved the final version.

Conflict of interest statement

We declare that we have no conflict of interest.

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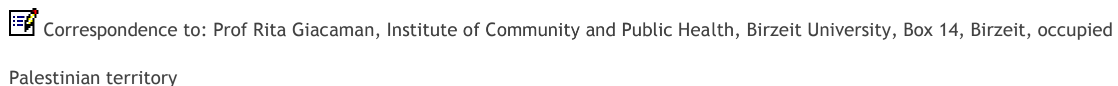

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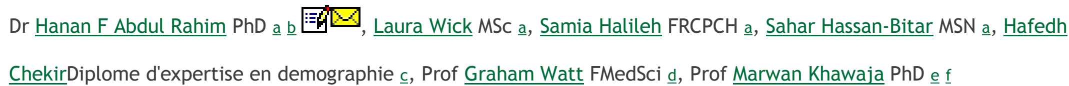
Maternal and child health in the occupied Palestinian territory



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Summary

The Countdown to 2015 intervention coverage indicators in the occupied Palestinian territory are similar to those of other Arab countries, although there are gaps in continuity and quality of services across the continuum of the perinatal period. Since the mid 1990s, however, access to maternity facilities has become increasingly unpredictable. Mortality rates for infants (age ≤1 year) and children younger than 5 years have changed little, and the prevalence of stunting in children has increased. Living conditions have worsened since 2006, when the elected Palestinian administration became politically and economically boycotted, resulting in unprecedented levels of Palestinian unemployment, poverty, and internal conflict, and increased restrictions to health-care access. Although a political solution is imperative for poverty alleviation, sustainable development, and the universal right to health care, women and children should not have to wait. Urgent action from international and local decision makers is needed for sustainable access to high-quality care and basic health entitlements.

This is the second in a **Series** of five papers on health in the occupied Palestinian territory

Introduction

Maternal and child health are important components of present and future population health in the occupied Palestinian territory, where roughly 40% of the population are women of reproductive age and children younger than 5 years.[1] Although the economic situation had been on a downward trend since the second *intifada* (popular uprising against occupation) in 2000,[2] living conditions worsened after the elections in January, 2006, which gave the political party Hamas control of the Palestinian Legislative Council and brought about a political and economic boycott by several countries in the international community.[3] Poverty in the occupied Palestinian territory has risen sharply, and more than a third of the population is classified as food insecure.[4] The Israeli-imposed system of several hundred checkpoints and barriers to movement has severely restricted access to services,[5] and these restrictions can be especially crucial in perinatal and child-health emergencies.[6]

In this report, we discuss the situation in the occupied Palestinian territory with respect to the fourth and fifth Millennium Development Goals (MDGs) for reduction of child mortality and improvement of maternal health, respectively, and we use the Countdown to 2015[7] indicators to assess coverage of priority interventions. However, because coverage indicators alone do not indicate the complexity of maternal and child health-care provision in a specific context,[8] we describe the broad context of service provision, which is characterised by challenges common to many low-income and middle-income countries, such as poverty, poor nutrition, and an overburdened public-health system, but which is also unique in terms of the presence of a military occupation and a state of protracted conflict.[9] Within the constraints of the present economic and political conditions, we propose changes for improvement of the services provided to women and children in the short term, and we make long-term recommendations that presuppose a conducive political situation.

Women: living conditions, education, and work

The cohesiveness and solidarity of the Palestinian family would seem to have a protective effect for all members of society, including women and children.[10] However, despite the positive aspects of family support, poverty and strongly gendered social roles increase the burden of women's household responsibilities and the health risks associated with housework and child care.[11]The average number of individuals in a household in the territory is 6·3 (5·9 in the West Bank and 7·0 in the Gaza Strip),[12] and living conditions are crowded.[1] Because women are the key carers, they bear the burden of dependency of the young, old, sick, and injured. Furthermore, after the deaths or imprisonment of their husbands, brothers, or sons, women have been obliged to take on additional roles as heads of households.[13] In 2006, women were the heads of 8·5% of households in the occupied Palestinian territory (9·1% in the West Bank and 7·0% in the Gaza Strip).[12]

Historically, Palestinian women have been among the most highly educated in the Arab world.[14] In 2005, the literacy rate among Palestinian women aged 15 years and older was 89% (table 1), and almost one in five had completed secondary education.[20]However, women's achievements in education have not been matched by their participation in the labour force. In the first quarter of 2006, about 13% of women aged 15 years and older were in the labour force compared with 67% of men.[20] The proportion increased with education, whereby 39% of women with post-secondary education contributed to the labour force in 2006.[20] This overall low participation rate should be understood within the context of a generally high unemployment rate among men and women, and women's common participation in the informal sector.[13] Indeed low labour-force-participation rates, despite increasing education of women, are characteristic of countries in the Middle East.[23]

Table 1Table image

Characteristics of women in the occupied Palestinian territory and selected Arab countries

Marriage and childbearing patterns

Most Palestinian women marry at a young age and begin childbearing shortly thereafter,[24] a pattern that has persisted[12] despite the reported harmful health consequences of teenage pregnancies for mothers and their newborn babies.[25] In 2006, the median age at first marriage for ever-married women (aged 20—54 years) was 18 years (IQR 4).[12] About 9% of women aged 15—19 years were married, and 6% were either mothers or pregnant for the first time.[12] Birth spacing was short, even by regional standards (table 1), with 27% of women (aged 15—49 years) in 2006 reporting birth intervals shorter than 18 months.[12]

Consanguinity is a predominant feature of Palestinian marriages, with 28% of ever-married women (aged 15—54 years) married to a first cousin and 17% married to other relatives within their *hamula* (extended family) in 2006.[12] In a study[26] of the data for birth history from the 1995 Palestinian Demographic and Health Survey, an increased risk of infant and child mortality in consanguineous marriages was noted, whereas in another study,[26] reading disabilities in children of consanguineous parents were increased. A comparison of the consanguinity rates reported in the 1995 and 2004 Palestinian health surveys suggested that consanguinity might be slowly decreasing in the territory, but future trends in consanguinity are not clear since marriage patterns can be affected by the unstable political situation.[26]

Political conflict,[14] marriage at a young age, and restricted opportunities for participation in the labour force[27] might explain the extraordinarily high fertility rates, especially in the Gaza Strip, despite women being highly educated. Despite reductions, the fertility of women in the occupied Palestinian territory remains among the highest in the world.[28] In 2006, the total fertility rate was 4·5 births per woman for the 3 years before the survey (4·1 births per woman in the West Bank and 5·3 births per woman in the Gaza Strip),[12] which is much higher than in Israel (2·8 births per woman)[29] and most Arab countries. Indeed, among other countries in the region, the total fertility rate is higher only in Yemen (6·2 births per woman).[29] Fertility rates are high, at least in part, because that is what seems to be wanted.[14] In 2006, the mean family size considered ideal by Palestinian women was around five children, with some differences between the West Bank and Gaza Strip.[12]

With prevailing norms of modesty and social conservatism, common behavioural risk factors are expected to be infrequent in Palestinian women. As in other parts of the Middle East, religious and traditional customs, such as the prohibition of extramarital sex,[30] render women in Palestine at a lower risk of exposure to sexually transmitted diseases, including HIV/AIDS, than women in other societies. Tobacco smoking is reportedly infrequent in Palestinian women,[12] and although no studies are available, alcohol and drug abuse are also thought to be infrequent.

MDGs 4 and 5

Table 2 shows the mortality rates for infants and children younger than 5 years in the West Bank and Gaza Strip and the percentage change with time. In the occupied Palestinian territory, mortality rates for 2002—06 were 27·6 deaths per 1000

livebirths for infants and 31·6 deaths per 1000 livebirths for children younger than 5 years. Table 3 and panel 1 show sources and methods for calculation of the mortality rates. After decades of improvement, infant mortality in the occupied Palestinian territory has not fallen much since around 1990 (panel 2), and mortality rates in children less than 5 years of age have changed little during this time. In fact, between 1990 and 2005, the occupied Palestinian territory has had the smallest reduction in mortality rates among children younger than 5 years compared with Arab countries (figure 1). Even countries with lower infant mortality rates, such as the United Arab Emirates, than those in the occupied Palestinian territory have had a larger decrease. A close look at components of the infant mortality rate shows that an apparent increase in neonatal mortality (death in the first 28 days) occurred between 1990—94 and 2002—06 (table 2). However, these changes were not significant.

Table 2Table image

Trends in infant and child mortality in the occupied Palestinian territory 5 years before survey

Table 3Table image

Surveys from Palestinian Central Bureau of Statistics

Panel 1

Sources of data and methods of analysis

Surveys

Whenever available, data from the nationally representative surveys of the Palestinian Central Bureau of Statistics were used either as micro data or published reports (table 3). We believe that these survey data are of high quality because of the quality-control mechanisms applied in data gathering, input, and analysis (eg, anthropometric measures). When necessary, Palestinian Central Bureau of Statistics has received technical assistance from regional and international organisations, such as UNICEF, UN Population Fund (UNFPA), and the Arab League. Procedures in data gathering and entry are standardised through training. Pilot surveys and re-interview of samples of households ensure data quality. Response rates are generally high, and standardisation of practices means indicators can be compared over time.

Calculation of infant mortality rate

Infant and child mortality rates were estimated by use of a direct method based on the birth history data from several household surveys undertaken by the Palestinian Central Bureau of Statistics (table 3). In each survey, all ever-married women aged 15—49 years were asked about dates of birth (and if the child had died, age at the time of death) for each live-born child. Infant and child mortality estimates, for different periods preceding each estimate, were calculated directly from these data with the conventional synthetic cohort approach like the one used in the demographic and health surveys done by ORC Macro International.[39]

Some of the fluctuations, or absence of change or reversals in mortality rates, could have been attributed to changes in data quality. Assessment of quality showed that birth history data were not associated with major difficulties that would have any major effect on the estimates. Although retrospective birth history data provide reasonably good estimates compared with registration data and demographic models, these data are associated with specific limitations. The most important of which is the sex-selective omission of children who die during infancy, which could lead to a downward bias in the mortality estimates. Furthermore, the omission, if present, is also selective for the date of death and age of women. A preliminary examination of sex ratios at birth for children who died indicates some omission of infant girls in all the surveys as would be expected in countries where families have a preference for male children. However, the ratios for the 5 years before each survey date are within the expected ranges. The reports of age at death are yet another kind of error affecting the mortality estimates. Here, we assume that the underestimation is uniform across settings and surveys, since the analysis is based on the same kind of data and estimation methods. We are therefore confident that the minor reductions seen since the mid 1980s are within sampling variability.

Other sources of data

- Peer-reviewed reports of Palestinian health-care issues
- Yearly reports from Ministry of Health and reports from UN Relief and Works Agency
- Published reports or studies commissioned by agencies, such as WHO, UN Food and Agriculture Organisation, UNICEF, UNFPA, and Economic and Social Commission for Western Asia
- Published reports or studies by international organisations, such as Oxfam and Rand, and local organisations, such as Birzeit University

Limitations of some of the data sources

- Data from Ministry of Health are facility-based, and sometimes based on small populations (eg, women who received post-partum home visits in the Gaza Strip)
- Hospital records are incomplete (eg, indications for caesarean sections)
- Most studies are descriptive; we could not identify intervention-type studies

Panel 2

Trends in infant mortality rate in the occupied Palestinian territory

1950s to 1960s

Available estimates for Palestinians suggest that infant and child mortality continued to fall during the 1950s and 1960s.[40] On the basis of birth-history data from several household surveys undertaken by the Palestinian Central Bureau of Statistics since its inception, and with the method of synthetic cohort probabilities of death,[41] our estimate puts the infant mortality rate at about 120 per 1000 livebirths in 1960, down from about 200 in the late 1940s and early 1950s.

1970s to early 1980s

Throughout the 1970s and early 1980s, statistics produced by the Israeli military government showed a general improvement in the population's health in the West Bank and Gaza Strip, as indicated by infant mortality rates.[42] All available sources of information point to a substantial reduction in infant mortality, although the speed of reduction has been widely contested.[43–46]

Mid to late 1980s

Infant mortality continued to fall rapidly during the early 1980s, with rates of reduction similar to those recorded during the 1960s and 1970s. However, after the onset of the first intifada in 1987, the reduction in mortality began to slow down at a rate of 25—27 per 1000. Although the trend for infant mortality rate was to improve with time, the rate in the occupied Palestinian territory lagged behind improvements in some neighbouring Arab countries despite Palestinian women being better educated.[47]

1990s to 2000

Infant mortality rate decreased by about 18 per 1000 between 1980 and 1985, but by 10 per 1000 during the subsequent 20 years. The overall change from 1990 until early 2000 was only 1% per year, and there has been no discernible downward trend in the reported rates since then.

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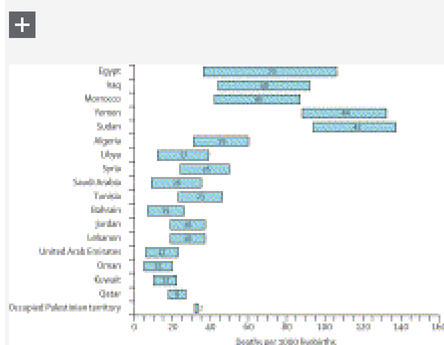

Figure 1 Full-size image (36K) Download to PowerPoint

Reduction in mortality rates in children younger than 5 years between 1990 and 2005 in Arab countries

Data from Murray[48] and Ahmad[49] and their colleagues. Estimates for occupied Palestinian territory for 1990—94 were not available; survey estimates were used.

The slow down in the reduction of infant mortality could be attributed to several reasons, including changes in the causes of death and deterioration in health conditions. The causes of infant mortality have changed, such that infectious and diarrhoeal diseases are no longer leading causes. The main causes of infant deaths are now prematurity and low birthweight, and congenital malformations.[50] As such, additional intervention strategies requiring increased intensive specialist care and financial investments might be needed to reduce infant mortality further. At the same time, the political and economic contexts should be considered—namely, the deterioration in Gaza community health services[51] and hospitals,[52] and the restrictions on access to tertiary centres in Israel and East Jerusalem for at-risk pregnancies and sick neonates.[53]

As in many other countries, accurate estimation of the maternal mortality is hindered by unreliable data and wide margins of uncertainty.[54]Panel 3 shows the different estimates in the occupied Palestinian territory and their sources. The improbably low estimation by the Ministry of Health suggests substantial under-reporting,[57], [58] which is especially troubling since most babies are delivered in institutional settings. However, regular maternal audit activities at hospitals and near-miss investigations are not done, and the death registration system is generally unreliable because the cause of death is likely to be misclassified.[58], [60]Data for maternal complications during delivery are scarce and can be unreliable, and those for maternal or neonatal readmissions after delivery are not readily available.

Panel 3

Estimates of maternal mortality in the occupied Palestinian territory: a wide range of uncertainty

- The demographic survey of the West Bank and Gaza Strip (done in 1995 by the Palestinian Central Bureau of Statistics)[34]provided credible and previously unavailable basic demographic data at an important time in the establishment of the Palestinian Authority, including an estimate of the maternal mortality ratio by use of the sisterhood method. In accordance with that survey, the estimate was 74 per 100 000 births, with the highest ratios noted for the youngest and oldest mothers.[34], [55]
- An adjusted model-based estimate by WHO, UNICEF, and UN Population Fund estimated the maternal mortality ratio in the Palestinian territory in 2000 at 100 per 100 000 births.[56]
- In 2005, the Palestinian Ministry of Health estimated 15·4 maternal deaths per 100 000 births in the Gaza Strip and 1·8 per 100 000 births in the West Bank, but acknowledged the improbability of such estimates, citing probable under-reporting of deaths.[57]
- Maternal mortality ratios were 29·2 per 100 000 births in 2000 and 36·5 per 100 000 births in 2001 in a study[58] that assessed the deaths of 431 women with verbal autopsies. This study was facility based, however, and it included

only the West Bank. The main causes of direct obstetric deaths identified in the study were post-partum haemorrhage, pre-eclampsia or eclampsia, postoperative haemorrhagic complication, and sepsis. Causes of indirect obstetric deaths were mostly uncertain.[58]

- In a retrospective audit of 1995—2002 by the UN Relief and Works Agency, maternal mortality ratios were 17·5 per 100 000 births in the West Bank and 23·7 per 100 000 births in the Gaza Strip.[59] The study, however, included a small number of deaths (16 in West Bank and 48 in Gaza Strip) and was limited to the refugee population. Most deaths took place post partum, and the causes were embolism, haemorrhage, and pre-eclampsia.[59]

The Countdown to 2015[7] provides a common framework for assessment of progress towards the achievement of the fourth and fifth MDGs in countries with the highest burden of mortality in mothers or children. Although the occupied Palestinian territory is not one of the countries included in the initiative, the indicators of interventions and nutritional status are useful for description of the situation in the occupied Palestinian territory with respect to the achievement of the fourth and fifth MDGs. The perinatal health coverage indicators in the Countdown[7] for maternal, newborn, and child survival (table 4) in the occupied Palestinian territory seem to be much the same as (and in some cases better than) those of neighbouring Arab countries. However, for health services to provide sustainable health gains, quality of care is an important concern alongside high coverage across the perinatal continuum. Indicators show variations in the types of interventions in the continuum of care.[66] Coverage for antenatal care, skilled attendance at birth, and child immunisation is almost universal. As in other low-income and middle-income countries, interventions that are fairly simple to schedule and deliver have high coverage. Those that require a well functioning health system 24 h a day—such as emergency obstetric care and clinical care of ill newborn babies and children, and postnatal care necessitating community-based provision with prevention, support, and behaviour change—need complex service delivery and have low coverage.[7], [67]

Table 4Table image

Intervention coverage for mothers, babies, and children in the occupied Palestinian territory and selected Arab countries (Countdown to 2015)

Health surveys show that antenatal care coverage, skilled attendance, and measles immunisation have been consistently very high since 2000.[12] Exclusive breastfeeding and immunisation with diphtheria, pertussis, and tetanus (third dose) have increased by about 10 percentage points each during that same period (from 16·7% to 26·5% for exclusive breastfeeding and from 88·5% to 98·7% for the immunisation). The rise in caesarean-section deliveries has been significant between 2000 and 2008 (from 8·8% to 15·0%).[12]

A comparison of the indicators from the surveys over the past decade (1996—2006) shows that the prevalence of stunting has increased substantially.[1] Stunting, low height for age, which is an indication of chronic malnutrition and a risk factor for poor

cognitive development,[68] has been rising since 1996, and, in 2006, was recorded in one in ten children (figure 2). Although in the West Bank between 1996 and 2006, stunting increased (from 6·7% to 7·9%), it was especially pronounced in the Gaza Strip, rising from 8·2%[70] to 13·2%.[1]

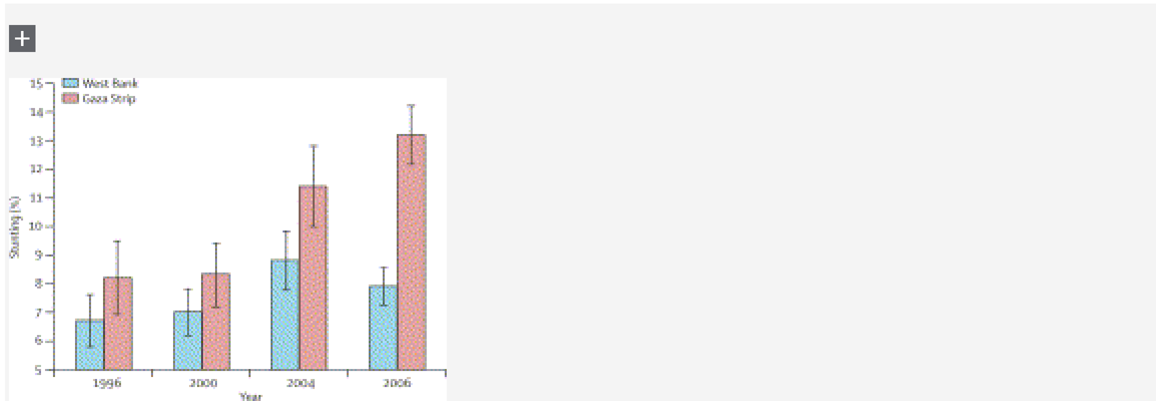

Figure 2 Full-size image (22K) Download to PowerPoint

Stunting in children younger than 5 years in the occupied Palestinian territory by year and region

Data from Palestinian Central Bureau of Statistics.[1], [69] Stunting (height-for-age index) was determined by use of the international reference population defined by the US National Center for Health Statistics, as recommended by WHO and the US Centers for Disease Control and Prevention.[37] Children who were below −2 SD from the reference median were classified as stunted, and those who were below −3 SD from the reference median were classified as severely stunted.

The prevalence of underweight and wasting have remained largely unchanged during the past decade. In 2000, 2004, and 2006, according to the national surveys in the occupied Palestinian territory, the prevalence of wasting was 1·4%, 2·8%, and 1·4%, respectively.[1] Importantly, because wasting is linked to acute malnutrition and could be affected by variations in such factors as humanitarian-aid assistance and military closures, it should be monitored in populations that could be especially vulnerable—such as those living in dire poverty or in areas affected by closures or by the separation wall.

In the occupied Palestinian territory, undernutrition is of particular concern in view of frequent births,[12] short birth spacing,[12]rising poverty,[2] and deterioration in the quantity and quality of food.[4], [71] The rapid deterioration in socioeconomic and political conditions has added a new sense of urgency,[72] as rising food prices, falling incomes, and increasing unemployment jeopardise food security.[71] In the Gaza Strip, the situation is especially dire,[73] with 56% of population classified as food insecure compared with 25% in the West Bank. Nevertheless, closed areas in the West Bank are badly affected because of high unemployment, restrictions on movements, and wage depreciation.[71], [73] In Gaza, half the surveyed population reported spending less on food; 89% bought food of lower quality; and 75% reported buying a reduced quantity of the food. Almost all respondents reported decreasing their intake of fresh fruits and vegetables, and animal protein.[71], [73]

Maternal and child health services

Assessment of maternal and child health services across the continuum of care, both throughout the life cycle and across the different levels of services,[66] shows that the challenges for effective provision are a function of the strength and performance of the health system as a whole.[8] Mataria and colleagues,[74] in this Series, have analysed the performance of the Palestinian health system with a WHO-suggested framework that assesses service delivery, workforce, medical products and technologies, financing, and leadership or stewardship issues. This report will provide specific examples from maternal and child health care. We describe the causes that contribute to the gaps in health care, such as the legacy of occupation, internal problems of the Palestinian National Authority, and counterproductive international aid practices,[74] with the aim of showing the contextual complexities involved in building a health system, from informing policy to implementing effective care.

Intervention coverage indicators

As the indicators for Countdown to 2015 have shown, delivery of specific interventions, such as antenatal care and childhood immunisations, has remained high despite political instability (table 4). However, other interventions along the continuum of perinatal care, such as timely access of women in labour to maternity facilities, have been affected by the increasing mobility restrictions, including checkpoints and the separation wall. Between 2000 and 2006, the Ministry of Health reported 69 cases of Palestinian women giving birth at Israeli checkpoints.[75] 10% of pregnant women in labour were delayed for 2—4 h on the road to the maternity facility, whereas the average time without roadblocks to reach health facilities was 15—30 min.[75] These numbers do not reveal women's anxiety throughout the pregnancy about reaching a place of birth and returning home safely.

Barriers to access complicate the organisation of health providers and services at different levels of care. Government clinics, though well distributed, do not provide 24 h care because of their restricted opening hours, by restricting what midwives or nurses are allowed to do, and by depending on the visit of the doctor from the city to provide services.[76] Responses to restricted access have consisted of initiatives from governmental and non-governmental parties, including mobile clinics, the creation of maternity homes, training of health-care workers for home deliveries, and networks of birth attendants to guide isolated family members by telephone through the birth process.[77—79] However, these fragmented attempts were constrained by drawbacks, such as high cost and insufficient training to ensure midwifery skills, and were not a substitute for the systematic and sustainable organisation of maternal and child care in the community with links to higher levels of care.[77, 80]

Although Countdown to 2015[7] is useful for tracking coverage of basic maternal and child health care, it does not assess the content of service packages or the quality of care.[81] This gap in monitoring might be crucial for assessment of the effectiveness of interventions and determination of how to move forward, since high coverage of poor-quality care might not improve maternal and child health outcomes.[8] The quality of care in the public sector is generally perceived as being poor.[82] Assessments of services have shown that maternal, newborn, and child health-care practices in the communities, clinics, and hospitals are not always based on interventions proven to be effective.[76, 83, 84] Gaps in best practices or misuse of

unnecessary interventions slow progress in the achievement of MDGs, waste scarce resources, and could cause iatrogenic complications. For example, frequent antenatal care visits[12] with gaps in effective content,[76] short consultation time,[76] and women's reported dissatisfaction with clinical care and providers' attitudes and interactions,[76], [85] were indicators of poor quality. Forbidding family support during labour and delivery, frequent use of oxytocin to augment labour without sufficient monitoring and equipment to regulate the dose, no partogram, and inadequate newborn care were identified as inappropriate routine childbirth care.[86] Magnesium sulphate was not used as the treatment of choice for pre-eclampsia, despite availability and low cost.[87] Post-partum care with low coverage was mainly clinic based, usually took place after the critical period of the first few days after birth, and only about half of women receiving care were reported as having a physical examination or any family planning services.[78] These practices persist despite the introduction of protocols, guidelines, and detailed training workshops at all levels of reproductive health-care provision.

The rise in the rate of caesarean sections from 6·8% to 15·0% of all births in the past decade[1] is cause for concern because of suboptimum operating conditions, insufficiently trained physicians, frequent emergency operations, and poor postoperative care and follow-up.[60] Absence of data for indications or outcomes of caesarean sections restricts the analysis of this rising trend. Anxiety on the part of women and physicians about access to hospital and the subsequent desire to control the timing of birth has been reported by providers as a frequent reason for intervention. The long-term implications of the rising rate of caesarean section for maternal and child health are a concern, in view of the high fertility rate, probability of subsequent pregnancies and operative deliveries with an increased risk of complications,[88] and cost implications.[89]

In some cases, the challenge of human resources for maternal and child health in the occupied Palestinian territory has been less a matter of scarcity than of the effective use and distribution of existing resources.[90] This situation is linked both to the external restrictions on mobility disrupting the organisation and provision of services and to fundamental flaws in the planning of human resources,[90] which are maladapted for ensuring equity and sustainability in this particular context. The ratio of the number of doctors to the total population is more adequate than that of allied health professionals, though there are shortages in key specialties, such as neonatology (panel 4).

Panel 4

Human resources for maternal and child health

Detailed information about the number of categories of health providers and their ratio per 1000 individuals are presented by Giacaman and colleagues[28] in this Series. For human resources in maternal and child health, attention needs to be drawn to the following points:

- Although data show that the number of physicians per 1000 individuals in the Palestinian territory (2·1) is similar to that in Jordan (2·0), the UK (2·3), and Canada (2·1) (although less than in Israel at 3·8), there is a shortage of nurses (1·7) and midwives (0·1).[90]

- For maternal and child health, there is a shortage of specialised professionals, especially neonatologists.[90] Although the medium-term development plan provides the number of physicians in various specialties, no distinct category for neonatologists exists. There are four neonatologists in the West Bank and none in Gaza Strip. In the West Bank, there are three neonatologists in East Jerusalem and Ramallah (central areas) and one in Bethlehem and Hebron (southern areas; Khammash H, Makassed Hospital, personal communication).
- According to the projections of medium-term development plan for 2015, there is a shortage of obstetricians, gynaecologists, paediatricians, and paediatric surgeons in the West Bank, whereas in Gaza, the shortage is only in obstetricians and gynaecologists.[90] Differences in certification requirements between the West Bank and Gaza Strip might account for these results. In both regions, there is also a shortage of anesthesiologists.
- Data for the number of midwives are inconclusive and vary according to the source.[57, 90] According to the medium-term development plan, the total number of midwives in the West Bank and Gaza is 449. However, the reported number is probably inaccurate because only midwives working in hospitals are required to register with the Ministry of Health. For planning purposes, midwifery resources should be reported separately from the number of nurses for the WHO database of human resources. Furthermore, knowledge of the number of community midwives who can assist in home births is needed.
- About half of midwives are employed by the Ministry of Health.[57] However, they only make up 3·0% of Ministry of Health Staff in the West Bank and 0·9% in Gaza (compared with 36·0% and 41·0% for administrative staff, respectively).[57]

The scope of practice of midwives and nurses in the governmental and non-governmental clinics is restricted, despite their accessibility and women's preference for women providers.[76] UN Relief and Works Agency clinics for refugees follow a more accessible and sustainable model, in which midwives are the key providers of antenatal care, postnatal home visits, and family-planning services. Midwives in the government hospitals, in which 53% of births take place,[38] attend to all normal deliveries and assist in high-risk cases. However, severe under-staffing restricts their capacity to ensure safe childbirth,[60, 87] and despite increasing caseloads and available applicants the numbers of midwifes have not been increased.[91] Failure to license, support, and supervise a sufficient number of midwives to assist home births and to expand the use of community health workers for home-based maternal and newborn care is a missed opportunity to provide effective and simple interventions to those most in need[92] in this context of restricted access. Obstetricians in the West Bank are poorly distributed and concentrated mainly in the private sector, and only two of six female obstetricians in the West Bank were on the staff of government hospitals. Low salaries and no incentives in the government sector have led to a situation in which most physicians also have a private practice,[93] compromising the quality of care in government institutions.

Mataria and colleagues[74] address in some detail the financing of the Palestinian health-care system. The deterioration in economic conditions has meant that an increased number of people are now paying for health services out of their own pockets.[74]The Presidential decree in 2000 making deliveries free in the governmental hospital has added a strain to the already understaffed and overwhelmed services. Similarly, other practices in maternal and child health, such as the use of physicians,

rather than midwives or nurses, for antenatal and postnatal care, and the rise in caesarean deliveries, have implications for the financing and sustainability of the system.

The inadequacy of the health information system[74] means that effective maternal and child health interventions are difficult to plan based on prevalence of diseases and outcomes, delivery mechanisms, and health behaviours specific to this context. Rates of pregnancy-related admissions, intrapartum complications, and maternal and neonatal readmission after birth are not available. Neither audits nor equity assessments have been integrated into the system.[94] Uncoordinated and vertical donor projects have led to duplication of medical records and interventions to improve the health information system. In addition to the gaps in local data, few systematic reviews about the delivery of particular health goals have focused on low-income and middle-income countries.[95]

Gaps in the quality of health service provision are partly due to the insidious interactions between restrictions on mobility and the legacy of occupation that has stifled the development of good governance and the culture of accountability. The weak leadership and internal divisions of the Palestinian National Authority[74] have also seriously affected its role of stewardship in maternal and child health. Failure to plan on the basis of a system of equitable and sustainable services with context-specific delivery strategies has led to restricted access and poor quality of care, waste of resources, and an overcrowded public sector with inappropriate use of human resources, vertical approaches, and sometimes ineffective interventions.[9], [80] The top to down authoritative system of management, based on political rather than professional appointments and little public consultation, has affected the capacity of the health services to function.[96] A fundamental requirement is an increased concern for stewardship, gender inequalities, and teamwork, with appropriate distribution of tasks and strategies to reach poor women wherever they are.

What should be done, what can be done?

Provision of effective protection of maternal and child health is dependent on a complex network of relations, combining political, technical, and social interactions.[97] Although improvements in the provision of preventive and some curative services to promote normal birth and healthy mothers and children can be achieved with incremental changes, lives cannot be saved without access to 24 h curative services to deal with unpreventable complications.[98] Such an achievement requires a political solution of unrestricted mobility, ensuring access to services. Availability of emergency obstetric care and high-quality birth attendance for all depends on a strengthened health system, which can only be achieved through a concerted effort and the commitment of the Palestinian National Authority, donors, and political decision makers to overcome the external and health-system constraints.

Panel 5 shows the specific recommendations, which recognise not only the long-term changes that need to be implemented but also the immediate short-term interventions that could alleviate hardship and improve care.

Panel 5

Recommendations for improvement of maternal and child health in the occupied Palestinian territory

Health service delivery

Immediate

- Ensure uninterrupted access to the continuum of perinatal services by removal of checkpoints and barriers to access
- Strengthen community resources for health, such as training health workers in neonatal care, exclusive breastfeeding, and maternal and child nutrition
- Support and strengthen decentralised management of health services to avoid reliance on centralised facilities or services to which access might be difficult
- Support evidence-based practices and promote normal deliveries to avoid iatrogenic complications

Long-term

- Reach a political solution that would address movement restrictions and access limitations and allow for rational planning and system building
- Build on high coverage of services by improvement of quality of care. This recommendation includes emphasising evidence-based policies and care through context-specific protocols, targeted training, and supportive supervision and follow-up
- Design services on the basis of needs and involve women in planning and organisation of their health care

Workforce

Immediate

- Recruit and retain skilled physicians into the Ministry of Health through an incentive plan, especially in areas of deficiency such as neonatal care
- Broaden scope of practice and use of midwives and other allied health professionals both in clinics and in their communities, supported by appropriate policies and capacity building mechanisms

Long-term

- Implement a human-resource plan that addresses the long-term development of local capacity in specialised areas of maternal and child health care, including capacity building abroad or locally for needed cadre
- Expand the midwifery cadre and strengthen their preservice and inservice training

Health information

Immediate

- Develop and measure indicators that are sensitive to the effect of the present maternal and child health-care crisis and can identify vulnerable groups for targeted interventions
- Promote standardisation and accuracy of medical records
- Computerise records, audits, and reviews, and connect clinics with a central system

Long-term

- Strengthen hospital and clinical records to improve accuracy of reporting and accountability and allow for measurement of morbidities and complications
- Improve the death registration system
- Do audits to identify maternal and child deaths and their causes
- Build local capacity for maintaining effective surveillance systems

Medical products and technology

Immediate

- Ensure availability of necessary products and medications, such as anaesthesia, antibiotics, misoprostol and magnesium sulphate, and iron with appropriate dietary advice

Long-term

- Plan equitable distribution and regulation of technology

Financing

Immediate

- Ensure continued financial access to perinatal care through insurance

Long-term

- Equitable distribution of resources among regions and across different levels of health care

Stewardship/leadership

Immediate

- Base appointments on abilities and qualifications

- Include women and allied health professionals in leadership roles
- Assume a strong coordination role between donors to promote sustainable development in addition to humanitarian aid and to avoid duplication of resources and projects

Long-term

- Create a culture of responsibility and accountability, and promote good clinical governance, on the basis of research, audit, fair appraisals, and continued education
- Assume an effective role in coordination with donors to promote sustainable development

Although improvement of services in the ways we have outlined is important, the basic rights of women and children to health cannot be secured through the health sector alone. A public-health approach is needed that acknowledges the broad determinants of women's health, such as security, poverty alleviation, and freedom of movement. These determinants require a continuing effort nationally and internationally against social injustice and inequity. National political commitment is certainly needed to improve the life and future of Palestinian women and their children. But without international commitment to a just political and economic solution to the problems encountered by the population of the occupied Palestinian territory, all other measures are likely to prove temporary and superficial.

Contributors

All authors participated in the conceptualisation and writing of the report, and have seen and approved the final version to be published.

Conflict of interest statement

GW is a trustee for the UK charity Medical Aid for Palestinians. The other authors declare that they have no conflict of interest.

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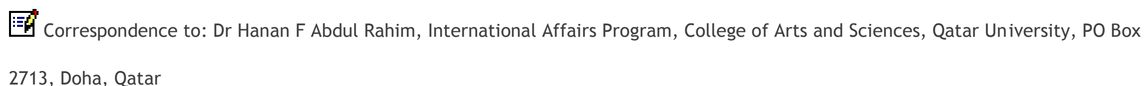

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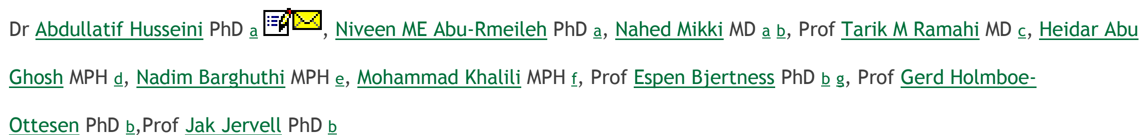
Cardiovascular diseases, diabetes mellitus, and cancer in the occupied Palestinian territory

Dr Abdullatif Husseini PhD [a] , Niveen ME Abu-Rmeileh PhD [a], Nahed Mikki MD [a b], Prof Tarik M Ramahi MD [c], Heidar Abu Ghosh MPH [d], Nadim Barghuthi MPH [e], Mohammad Khalili MPH [f], Prof Espen Bjertness PhD [b g], Prof Gerd Holmboe-Ottesen PhD [b],Prof Jak Jervell PhD [b]

Summary

Heart disease, cerebrovascular disease, and cancer are the major causes of morbidity and mortality in the occupied Palestinian territory, resulting in a high direct cost of care, high indirect cost in loss of production, and much societal stress. The rates of the classic risk factors for atherosclerotic disease—namely, hypertension, diabetes mellitus, tobacco smoking, and dyslipidaemia—are high and similar to those in neighbouring countries. The urbanisation and continuing nutritional change from a healthy Mediterranean diet to an increasingly western-style diet is associated with reduced activity, obesity, and a loss of the protective effect of the traditional diet. Rates of cancer seem to be lower than those in neighbouring countries, with the leading causes of death being lung cancer in Palestinian men and breast cancer in women. The response of society and the health-care system to this epidemic is inadequate. A large proportion of health-care expenditure is on expensive curative care outside the area. Effective comprehensive prevention programmes should be implemented, and the health-care system should be redesigned to address these diseases.

This is the third in a **Series** of five papers on health in the occupied Palestinian territory

Introduction

Over the past century, and like many other developing countries, an epidemiological transition has occurred in Palestine.[1, 2] The main causes of death were malaria and tuberculosis at the start of the 20th century,[3, 4] pneumonia and enteritis by the middle of the century, with heart disease emerging as the third most important cause of death,[5] and heart disease, cerebrovascular disease, diabetes mellitus (mostly type 2), and cancer in 2005 (figure 1). Together, these diseases

account for about half the total deaths in the occupied Palestinian territory, with the highest proportion occurring in adults.[6], [7]

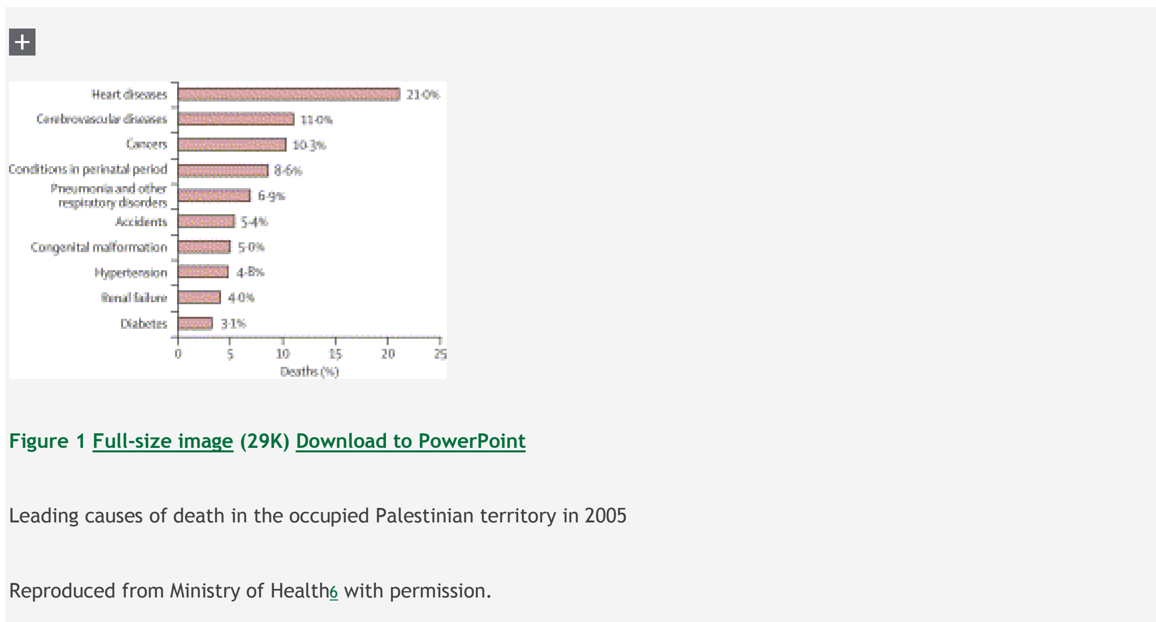


Figure 1 Full-size image (29K) Download to PowerPoint

Leading causes of death in the occupied Palestinian territory in 2005

Reproduced from Ministry of Health[6] with permission.

Despite the intractable conflict and associated economic uncertainty and instability, the general improvement in the standard of living and medical advances have resulted in diminution of communicable diseases as a public-health hazard.[1] Infectious diseases now account for less than 10% of total mortality rate[6,8–11] and the rates of pulmonary tuberculosis and AIDS are low.[6]Communicable diseases are a serious problem only in children (<4 years; figure 2). One in ten people living in the occupied Palestinian territory and two-thirds of those older than 60 years had at least one chronic disease according to the 2006 Palestinian family health survey.[7] This pattern is similar to changes elsewhere in the world.[13], [14] In 2005, chronic diseases were estimated to account for 72% of total global burden of diseases in people aged 30 years and older, and 80% of deaths related to chronic diseases were expected to occur in low-income and middle-income countries.[15] In 2004, chronic diseases were estimated to account for 47% of disease burden in the eastern Mediterranean region, and were expected to reach 60% by 2020.[16] The chronic diseases and risk factors that are causing a public-health concern in the occupied Palestinian territory are similar to those in other Arab countries (table 1).[6,7,17–20,23–25] The response to this chronic-disease epidemic has been limited to the few providers and donors who have understood the magnitude of this challenge. We review here the burden of the major chronic diseases in the occupied Palestinian territory.

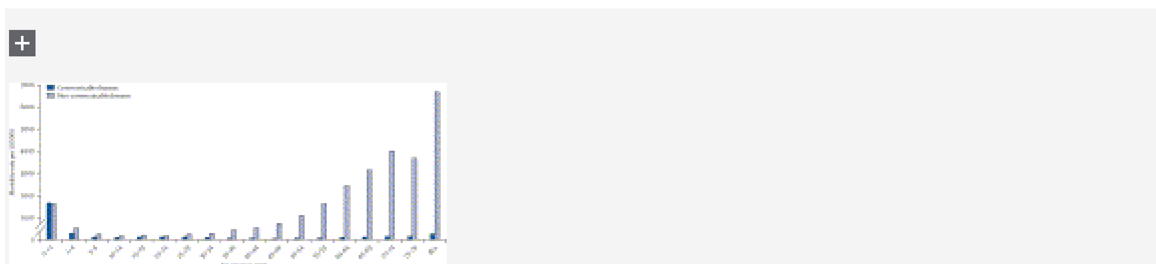


Figure 2 Full-size image (25K) Download to PowerPoint

Age-specific mortality rates (per 100 000 population) for communicable and non-communicable diseases in the West Bank (1999—2003)

Modified from Abu-Rmeileh and colleagues.[12]

Table 1 Table image

Proportions of selected chronic diseases and risk factors in men and women living in the occupied Palestinian territory and selected neighbouring countries

Cardiovascular disease

Good data for the epidemiology of cardiovascular diseases in the occupied Palestinian territory are scarce. Routine data gathered by the Ministry of Health and obtained from the national surveys done by the Palestinian Central Bureau of Statistics are the main sources of information for these diseases (panel; table 2).[6—11] Furthermore, hardly any reliable data are available for the occupied Palestinian territory about the nature, treatment, and outcomes of cardiovascular diseases. Hypertension, diabetes mellitus, and tobacco smoking are the main risk factors for cardiovascular disease. They result in substantial direct morbidity and mortality. More data are available for these conditions than for others. Few data are available for dyslipidaemia—the fourth modifiable major risk factor. These risk factors together with poor dietary habits, sedentary life style, and obesity, are highly prevalent in the occupied Palestinian territory and are expected to increase during the next decade (table 3).[6,7,17—19,24,25] This rise is likely to increase the burden of cardiovascular disease, manifested by high rates of morbidity, mortality, economic loss, and societal stress.

Panel

Sources and quality of data, and methods of analysis

- Routine data were gathered by health providers, including the Palestinian Ministry of Health, UN Relief and Works Agency, and non-governmental organisations. Mortality data gathered by the Ministry of Health and reported yearly were based on death notifications in the West Bank and Gaza Strip and provide information about the underlying cause of death, age, sex, and present address. The causes of death are classified with the International Classification of Diseases-10 code. Mortality data are reported as total number of deaths and proportion of specific

causes of all deaths; but not age-specific mortality rates for the different age groups. The completeness and quality of data were assessed and reported by Abu-Rmeileh and co-workers.[12]

- Mortality data reported in a peer-reviewed report[12] are based on raw data gathered by the Ministry of Health. Age-specific and sex-specific mortality rates were reported for adults (≥40 years) in the West Bank only; no data were available for analysis from the Gaza Strip.
- Data for cancer were reported in a special report produced by the Ministry of Health.[26] The West Bank and Gaza Strip have two registries for registration and follow-up of all cancer cases. The registries gather information about the types, stages, and treatment of cancer in addition to some patient background characteristics. The registries were developed with the help of the International Agency for Research on Cancer and use similar methods and follow-up procedures as those used by other regional registries. The data are reported for the West Bank and Gaza Strip separately and stratified by sex and age.
- Routine morbidity data, such as diabetes and hypertension, are based on service-use records. These data are reported in the yearly reports from the Ministry of Health, UN Relief and Works Agency, and non-governmental organisation reports.

The Palestinian Family Health Survey is a national survey done by the Palestinian Central Bureau of Statistics in 2006—07 of 11 661 households with a response rate of 88%. The survey gathered health and demographic information about household members in the selected sample, such as age, sex, education, participation in labour force, diseases, smoking, and disability; information about family planning, antenatal care, postnatal care, and fertility from women of reproductive age; and assessed vaccination coverage and nutritional status of children younger than 5 years. The information is self-reported and proxy-reported in response to standard questionnaires with restricted coverage of cardiovascular disease. The rates of chronic disease and smoking in this survey were based on answers to the following questions by the head of household:

- Does the person (name) in the household have any disease according to a medical diagnosis and receive treatment continuously for this disease? Hypertension, diabetes, cardiac disease, cancer, renal disease, stroke, asthma, hypercholesterolaemia, and other selected chronic diseases.
- Did the person (name) in the household smoke? Yes, mostly cigarettes, yes mostly *narghile* (water pipe), ex-smoker, does not smoke, and never smoked.

Epidemiological studies in Palestine

Few data are available from standardised population-based epidemiological studies of cardiovascular and cerebrovascular diseases in the occupied Palestinian territory. Five epidemiological studies (table 2) done in the West Bank and Gaza Strip are referred to in this report. These cross-sectional studies were usually based on a sample from the areas in which they were done and do not necessarily indicate the national numbers of the general Palestinian population. However, they give an idea about the situation of a disease. Structured questionnaires were used to obtain information—eg, about demographics, diet, physical

activity. The rates of diabetes, hypertension, dyslipidaemia, metabolic syndrome, obesity, and other risk factors were based on physical measurements and blood samples.

Table 2Table image

Epidemiological studies done in the Gaza Strip and West Bank

Table 3Table image

Proportions of selected cardiovascular diseases, diabetes mellitus, and related risk factors in adults aged 30—65 years in the occupied Palestinian territory

The few available data for cardiovascular disease in the occupied Palestinian territory have been obtained mostly from household surveys and data from death notification, and they indicate a high incidence and prevalence of cardiovascular disease and hypertension. In 2005, cardiac disease (ischaemic, rheumatic, pulmonary, and other heart diseases) was reported to be the number one cause of death in the occupied Palestinian territory, accounting for 56·5 deaths per 100 000 people and 21·0% of all deaths. Cerebrovascular disease was the next most common cause, accounting for 29·8 deaths per 100 000 people and 11·0% of all deaths;[6] it was the second leading cause of death in women (12·4% of all deaths) and the third in men (9·9% of all deaths).[6]Hypertension was ranked eighth, accounting for 13·0 deaths per 100 000 population and about 5% of all deaths.[6] Analysis of mortality data for people aged 40 years and older in the West Bank only for 1999—2003 showed that the age-standardised mortality rate for acute myocardial infarction was 78·5 per 100 000, which is by far the most important cause of death.[12] The mortality rate from acute myocardial infarction in Palestinian men was more than twice that in women. The rate for heart failure was 35 per 100 000 men and 32 per 100 000 women.[12] Number of deaths resulting from cerebrovascular disease was 41 per 100 000 men and 35 per 100 000 women.[12] In 2006, the rate of heart disease in Palestinians living in the occupied Palestinian territory was 2·1% at age 40—49 years and 12·1% at 60 years and older.[7] These data, which were self-reported or reported by proxy, are probably an underestimate of the prevalence of cardiovascular disease in this area. A population-based registry study of coronary-heart-disease events in Jerusalem in 1997 provided specific data about Palestinians living in the eastern part of that city and showed a high incidence of acute coronary events and non-fatal myocardial infarction.[30] The rates of acute coronary events in Palestinian men and women were 1·6 times and 2·4 times those in Jewish men and women, respectively, living in Jerusalem.[30] Palestinian women had an increased vulnerability to acute coronary-heart-disease events.[30]

Compared with data obtained in the 1990s from centres in 20 countries, the Palestinian residents of Jerusalem ranked first for rate of total and non-fatal coronary-heart-disease events.[30] Mortality from coronary heart disease was 2·8 times higher in Jerusalem Palestinian men than in Jewish men and 2·7 times higher for Palestinian women than for Jewish women.[30] Rates of out-of-hospital cardiac arrest were higher for Palestinian people than for Jewish people. Although acute coronary care in the Israeli hospitals in which 84% of Palestinians from Jerusalem received their care was described as generally equally good, interventions were done less frequently on Palestinian patients than on Jewish patients.[30]

Findings from this study[30] were consistent with a previous report based on cause-of-death statistics from the Israeli-demarcated Jerusalem district, which showed that mortality rate from coronary heart disease in Palestinians was more than twice that of Jewish men and women.[31] In both populations, rates of mortality from coronary heart disease decreased during the study, from 1984 to 1997.[31] In Jerusalem, the rates of diabetes mellitus and passive smoking were higher and those of dyslipidaemia and hormonal replacement therapy were lower in Palestinian women with coronary heart disease than in Jewish-Israeli women with this condition.[32] Arab women had more atypical clinical presentations and more advanced coronary artery disease than did Jewish women living in the city;[33] Arab women were more likely to be physically inactive, obese, and have diabetes mellitus than were Jewish women.[33]

In 2006, the rate of reported hypertension was 8·1% at age 40—49 years, 22·6% at 50—59 years, and 35·2% at 60 years and older.[7]In two population-based cross-sectional studies done in 1996—98, the rate of hypertension ranged from 21·5% to 25·4% in adults aged 30—65 years in two communities in the West Bank.[17] Data routinely gathered by the UN Relief and Works Agency showed that the rate of hypertension was 14·3% in people aged 40 years and older in the West Bank, and 17·4% for registered Palestinian refugees in the Gaza Strip.[34]

Diabetes mellitus

Mortality directly attributable to diabetes mellitus is difficult to define and ascertain. This disease caused 3·1% of deaths in the total population—ie, 8·5 per 100 000 population, according to 2005 data from the Ministry of Health.[6] No reliable data exist for treatment, complications, economic effect, and outcomes of treatment of diabetes mellitus in the occupied Palestinian territory. Diabetes mellitus and its complications are major health problems in the territory according to all estimates. In 2000, the estimated prevalence rate of diabetes was 9·0% in adults aged 30 years and older.[6] Routine data gathered by the UN Relief and Works Agency[34] showed that the prevalence rate was 10·5% in the West Bank and 11·8% in the Gaza Strip among the registered Palestinian refugees aged 40 years and older. The rate of reported diabetes mellitus was 7·2% at age 40—49 years, 19·1% at 50—59 years, and 24·8% at 60 years and older.[7] Two cross-sectional studies done in Ramallah governorate (an official administrative division of the occupied Palestinian territory) in 1996—98 showed a higher rate of this disease in an urban community (12·0%) than in a rural community (9·8%) at age 30—65 years (table 3).[17, 18]

Cancer

In 2005, the reported number of new cancer cases in the occupied Palestinian territory was 1623 and the crude incidence was 43·1 per 100 000 population—49·2 per 100 000 in the West Bank and 32·7 per 100 000 in the Gaza Strip.[6] 45% of all cases were in men and 55% in women.[6] Reported age-adjusted cancer incidence for the occupied Palestinian territory for 1998—2001 was lower than that in Jordan, Lebanon, and in Arabs living in Israel (table 4),[6,35—37] probably because it was an underestimate since some patients use services outside the territory. In 2005, combined cancer mortality rate was 27·8 per 100 000, which is not much different from that in 2000.[6]

Table 4Table image

Age-adjusted cancer incidence and site-specific proportions of all cancers in the occupied Palestinian territory and in neighbouring countries

Lung cancer, the most commonly diagnosed and most deadly cancer worldwide,[38] is the most common type in Palestinian men, those living in Jordan and Lebanon, and Palestinian Arabs living in Israel (table 4).[6], [36], [37] The estimated incidence is 5·2 per 100 000 men.[6] Lung cancer is the leading cause of death from cancer in men—7·1 deaths per 100 000 in 2005 and 22·8% of all cancer deaths.[6] Prostate cancer is the second most common type in Palestinian men, followed by colorectal cancer (table 4).[6]After lung cancer, the four types of cancer resulting in similar mortality rates in men are prostate (9·5%), nervous system (9·5%), colorectal (9·3%), and liver (9·1%).[6]

Breast cancer is the most common type in Palestinian women (table 4).[6] The proportion is similar to that in neighbouring countries except Lebanon, where breast cancer accounts for nearly half of all cancers in women (table 4).[37] This disease causes the highest cancer-related mortality in Palestinian women, 21·1% of all deaths from cancer, and 5·2 deaths per 100 000 women.[6]In theory some features of Palestinian society, including a high total fertility rate (4·6%), high rate of breast feeding (95·6%) with a mean duration of 10·9 months, young mean age at first birth (20 years), and low alcohol consumption, should be protective against breast cancer.[7] Other features—eg, obesity and nulliparity—might act against these protective factors.[39] About a third of Palestinian women of reproductive age are single and thus mostly childless.[7] Colorectal cancer is the second most common type in Palestinian women and causes the second highest mortality rate from cancer.[6] The traditional Palestinian Mediterranean diet, characterised by high intake of fibre and carbohydrate and low intake of fat and protein, should provide some protection against colorectal cancer.[40], [41] The nutritional transition that is underway in the occupied Palestinian territory, however, with the economic hardship, is reducing the consumption of a healthy diet in favour of a western-style diet, and thereby mitigating the protective effect of the traditional Palestinian diet.[42], [43]

Risk factors for chronic diseases

The rate of reported hypercholesterolaemia was 0·7% at age 40—49 years and 3·2% at 60 years and older.[7] The rate of hypertriglyceridaemia in adults aged 30—65 years was 34·8% in an urban community compared with 22·6% in a rural community in the Ramallah governorate.[17] The magnitude of the problem of dyslipidaemia and its treatment in the occupied Palestinian territory remains poorly defined.

Rate of tobacco smoking in the Palestinian male population aged 10 years and older was high (34·7%) and that in the female population was low (2·1%).[7] The proportion of smokers was lower in the Gaza Strip than in the West Bank.[7] The rate of cigarette smoking reported by the Israeli national health survey (2003—04) was 36·1% and 18·6% for men and women, respectively, aged 21 years and older.[44] A survey done in 1999—2001 showed a particularly high rate of smoking in Palestinian adolescents. The rate of cigarette smoking was 9·0% in boys aged 13—15 years in the Gaza Strip and 13·9—14·7% in regions of the West Bank.[45] In 2005, the same age group showed a fall in the rate to 6·6% in the Gaza Strip and an increase to 18·0% in the West Bank.[46] Compared with other eastern Mediterranean countries, smoking in adolescents in the West Bank was higher than in any other population in the region for which data are available.[46]

Narghile (water pipe) smoking has increased in adolescent boys and girls[47], [48] and seems more culturally acceptable in Palestinian women, as it is in neighbouring Arab countries.[49], [50] The rate of smoking tobacco products other than cigarettes (mostly narghile) in Palestinian adolescents aged 13—15 years was estimated to be 11·7% in the West Bank and 16·7% in the Gaza Strip.[46]

Physical inactivity and poor diet are potentially modifiable risk factors for chronic diseases, especially cardiovascular disease.[15]Obesity in adolescents is associated with cardiovascular[51] and metabolic diseases,[52] and increased risk of chronic diseases late in life, independent of adult weight.[53] Adolescents in the West Bank and the Gaza Strip are slightly overweight or obese (girls more than boys),[28] compared with those in Arab countries in the Arabian Gulf,[54—57] but are close to Israeli adolescents.[58] The combined rate of overweight and obesity was 13·3% for boys in the Hebron area and 21·1% for girls in Ramallah, West Bank (table 5; Mikki N, unpublished).

Table 5Table image

Nutrition-related risk factors among adolescents in the occupied Palestinian territory

Palestinian boys were more physically active than were girls, with those in the West Bank more physically active than those in the Gaza Strip.[29] Adolescents in the West Bank consume more fruit, sweets, soft drinks, red meat, and chicken than do those in the Gaza Strip.[29] Girls reported healthier food choices, with higher consumption of fruit and vegetables and fewer soft drinks, than did boys.[29]

The association between poor nutrition and risk of chronic diseases late in life is more complex in the occupied Palestinian territory than in developed countries because Palestinian society is in the stage of nutrition transition that is characteristic of low-income countries, where undernutrition and overnutrition coexist.[59] An increase in stunting in children in the occupied Palestinian territory, particularly in the Gaza Strip, is alarming.[60] Undernutrition during childhood is associated with increased risks of obesity and chronic diseases in adulthood.[61], [62]

Cross-sectional data for adults (age 30—65 years) in two Palestinian communities in the West Bank showed high rates of obesity (defined as body-mass index >30 kg/m^2). Rates in the urban population were higher than those in the rural community. Obesity was highest in urban women and lowest in rural men (table 3).[17]

Public-health and health-service responses

The causes of morbidity and mortality for major chronic diseases in the occupied Palestinian territory have been given only some of the attention they deserve. Before the establishment of the Palestinian National Authority, the Israeli administration of the occupied Palestinian territory focused on controlling vaccine-preventable diseases, leading to a pronounced reduction in infant mortality rate and frequency of infectious diseases. However, the administration did not adequately address chronic diseases and made virtually no investment in the health-system development in this area, thereby creating a dependency on the Israeli health system for secondary and tertiary care of chronic diseases during 1967—93. The response of the Palestinian National Authority to the chronic-disease challenge was also muted, probably because of absence of interest from the international donors on whom the authority has depended for funding of such programmes. Donor aid has often been tied to specific projects in disciplines such as family planning and maternal and child health. This link can be partly explained by the increase in the rate of chronic diseases while infectious diseases were still the focus of the health system in the occupied Palestinian territory.

The Palestinian Ministry of Health is the main provider of health care to people living in the occupied Palestinian territory. It has a network of primary health-care clinics that provide first-line services, and some units specialising in chronic diseases. The total number of primary health-care centres in the occupied Palestinian territory was 654 in 2005, and the Ministry of Health had the largest share (63·3%).[6] Diabetes clinics have been established by the Ministry of Health in all governorates. Tertiary cardiovascular care, such as cardiac catheterisation and open heart surgery, is available at one Ministry of Health hospital and a few private hospitals. Patients who need further care and are covered by the Palestinian National Authority's health insurance are referred to specialty clinics in the authority's system or to external (non-ministry-affiliated) health-care providers within the occupied Palestinian territory, Jordan, Egypt, or Israel.[6] UN Relief and Works Agency is the second main health-care provider in the occupied Palestinian territory. Since 1995, it has had a well established programme for the prevention and control of chronic diseases, including its own detailed technical instructions and management protocols. Because of scarce resources, the UN Relief and Works Agency's intervention strategy for the prevention and control of chronic diseases focuses on diabetes and hypertension.[63]

Several non-governmental organisations have used community-based approaches for the prevention and management of chronic diseases. Examples are the mobile-clinic programme and chronic-disease centre at the Palestinian Medical Relief Society in Ramallah, and the diabetes centre and outreach programme at the Augusta Victoria Hospital in the occupied eastern part of Jerusalem. These initiatives are patient-friendly and integrate models for prevention and management of cardiovascular disease and diabetes mellitus. The diverse private medical sector does not have a common approach to management of chronic diseases. The private sector offers quick access to specialised services, although quality varies. However, the sector is not properly regulated and monitored by the Ministry of Health because the ministry has restricted ability to play a major supervisory part under present circumstances. The main health providers have developed guidelines, adapted to the Palestinian context, for the management of diabetes mellitus and hypertension in accordance with the recommendations of relevant professional and academic international societies.[63–65] The difficulty, however, is not the availability of guidelines but the absence of training, supervision, follow-up, and assessment of these interventions. Such guidelines alone are inadequate to improve and unify the management of patients with chronic diseases in the occupied Palestinian territory.

Organised efforts for the primary prevention of cancer are insufficient, such as anti-smoking measures or education initiatives to promote a healthy diet and lifestyle. The occupied Palestinian territory has two units for cancer treatment in the West Bank and two in the Gaza Strip.[66] Radiotherapy is not available in the Gaza Strip, and some expensive chemotherapies are often not available.[67] Palestinian patients with cancer are generally diagnosed at a late stage of their disease. Data from the Palestinian cancer registry in Gaza suggest that breast cancer is diagnosed at an advanced stage of the disease. 42·2% of reported cases had regional lymph-node involvement (stage III) and 17·8% had distant metastases (stage IV);[26] 10·7% of reported cases of lung cancer had regional lymph-node involvement and 54·4% had distant metastases.[26]

Detailed data about human resources and health professionals specialising in cardiovascular disease, diabetes, and cancer are scarce. Information provided by the Medical Association in Jerusalem about registered specialists showed that there are 92 internists, 27 cardiologists, five endocrinologists and diabetologists, six haematologists, and five oncologists in the West Bank.[68]The quality of their training and experience varies, and the certification, licensure, and accreditation processes have been suboptimum. Furthermore, no mandatory system exists for continuing medical education. Cardiac surgery, imaging, and anaesthesia, which are specialties relevant to cardiovascular disease and cancer care, also have severe shortages of specialists.[69]

The cost of appropriate care for cardiovascular disease, diabetes, and cancer are beyond the resources available to developing countries. An example of the high direct cost incurred from chronic diseases within the occupied Palestinian territory is the cost of treatment abroad. In 2005, more than 31 000 patients were referred for treatment outside the Palestinian Ministry of Health facilities, within the occupied Palestinian territory or in other countries (mainly Egypt, Jordan, and Israel). The total cost was about US$60 million.[6] Cardiac, oncological, and ophthalmic care were among the top five disciplines for referral in 2005.[6] The three main referral hospitals used by the Palestinian Ministry of Health inside the occupied Palestinian territory

were Makassed, Augusta Victoria, and Saint John Eye, all located in the Israeli-occupied Palestinian Arab East Jerusalem. The Israeli authorities prevent entry by Palestinians, including patients referred to these hospitals from other areas in the occupied Palestinian territory, unless they have special permits. This prevention of entry increases patients' physical suffering and financial costs since they will have to travel outside the territory for treatment. Treatment elsewhere poses major financial and logistic burdens on the Palestinian Ministry of Health, and efforts have been made to regulate, control, and reduce the costs of referral to other countries.[70] Another disadvantage of treatment abroad is the partial or complete loss of medical information about patients. Such loss undermines the appropriate delivery of medical care in the Palestinian health system.

Challenges and opportunities

Chronic diseases in general, and cardiovascular disease and cancer in particular, pose a major and increasing challenge to the health of the Palestinian population in the occupied Palestinian territory. The inadequacy of the societal and health-care-system responses to this challenge creates several opportunities for improvement. One of many challenges in treatment and prevention of chronic diseases in the occupied Palestinian territory is the dearth of reliable and complete data. The effects of disease prevention and management programmes are impossible to monitor without such data. Use of population-based studies, registries, and surveillance programmes to gather data should be urgently addressed.

Primary prevention of cardiovascular diseases and cancer should be urgently addressed by the Palestinian National Authority and donors.[71] So far the authority has been unable to implement some of the measures that have proven effective against chronic diseases in other countries.[15, 72] The Palestinian legislative council has passed laws for anti-smoking, public health, and the environment. Implementation of such laws requires introduction of fiscal policies, differential taxation and subsidies, and enforced prohibition of smoking in public places. Other relevant interventions are effective educational programmes aimed at the adolescents, promotion of incentives for healthy lifestyle, and other society-specific measures that have proven effective in other countries.[73, 74] Such programmes require political will at the highest level of government besides transparent and democratic governance. Representatives of civil society need effective oversight and advocacy, and the public and private sectors need to collaborate. Effective prevention of chronic disease is also economically beneficial.[75] Civil society, through advocacy groups and organisations, non-governmental organisations, international organisations (such as WHO and the World Bank), development agencies, private sector, and academics, should all adopt prevention as a national priority and work towards a common goal.[76]Disappointingly, the most recent national strategic health plan for 2008—10 did not give adequate attention to the primary prevention of major chronic diseases.[77]

Adaptation and contextualisation of effective interventions, such as those already mentioned, are important for their success. The Ministry of Health's restricted budget encourages emphasis of the role of primary prevention, whereas segregation and movement restriction encourage decentralisation. Community-based care and the use of easily administered and adequate drug treatment for major risk factors, such as high blood pressure and dyslipidaemia through the primary health-care centres in the occupied Palestinian territory, are important contributions to the prevention and management of chronic diseases.

Another priority should be the creation of an effective integrated health-care system, based on good knowledge of the health problems, and directed towards health promotion, disease prevention, and effective disease management, with equal access to everyone. Such a system would require a creative re-evaluation of the national health-insurance system. It would entail improved regulation and oversight of the fragmented private medical services to promote cost-effective evidence-based services and would keep to a minimum duplication of diagnostic procedures and conflicts of interest of medical providers. The establishment of national tertiary-care referral centres for the treatment and management of cardiovascular disease, diabetes mellitus, and cancer is an important strategic component of an effective health-care system. Such centres would reduce the burden of referral abroad for medical care and allow standardisation and quality assurance of tertiary care for cardiovascular disease and cancer.

Yet another opportunity is the creation of a cadre of health-care professionals capable of tackling the challenge of chronic diseases. An integrated national health-care capacity-building strategy, including investment in appropriate training for specialist physicians, qualified nurses, and allied health-care professionals, would be an essential component of a national chronic-disease management programme.

One of the major impediments to the improvement of the Palestinian health-care system is the continuing military occupation with all its consequences, as discussed in the first report[78] in this Series. Relevant to the challenge of chronic diseases is the effect of a state of perpetual limbo on the national economy, strategic planning, health-care policy formulation, and national priority setting. The geographic and administrative fragmentation of the occupied Palestinian territory, the military checkpoints and barriers to movement, and the separation wall and many other fences and barriers, all have detrimental effects on the ability to deliver good health care.[79], [80] The separation of Gaza Strip and the near impervious blockade of its population can only worsen health status and ability to deliver health care.[81]

Search strategy and selection criteria

We used Medline (1966—2008) to identify potentially relevant scientific reports, with search terms “Palestine”, “chronic diseases”, “diabetes”, “cardiovascular diseases”, “hypertension”, “cancer”, “West Bank”, “Gaza”, and “occupied Palestinian territory”. All publications were in English. Additionally, we searched for books about chronic diseases in the occupied Palestinian territory. Other sources of information included reports of the World Bank and other funding agencies.

Contributors

All authors contributed to the conceptualisation of the report and have approved the final version. AH had a major role in conceptualising the report, writing the drafts, organising sections, and revising the report. NMEAR contributed to the analysis ofFigure 1, Figure 2, writing the section about cancer, provision of data, and commenting on the report as a whole. NM contributed to writing the section about risk factors for chronic diseases, and commenting on the report as a whole. TMR contributed to rewriting the sections about cardiovascular disease and challenges and opportunities, and his major contribution

was reorganising and drafting the initial submission, and commenting on the report as a whole. HAG, NB, and MK contributed to the provision of data and commenting on the report as a whole. EB, GHO, and JJ contributed to commenting on the report as a whole.

Conflict of interest statement

We declare that we have no conflict of interest.

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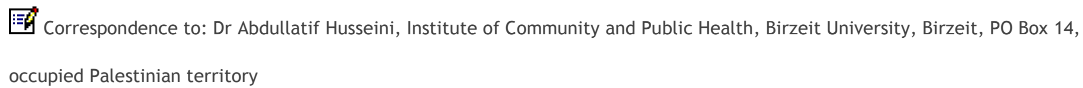

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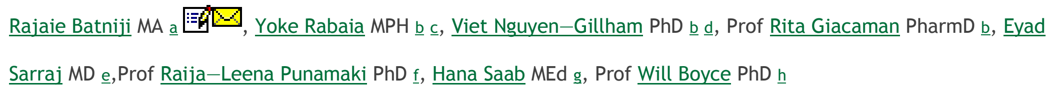
Health as human security in the occupied Palestinian territory

Rajaie Batniji MA [a] , Yoke Rabaia MPH [b] [c], Viet Nguyen—Gillham PhD [b] [d], Prof Rita Giacaman PharmD [b], Eyad Sarraj MD [e], Prof Raija—Leena Punamaki PhD [f], Hana Saab MEd [g], Prof Will Boyce PhD [h]

Summary

We describe the threats to survival, development, and wellbeing in the occupied Palestinian territory using human security as a framework. Palestinian security has deteriorated rapidly since 2000. More than 6000 Palestinians have been killed by the Israeli military, with more than 1300 killed in the Gaza Strip during 22 days of aerial and ground attacks ending in January, 2009. Israeli destruction and control of infrastructure has severely restricted fuel supplies and access to water and sanitation. Palestinians are tortured in prisons and humiliated at Israeli checkpoints. The separation wall and the checkpoints prevent access to work, family, sites of worship, and health-care facilities. Poverty rates have risen sharply, and almost half of Palestinians are dependent on food aid. Social cohesion, which has kept Palestinian society intact, including the health-care system, is now strained. More than US$9 billion in international aid have not promoted development because Palestinians do not have basic security. International efforts focused on prevention of modifiable causes of insecurity, reinvigoration of international norms, support of Palestinian social resilience and institutions that protect them from threats, and a political solution are needed to improve human security in the occupied Palestinian territory.

This is the fourth in a **Series** of five papers on health in the occupied Palestinian territory

Introduction

Although many determinants affect health in the occupied Palestinian territory, only a few have been discussed in the preceding reports in this Series.[1–3] In this report, we describe health in the occupied Palestinian territory (figure 1) using WHO's broad definition of “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”.[5] We use a human-security approach to describe the threats to survival, development, and wellbeing in the context of protracted conflict and occupation in the Palestinian territory.[6] “The objective of human security is to safeguard the vital core of human lives from critical pervasive threats while promoting long-term human flourishing”, according to the Commission

on Human Security.[6] Protection from critical (severe) and pervasive (widespread) threats is emphasised in this definition, as is the idea that what is vital varies between different populations. Thus, this definition is dynamic and should be adapted to the context in which it is used. Two key aspects for the analysis of Palestinian security are the distinction between direct and indirect threats to survival[6] and the psychosocial domains of security (panel 1).[7]

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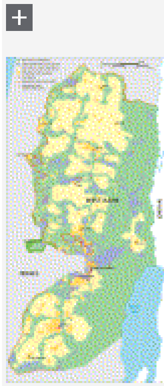

Figure 1 Full-size image (214K) Download to PowerPoint

Map of the West Bank

Modified from the UN Office for the Coordination of Humanitarian Affairs[4] occupied Palestinian territory with permission. Only some of the more than 600 Israeli-controlled checkpoints and road barriers are shown. Oslo Area C is under Israeli control. TheGaza Strip is not shown here.

Panel 1

Definitions of psychosocial domains of human security

Home

Sustainable sense of home and safety, providing identity, recognition, and freedom from fear

Community

Network of constructive social or family support, providing identity, recognition, participation, and autonomy

Time/sense of future

Acceptance of past and positive grasp of future, providing identity, recognition, participation, and autonomy

Measurement of threats to human security

A landmark report about human security emphasised the “need to focus on a core of insecurities within each specific context.”[8]Threats to the security of Palestinians might be direct, such as gunfire or home demolition, or indirect, such as economic restrictions leading to widespread poverty;[6] classification is based on the main threats identified from the data sources. However, the two types of threats might overlap in some instances.

We quantified the burden of threats to human security in terms of deaths, injuries, homes destroyed, and economic deterioration. Information was gathered from reports by international institutions, Israeli and Palestinian non-governmental organisations, Palestinian Authority records, statistical offices, and the media. The sources are mostly non-peer-reviewed reports. Most of the statistical data were reported by B'Tselem, an Israeli human-rights organisation with a strong reputation for accuracy, the UN, and the World Bank (table 1). Data for the burdens of threat were corroborated with Israeli, Palestinian, and international sources. Data for deaths and injuries from the Israeli military attack on the Gaza Strip from December, 2008, to January, 2009, could not be corroborated at the time of publication partly because access of international organisations and journalists had been blocked. These data are presented by the UN Office for the Coordination of Humanitarian Affairs as reported by the Palestinian Ministry of Health.[9], [10] No adjustments have been made to the data. Data linking human-security threats to health conditions and outcomes, although few and sometimes inconsistent, are reported only after corroboration with other studies done in the occupied Palestinian territory. The reported rates of post-traumatic stress disorder, for example, are highly variable and therefore have not been included in this report.

Table 1Table image

Organisations and sources of data for human-security threats in occupied Palestinian territory

A weakness of the human-security approach is the absence of quantitative measures of insecurity to guide priority setting within a population or to compare populations. King and Murray[11] define a quantitative measure as the number of years of future life spent outside a state of generalised poverty. However, quantitative comparisons are impossible because of the absence of yearly, disaggregated data from the occupied Palestinian territory and of comparative analyses from other countries. For example, although we report data for rates of poverty, we do not know whether the people who were poor were the same as those who were unable to access health-care facilities because of movement restrictions, or who were being tortured in prisons in that year. Thus, any model based on these categories is likely to be unreliable. Reliable quantitative measures would require complete and regular surveillance that is usually not available in a crisis.

Statistical data can sometimes be used to distinguish the causes of insecurity—eg, deaths due to weapons can be caused by Israeli military activity or fighting between Palestinian factions. However, some causes of insecurity cannot be clearly identified—eg, poverty and hunger in the occupied Palestinian territory could be caused by several factors, as in neighbouring

countries. The time sequence of economic restrictions followed by rises in poverty suggests that these Israeli-imposed restrictions are an important explanatory factor, though their effect cannot be isolated.

Direct threats to human security

Aerial bombings of civilian areas and use of gunfire by Israeli military, in addition to fighting between Palestinian factions, constitute severe and pervasive threats to life (figure 2). The increase in numbers of people killed since the beginning of the second Palestinian uprising in 2000 is unprecedented (figure 3; table 2). More than 4700 Palestinians—mostly civilians, including more than 900 children—were killed by Israeli military action between September, 2000, and November, 2008,[12] compared with about 1500 in the first uprising between 1987 and 1993 (table 2). From Dec 27, 2008, to Jan 17, 2009, 1366 Palestinians were killed by Israeli attacks on the Gaza Strip (table 2).[10] In addition to deaths due to Israeli—Palestinian conflict, inter-Palestinian fighting, beginning in 2006, resulted in 600 deaths by the end of 2008 (10% of total deaths since 2000).[12] In 2007, the number of deaths resulting from inter-Palestinian fighting was similar to that caused by Israeli military action (figure 3).

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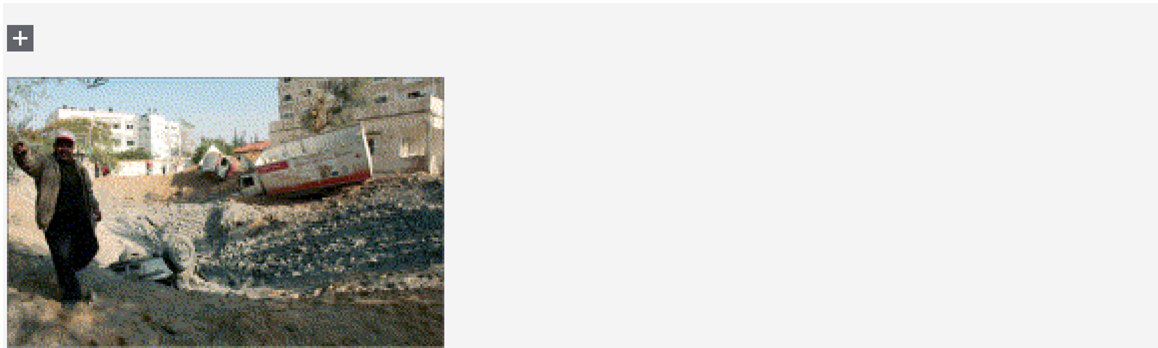

Figure 2 Full-size image (64K) Download to PowerPoint

Palestinian health worker surveys damage to mobile clinic destroyed after air strike in the Gaza Strip

Reproduced with permission from Reuters/Mohammed Salem.

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Figure 3 Full-size image (81K) Download to PowerPoint

Palestinian deaths resulting from Israeli—Palestinian and inter-Palestinian conflicts

Data from B'Tselem for 2000—08,[12] and Office for the Coordination of Humanitarian Affairs[10] and WHO[13] for Dec 27, 2008, to Jan 17, 2009.

Table 2Table image

Casualty indicators

Since 2000, more than 35 000 Palestinians have been injured in Israeli—Palestinian conflict.[9], [10], [12], [14] Notably, in the first uprising and post-Oslo Accord period, 52·5 Palestinians were injured for each Palestinian killed, whereas this ratio decreased to 6·6 in the second uprising, and to 3·6 for the recent attacks on the Gaza Strip. Although no conclusive evidence explaining these trends exists, possible explanations include reduced Palestinian participation in the uprisings (fewer protests since 2000), under-reporting of injuries during major attacks when hospitals are overloaded, or use of increasingly lethal tactics by the Israeli military—as evident from the high ratio of head and upper-body bullet injuries in the second uprising.[18], [19] In the first few months of the second uprising in 2000, 42% of injuries in the Gaza Strip and 14% of those in the West Bank were due to live ammunition.[18] Most bullets were aimed at the upper half of the body, with 18—26% of cases having a head or neck injury.[18], [19]65% of injuries in the West Bank were caused by firearms and explosives, 19% by beating and blunt force, and 6% by noxious gases, according to emergency-department medical records.[19] These studies[19], [20] do not distinguish casualties related to Israeli military violence from other causes. In January, 2009, Israel allegedly used white phosphorus during military attacks on the Gaza Strip, leading to burn injuries.[21]

Palestinians experienced mass displacement from their homes and land during the wars in 1948 and 1967, and intervening years.[1]This history of being repeatedly uprooted creates feelings of insecurity and instability, which are reinforced by the continuing occupation. Displacement and destruction, resulting from the protracted conflict, disrupt connections to homes and communities and diminish hope for the future—the key psychosocial domains of human security.[1], [22]

Today, threats to homes and properties come from aerial bombing and shelling, direct demolition, occupation, and regulations that do not permit building on most of the land in the occupied Palestinian territory. Introduced by the British during the mandate rule in the 1930s to quell indigenous uprisings, house demolition is still a form of collective punishment. Nearly 60% of demolitions from 2000—04 were due to Israel's clearing operations to gain open space to meet military needs, with another quarter of homes destroyed because they were built without permits according to the Israelis.[23] The remaining 15% were demolished to punish the families and neighbours of people who were suspected of attacking Israelis.[23] Between September, 2000, and September, 2004, Israel destroyed 2370 housing units in the Gaza Strip, leaving about 22 800 people homeless according to the UN Relief and Works Agency.[23] The Palestinian Central Bureau of Statistics estimated that 7633 homes in the

West Bank and Gaza Strip were completely destroyed between September, 2000, to April, 2005, with more than 65 000 houses partly damaged (panel 2).[25] At the time of publication, the number of homes destroyed in December, 2008, and January, 2009, in the Israeli attacks on the Gaza Strip was unknown, as well as the total number of people displaced by the attacks. Preliminary results from a survey done by international and local non-governmental organisations operating in Gaza—based on 48 of 61 localities—found that 22·6% of housing units (about 21 000 homes) were destroyed or damaged, with 3·2% reporting severe damage and 2·6% reporting destruction.[9] The UN reports a peak of 51 000 people staying in UN Relief and Works Agency's shelters on Jan 18, 2009.[10]

Panel 2

Home demolition testimony

What happens after a home is demolished and what does it mean for the people? Tamer Taleb Ahmad a-Natah, a 23-year-old farmer living in Khirbet Qassa in Hebron District gave his testimony to Musa Abu Hashhash in Idhna on Nov 4, 2007:

"I walked with my brothers and the flock until we got to a house at the edge of Idhna. The house belongs to the Tamizi family. We rented a shelter from them for our flock and a house under construction for us to live in temporarily, until we could find a permanent place to live. All the families found temporary housing. The Waridat family returned to a-Dhahiriyah. My family doesn't have any land or houses outside the village, so we are suffering greatly.

I think our losses amount to tens of thousands of shekels, but the emotional pain and the feeling of instability cannot be measured. We don't know what the future will bring."

Reproduced with permission from B'Tselem.[24]

The reconstruction of destroyed homes creates emotional stress and economic hardship. In most areas of the West Bank, building permits from the Israeli authorities are needed because Israel continues to control 71% of West Bank land.[26] Consequently building permits for these areas need to be approved by the Israeli authorities.[1], [27] Israel has stopped the process of land registration for more than 30 years, thereby allowing the authorities to deny Palestinian applicants building permits on the basis that they are not able to prove ownership.[28]

A further source of physical and psychological insecurity for Palestinians is the threat of demolition to their homes that are built on unregistered land. Notably, even registered land is not secure—32% of that used to build Israeli settlements on is privately owned and registered Palestinian land.[29] The destruction and, perhaps more importantly, the threat to Palestinian homes and land happens alongside the continued expansion of Israeli settlements. In 2008, 460 000 Israeli settlers were living in 149 settlements in the West Bank (figure 1).[30] Although Israel removed 8500 settlers from 21 settlements it had erected in the Gaza Strip, new construction continues in 88 settlements in the West Bank. The average yearly population growth rate in the settlements is 4·5% compared with 1·5% in Israel.[30], [31]

Land confiscation and destruction of crops, such as the uprooting of olive groves and fruit orchards, heighten insecurities.[32]Attacks on Palestinians during the olive harvest by Israeli settlers and destruction of olive trees are traumatic for Palestinians, especially the elderly, because of the importance of these trees to their existence, livelihood, and cultural identity.

Access to fuel, electricity, water, and sanitation in the occupied Palestinian territory is disrupted by Israeli restrictions and military incursions. Severe restrictions and destructions, particularly in the Gaza Strip, threaten basic survival because medical, sanitation, and sewage facilities cannot function. The Israeli decision to cut off fuel and electricity supplies to the Gaza Strip towards the end of 2007, and at various times in 2008, has created hardship for the population. A lack of electricity and running water further compounded the insecurity created by the bombings and ground invasion during the Israeli military attacks on the Gaza Strip in December, 2008, to January, 2009.[10] 63% of Gaza's power supply is provided directly by Israel and paid for by deductions from the Palestinian tax revenues that Israel withholds.[33] The rest of the electricity is produced in the Gaza Strip with fuel that is subsidised by the European Commission and supplied through Israel (panel 3).[33]

Panel 3

UN Relief and Works Agency's Commissioner General on the blockade of Gaza in 2007—08

Before the Israeli military attacks on the Gaza Strip in December, 2008, to January, 2009, blockade of the borders and vulnerability of essential supply routes created what the Commissioner General of the UN Relief and Works Agency called a humanitarian catastrophe:

“Palestinians are effectively incarcerated. The overwhelming majority cannot leave or enter Gaza. Without fuel and spare parts, public health conditions are declining steeply as water and sanitation services struggle to function. The electricity supply is sporadic and has been reduced further along with fuel supply in these past days. UNICEF reports that the partial functioning of Gaza City's main pumping station is affecting the supply of safe water to some 600 000 Palestinians. Medication is in short supply, and hospitals are paralysed by power failures and the shortage of fuel for generators. Hospital infrastructure and essential pieces of equipment are breaking down at an alarming rate, with limited possibility of repair or maintenance as spare parts are not available”.[34]

Reproduced with permission from *The Guardian*.[34]

The sewage treatment plants have often been forced to close down because they have no electricity. Pollution of beaches with sewage has created a potential public-health hazard. The UN office for the Coordination of Humanitarian Affairs has reported that since 2007, 50—60 million L of untreated and partly treated sewage have been disposed of every day into the Mediterranean sea surrounding the Gaza Strip.[33] In January, 2008, Gaza's main sewage treatment plant was hit by bombing, creating a leak in a 300 000 m^3 fetid lake that put Gazans at risk for a sewage flood.[35] Despite better access to electricity than in the Gaza Strip, sewage treatment in the West Bank has been hampered by the lack of building permits for facilities. Because

Israel controls much of the West Bank, a planned sewage purification system for Ramallah, for example, has not yet been approved.[36]

Israeli policies prohibiting Palestinians from digging new or deep water wells have jeopardised Palestinian agricultural development. At the same time, Israel benefits from restricting water use by the Palestinians because 30% of its water originates in aquifers in the West Bank,[37] leaving Palestinians with some of the world's most acute water shortages at 320 m^3 per person per year (threshold for shortage is 1700 m^3 and absolute minimum is 500 m^3).[38] Israeli settlers in the West Bank use nine times more water per person than do Palestinians.[38] The UN's 2006 human development report[38] draws attention to the permissive regulations that are applied to Israeli settlers, thereby institutionalising unequal access to shared water resources. This inequality is further entrenched because “Israeli representatives on the Joint Water Committee stringently regulate the quantity and depth of wells operated by Palestinians”.[38]

Since the occupation in 1967, imprisonment of Palestinians has posed a threat to human security in the occupied Palestinian territory. Although we were unable to corroborate data for Palestinians imprisoned by Israel, more than half a million people were imprisoned for at least 1 week from 1967 to 1994 according to Palestinian sources.[39] Numbers of Palestinians held in Israeli prisons and detention facilities have steadily increased from 737 in 2001 to over 8000 by the end of 2008.[40] Between Feb 27, 2002, and May 20, 2002, more than 8500 Palestinians were arrested during Israeli incursions into their cities and villages, according to a report by the UN Secretary General.[41] Adults and children can be detained and held for indefinite periods, sometimes without the resources to challenge the military authority or even to communicate with the outside world.[40, 42, 43]

Torture of Palestinians in Israeli prisons has been widely reported.[44] Since 2000, more than 500 complaints of torture have been registered, although none has been investigated by the Israeli State Attorney.[45] The Palestinian Centre for Human Rights has also expressed concern about internal Palestinian torture and maltreatment since the outbreak of conflict between the Palestinian National Authority and Hamas, noting that many of the torture methods are similar to those used in Israeli prisons.[46]

The Israeli General Security Service, which makes the final decisions about exit permits, is committing medical extortion according to Physicians for Human Rights-Israel.[47] It has been exposed for targeting sick patients as potential collaborators, making them inform and cooperate as a precondition for leaving the Gaza Strip for medical treatment. This practice could weaken community cohesion, which is essential for human security as suspicion about collaborators grows among Palestinians.

Besides systematic and public humiliation, Palestinians face degrading treatment at more than 600 Israeli-controlled checkpoints and road barriers in the West Bank (figure 1), and through the activities of Israeli settlers in the West Bank and Israeli military throughout the occupied Palestinian territory.[1, 48] The Israeli military has begun using a substance called skunk, which leaves a foul odour for days,[49] in addition to tear gas and rubber-coated metal bullets, on crowds. Some Israeli settlers routinely harass, threaten, and humiliate Palestinians, particularly in areas around settlements, such as Hebron. B'Tselem has reported instances in which settlers attack shepherds, humiliate ordinary citizens by stripping them naked, verbally abuse

Palestinians on their doorstep, and attack and stone neighbours.[50] This harassment often happens under the protection of the Israeli military.[50] The Israeli army has on several occasions used Palestinian civilians as human shields—notably during the 2002 siege of Jenin refugee camp.[51] Palestinian children were used as shields in an Israeli invasion of Nablus in March, 2007.[52], [53] Hamas allegedly used Palestinian civilians as human shields in Gaza, but these claims have not been substantiated.[54] Even before the Israeli military attacks on the Gaza Strip in December, 2008, to January, 2009, Israeli air force jets frequently made low-altitude flights over the Gaza Strip, setting off powerful sonic booms.[55] The Gaza Community Mental Health Programme has noted that protracted exposure to these booms produces symptoms of fear in children, with long-term health implications such as headaches, stomach aches, shortness of breath, loss of concentration, loss of appetite, bedwetting, and other emotional disorders.[56] The Israeli military attacks on the Gaza Strip in December, 2008, and January, 2009, exposed the entire population to bombardment from land, sea, and air, with yet unknown mental-health effects (panel 4).

Panel 4

Israeli military attacks on Gaza Strip: a human experience

The following excerpts from Najwa's letters from Gaza (Sheikh Ahmed N, UN Relief and Works Agency, personal communication), allow us to gain a view of her perspective on the basic domains of human security: home, community, and a sense of time or future. Najwa Sheikh Ahmed is a Palestinian refugee, who lives in Nuseirat camp with her husband and three children

December, 2008

"…the camp where I have been raised is just a temporary residence, a place that I and my family before me were forced to live in after they lost their homeland, the camp was never to be my home."

New Year's eve, 2008

"My children and I were very frightened by the sound of the airplanes and the bombings, so we decided to stay a few nights with my husband's family. We took the children and some blankets and joined the family. The funny thing is that as we were leaving our building, we saw another family heading towards the building, with their pale faces and scared lost looks. They were holding their blankets, seeking a residence with relatives there…"

January, 2009

"The children started to go to bed very early to avoid hearing the sounds of F-16s dropping bombs. You cannot imagine how scary it is to hear the whistling of the missiles before they hit. With every hit you feel that this time you are that target and you count the seconds before they hit. All what we can do is to thank Allah when we all wake up safe the next morning. We will live another day!"

"I stopped hoping for an end. My children have stopped feeling after seeing the photos broadcasted on the news. …Life became meaningless not only for us but also for our children."

Indirect threats to human security

Indirect threats have their origins in an interlocking web of checkpoints, barriers, border closures, curfews, and the permit system imposed by Israel. These restrictions affect every aspect of Palestinian life, such as the ability to travel, work, marry, study, worship, and be with family. Indirect threats compromise the social determinants of health[57] by increasing social exclusion, unemployment, and creating barriers to food, social support, and transport.

Restriction on the movement of people is one of the indirect threats to human security in the occupied Palestinian territory. Territorial continuity between the West Bank and Gaza Strip was lost in 1948 when these areas were separated by the creation of Israel. After the 1967 occupation, Palestinians from the West Bank and the Gaza Strip were able to cross through Israel for visits, study, or work. However, movement between the two regions is now virtually impossible. Today, the Palestinian population is segregated, with the Israeli military controlling the movement of people, commercial goods, food, and medical supplies in and out of the Gaza Strip and West Bank. Since the middle of 2007, movement in and out of the Gaza Strip has been effectively prohibited; only restricted numbers of religious pilgrims and medical referrals have been allowed to leave the Gaza Strip.[33] A few hundred foreign passport holders were allowed to leave the Gaza Strip before the heaviest invasion by the Israeli military in January, 2009. Although the border with Egypt was closed off, 266 patients, most with injuries from conflict, were transferred to Egypt between Dec 27, 2008, and Jan 14, 2009.[13] Many more people with serious injuries were denied passage.[13]

Construction of the separation wall, beginning in 2002, has severely restricted movement in the West Bank. A similar barrier has closed off the Gaza Strip from the outside world. Because 87% of the West Bank wall's route is inside the territory of the West Bank, communities have become cut off from one another, their land, and the services they need.[29] The separation wall—consisting of concrete slabs up to 8 m in height, electric fences, ditches, and militarised roads—creates a feeling of permanent distress and loss of hope for the future for Palestinians (figure 4).[58] Israeli checkpoints within the West Bank create difficulties for Palestinians leaving or moving between contiguous towns and regions. Arab East Jerusalem is now virtually out of reach for most of the Palestinians in the West Bank and Gaza Strip (figure 1). The creation of barriers to movement affects all three psychosocial domains of human security by disrupting a sense of home and safety, family relationships and community cohesion, and preventing a positive outlook for the future (panel 1). Israeli control of movement and travel has severe repercussions on access to and quality of health care for Palestinians.[1] In 2005, 18% of those seeking treatment at emergency departments in the West Bank were delayed by checkpoints or occupation-related detours.[59] In 2007, 36% of health-care facilities reported that many of their patients were no longer able to access services, with more than half reporting delays in service delivery by mobile teams and difficulty accessing medicines for chronic disease.[60]

Figure 4 Full-size image (82K) Download to PowerPoint

Separation wall in Abu Dis

Courtesy of Aaron Padwee.

Al-Aqsa mosque—the third most important Muslim site after Mecca and Medina—has been inaccessible to most Palestinians (only a few are able to obtain permits) from the West Bank and Gaza Strip.[61] Similarly, although the Church of the Holy Sepulchre in Jerusalem is visited by Christian pilgrims from all over the world, it remains inaccessible to Palestinian Christians from Bethlehem and Ramallah living only 10 km away. Freedom of worship and practice of religious rituals have been noted as essential components of coping with psychological distress.[62] Religion and faith bring meaning, context, and purpose to psychological healing, as noted in studies from Kosovo and Somalia and recommended in guidelines for humanitarian response.[62–64] In a region filled with religious symbolism and tradition, renowned for its holy sites, inaccessibility to sites of worship is a source of profound distress for the Palestinians.

Restrictions on the Palestinian economy and movement of goods is another indirect threat. Since 2000, the economy has declined rapidly with rising unemployment, increased dependence on aid, and heightened poverty rates, largely as a result of restrictions imposed by Israel on the Palestinian economy.[1] Poverty rates in 2007 were 51·8% in Gaza and 19·1% in West Bank, and are likely to increase with the 2009 attacks.[29]

When food aid and remittances were excluded, the rates rose to 79·4% in Gaza and 45·7% in West Bank.[29] Unemployment in the occupied Palestinian territory in early 2008 was 35·5% in the Gaza Strip and 25·7% in the West Bank.[29] Many of those who are employed work in the insecure, internationally financed public sector or in unpaid family labour and seasonal agriculture.[65]Palestinians from the West Bank and Gaza Strip had been a source of cheap labour for Israel since the beginning of the occupation in 1967. However, this employment and provision of some economic gains for the Palestinians began to change during the first uprising (1987—92). From the early 1990s, checkpoints in and out of Israel became more difficult to cross and workers had to apply for special permits to gain access and to work in Israel. Even those with permits were denied access to their place of work during periods of complete closure. In 2000, more than 80% of Palestinians working in Israel lost their jobs within weeks of the start of the uprising, representing a loss of more than 100 000 jobs.[66]

Restrictions on the movement of goods increase the cost of trade between sections of the West Bank and Gaza Strip, and with the outside world. Even before the election of Hamas in 2006, companies in the West Bank took an average of 10 days to clear customs for exports and those in Gaza took 30 days. Imports took even longer; goods destined for the West Bank took an average of 30 days to clear and those for Gaza took 60 days.[29] By contrast, goods imported by Israel cleared within 1—2 days.[29] In addition to being slow, the quantity of imports and exports has been severely restricted by the Israeli military; no exports have left the Gaza Strip since June, 2007. This blockade has contributed to the erosion of the industrial sector in that area, where 98% of industrial operations were inactive in 2008, even before the Israeli military attacks at the end of that year.[29]

The World Bank emphasises two additional restrictions that impede Palestinian economic development.[29] Palestinians do not have access to resources such as land, water, cultural sites, and telecommunications frequencies in the occupied territory. Investors face great uncertainty (beginning with a system of indefinite permits) that reduces their economic security and the overall sense of security for the Palestinian population. As the private sector collapses, municipalities are unable to gather fees and import supplies and spare parts for water and sanitation facilities.[29] With the absence of currency and industrial inputs due to the closure, the black market has been thriving and perhaps further compromising stability and security. The Gaza Strip, according to the World Bank, is "starkly transforming from a potential trade route to a walled hub of humanitarian donations".[29]

Malnutrition and food insecurity are perhaps the most pronounced health outcomes of economic insecurity. In 2003, 46·8% of Palestinian households (71·8% in the Gaza Strip and 32·2% in the West Bank) received food assistance from the Palestinian Authority, non-governmental organisations, or UN agencies.[67] Although no survey on food aid as robust as the 2003 study has been done in recent years, the deterioration of conditions, especially in the Gaza Strip, suggests that dependence on food aid is unlikely to have decreased.[29] The need for food aid is caused most often by the financial poverty, rather than scarcity of food products or an inability to access markets.[67]

Economic deterioration and increasing poverty have made Palestinians dependent on aid. External aid accounts for 32% of the gross national income.[29] For comparison, aid in the most aid-dependent African countries was 27·1% of the gross national income for Rwanda and 20·7% for Mozambique in 2005.[68] Notably, little help has reached the Gaza Strip because of the closure and international boycott of Hamas.[29] Like oil revenues, aid revenues reduce scrutiny of public expenditures and favour patronage politics.[69] Furthermore, dependence on aid impedes planning because of the unpredictability of funds for recurrent budget items and delays in translation of pledges into disbursements. Like economic restrictions, aid dependence and unpredictability could have a psychosocial effect by compromising both autonomy and a positive sense of the future.[7]

Social resilience and insecurity

The long-term exposure of Palestinians to security threats has led to a state of long-term insecurity and demoralisation.[1] Social resilience, seen as a positive adaptation amid adversity,[70] is holding together Palestinian society and its economy, including the health system. For many Palestinians, the struggle for a normal life and justice is rooted in *sumud*—the determination to persist through steadfastness and a sense of connection with the land. For Palestinian teenagers, the capacity to establish routine and normality within their daily lives creates a sense of stability.[71] For these young people, social capital, in the form of a tight network of family support, peers, friends, caring adults, clubs, and schools, helps to mitigate obstacles while sustaining a sense of hope for the future.[72] Social solidarity and resilience have nurtured the Palestinian health response to occupation, from prehospital care to rehabilitation. When ambulances are unable to reach their targets, the injured and the ill are transported by neighbours, friends, and families. In the absence of a comprehensive health-safety network, families and the extended social network bear the brunt of medical payment. Palestinian women inevitably assume the responsibility of primary carer within the family. In addition to these informal groups, a range of non-governmental organisations, locally and internationally, complement government efforts in the health-care system.[1]

However, as conditions deteriorate, the social fabric of Palestinian society is eroding. Since 2007, community ties have been weakened by clashes between Fatah and Hamas forces, tearing families apart. The Israeli policy of exerting physical and mental pressure on Palestinian prisoners and those who need medical permits to become collaborators has strained Palestinian social cohesion.[47, 73] Connections to the community are further compromised because thousands of Palestinians born and living abroad, or even living within the occupied Palestinian territory, are denied their civil rights, including reunification with their families. These Palestinians have difficulty obtaining Israeli-approved identity cards or maintaining residency in the territory because of Israel's policies.[74] Protection afforded by social cohesion against some security threats is being tested and compromised further.

Enhancing human security: the way forward

Palestinians do not have an autonomous state to safeguard them from "critical pervasive threats while promoting long-term human flourishing".[1] A political solution is needed to prevent many of the identified threats to Palestinian security. The recent Israeli military attacks on the Gaza Strip with the massive damage to lives and property draw attention to the urgency of this issue. In the absence of a political solution, social resilience has provided some of the protection usually offered by a state. However, resilience and social cohesion are strained and being eroded. The way forward for improvement of physical, mental, and social wellbeing is to strengthen the efforts that promote and support social resilience and community cohesion, and ensure that the political process is informed by the security needs of Palestinians.

The international community's efforts to prevent human-security threats have not succeeded in the removal of those threats posed by the protracted Israeli occupation, military attacks, or inter-Palestinian conflict (table 3). Although the internationally supported peace process during the early 1990s led to a surge in hope, the political and economic situation has deteriorated

rather than improved for Palestinians, particularly those living in the Gaza Strip. Interventions to prevent and reduce insecurity have not kept pace with a rising burden of threats in the occupied Palestinian territory, especially since 2000.

Table 3 **Table image**

Efforts to enhance human security for Palestinians in occupied Palestinian territory[11]

Strengthened sustainable services for physical, mental, and social health, and support of social resilience, may protect Palestinians from insecurity. The Commission on Human Security concludes that international agencies should enhance the capacity of communities[29] to address threats rather than merely replacing the capacity with international efforts.[76] The essential role of international institutions does not marginalise Palestinian institutions. In fact, international efforts can strengthen the capacity of Palestinian institutions to provide protection. The World Bank insists that “for the PA [Palestinian Authority] to play an effective political role, it must preside over a period in which the Palestinian population experiences positive change in their daily lives—in their ability to move freely, to trade, to find work, to earn a living for their families”.[77] These positive changes need to include the Gaza Strip, or community cohesion will likely be further disrupted, thus compromising human security.

International norms and law, if enforced, could protect Palestinians from insecurity. The UN's special rapporteur on the occupied Palestinian territory has stated, regarding the attacks on the Gaza Strip during December, 2008, to January, 2009, that, “there is a well-grounded view that both the initial attacks on Gaza and the tactics being used by Israel are serious violations of the UN charter, the Geneva conventions, international law and international humanitarian law”.[78]

Torture of Palestinians held in Israeli prisons violates article 2 of the Convention against Torture.[3] Imprisonment of children violates the UN Convention on the Rights of the Child.[78] The International Court of Justice has ruled that the separation wall is illegal.[58] Many aspects of occupation violate the Geneva Conventions;[79] in article 49 of the Fourth Geneva Convention “the Occupying Power shall not deport or transfer parts of its own civilian population into the territory it occupies”.[79] The transfer of Israeli citizens into Palestinian territory has been used by Israel to justify or demand movement restrictions in the West Bank, and restrictions on access to water and on the Palestinian economy. The international community can play a part in reinvigorating international norms and legal rulings.

Financial assistance, a form of compensation for poverty, has provided little evidence of success in the occupied Palestinian territory. Despite the disbursement of more than US$9 billion intended for Palestinian development and capacity building since 1994, not much development has happened (table 3).[75] In fact, evidence suggests de-development in recent years.[80] Leaning and Arie[7] point out that in the absence of human security, development efforts will not succeed because they must be built on a platform of human-survival requirements and basic psychological needs. The Palestinian experience seems to be a case in

point. Some Palestinian initiatives that provide protection from threats and meet long-term needs, like Community Based Rehabilitation and the Gaza Community Mental Health Programme, have been compromised by their dependence on short-term funding cycles of donors. Although financial assistance has been a preferred strategy of the international community, this form of aid has not been accompanied by adequate prevention and protection from threats.

Political solutions that improve Palestinian security will simultaneously reduce threats to physical, mental, and social health. A few human-security threats can be mitigated by technical health-sector solutions described in this Series.[2, 3, 81] Yet, most threats require social and political solutions that are beyond the capacity of the health sector (table 3). Social solutions should aim at strengthening social networks (sources of resilience) and the capacity of the health sector to provide support. Political solutions should address and reduce the threats posed by weapons, destruction of homes, torture, humiliation, and restrictions on movement and on the economy to a minimum. By identifying and communicating the link between human-security threats and health conditions, Palestinian health can become an integral part of the political solution to this conflict.

Contributors

RB, YR, VNG, and RG conceptualised, researched, and drafted this report. ES, RLP, HS, and WB commented and edited a draft of this report. RLP provided data sources for mental health. HS drafted the paragraph about the use of low-altitude flights. All authors have approved the final version of the report to be published.

Conflict of interest statement

We declare that we have no conflict of interest.

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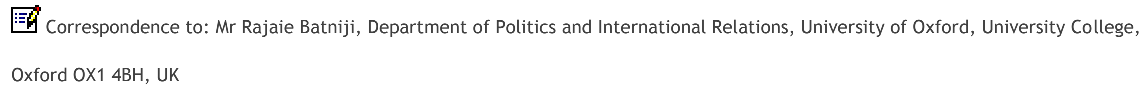
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The health-care system: an assessment and reform agenda

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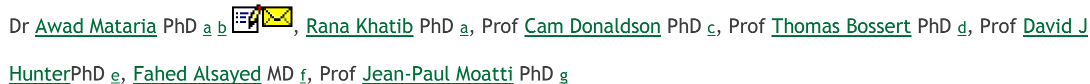

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Summary

Attempts to establish a health plan for the occupied Palestinian territory were made before the 1993 Oslo Accords. However, the first official national health plan was published in 1994 and aimed to regulate the health sector and integrate the activities of the four main health-care providers: the Palestinian Ministry of Health, Palestinian non-governmental organisations, the UN Relief and Works Agency, and a cautiously developing private sector. However, a decade and a half later, attempts to create an effective, efficient, and equitable system remain unsuccessful. This failure results from arrangements for health care established by the Israeli military government between 1967 and 1994, the nature of the Palestinian National Authority, which has little authority in practice and has been burdened by inefficiency, cronyism, corruption, and the inappropriate priorities repeatedly set to satisfy the preferences of foreign aid donors. Although similar problems exist elsewhere, in the occupied Palestinian territory they are exacerbated and perpetuated under conditions of military occupation. Developmental approaches integrated with responses to emergencies should be advanced to create a more effective, efficient, and equitable health system, but this process would be difficult under military occupation.

This is the fifth in a **Series** of five papers on health in occupied Palestinian territory

Introduction

Achievement of the human right to the highest attainable standard of physical and mental health[1] entails equitable access to effective health-care systems[2] and calls for health professionals to promote necessary change.[3] To strengthen the health systems of low-income and middle-income countries, the WHO Commission for Macroeconomics and Health calls for greater resources for health care.[4] Since the signing of the Declaration of Principles on Interim Self-Government Arrangements by the Palestinian Liberation Organisation and the State of Israel, also known as the Oslo Accords,[5] substantial donor assistance was meant to improve a health-care system for the occupied Palestinian territory (the West Bank, including the Palestinian Arab

East Jerusalem, and the Gaza Strip). In 2003 alone, donations amounted to US$240 million ($65 per person), covering 87% of budgeted non-salary operating costs of the Ministry of Health.[6]

Health-care systems have three main goals: improving health, responding to the non-medical expectations of the population, and enhancing financial risk protection.[7, 8] The first and second reports in this Series[9, 10] on health and health services in the occupied Palestinian territory trace the steady improvement in the health status of the population until the mid-1990s when improvements slowed, and, in some cases, reversed. Reports two and three[10, 11] show how planning and coordination of health care are inadequate, the use of resources is ineffective, and services are below acceptable standards, leading to public dissatisfaction with health services.[12] Current financial arrangements are associated with high risks and unequal burdens,[13, 14]with substantial out-of-pocket payments that favour rich people and place a high burden on poor people.[15] Other reports in this Series[9–11,16] elucidate the role of Israeli military occupation in producing and maintaining inefficiencies and inequities and the relative powerlessness of the Palestinian National Authority to counteract them.

In this report, we use reviews of published work and interviews to identify ways to integrate developmental approaches with responses to emergencies to create a more effective, efficient, and equitable health system. We provide a profile of the Palestinian health-care system and analyse the system with respect to the six building blocks of the WHO framework[8] for health systems: service delivery; workforce; information; medical products and technologies; financing; and leadership, governance, and stewardship. We emphasise the complexity of health-system building under conditions of military occupation, review future political scenarios, and suggests ways to improve performance and equity.

Palestinian health-care system: a data profile

The 3·76 million Palestinians[17] living in the occupied Palestinian territory are in the middle of epidemiological and demographic transitions.[9, 11] Four main providers[18] are responsible for primary, secondary, and tertiary health care: a Palestinian Ministry of Health, Palestinian non-governmental organisations, the UN Relief and Works Agency,[19] and the private sector. Health services are financed through a mixture of taxes, health insurance premiums and co-payments, out-of-pocket payments, local community financial and in-kind donations, and loans and grants from the international community (including the UN Relief and Works Agency).[18] Reviews of the health sector estimated that total health expenditure in 2002 was 8·6% of gross domestic product (GDP)[20] and per-person expenditure was $135 in 2005.[6]

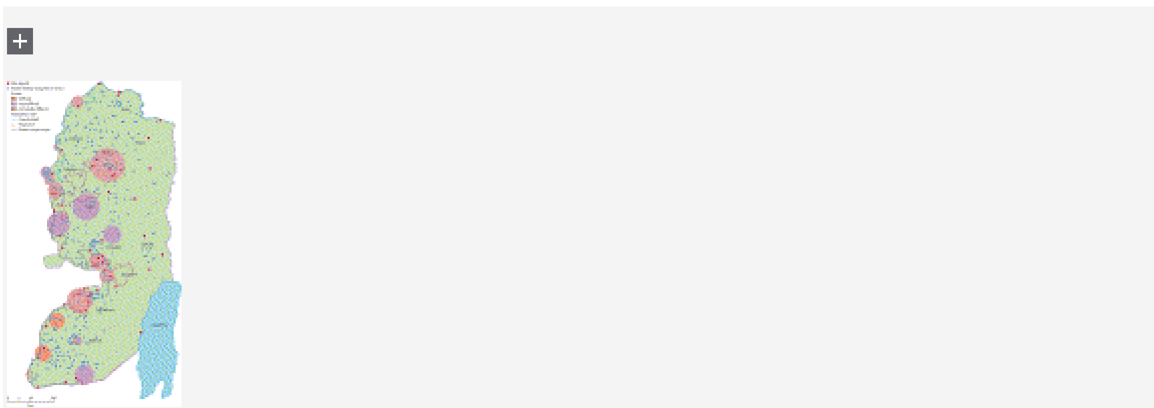
Health, nutrition, and population indicators suggest that the occupied Palestinian territory is doing well compared with many countries in the region.[9] Moreover, more than 95% of women receive some form of antenatal care and deliver in health institutions, and immunisation coverage is high (>95%).[21] However, socioeconomic and regional inequalities persist: an infant born to a family in the richest 20% in the West Bank is almost twice as likely to survive 1 year than is one born to a poor family in the Gaza Strip.[14] Non-communicable diseases are the main causes of mortality;[11] and, since 2000, there has been a

substantial increase in the number of patients seeking mental-health services.[22] In view of the turbulent situation, the chances of the occupied Palestinian territory achieving most Millennium Development Goals by 2015 are low.[23]

Until the Oslo Accords and the events of September, 2000,[9] the occupied Palestinian territory had a functional, if dependent, economy. Lately, unemployment rates have spiralled upwards, and, in 2007, more than 21·5% of the active population was unemployed,[24] leaving 57·2% of Palestinian households with an income less than the national poverty line of $3·18 per person per day.[25] By 2006, GDP in the occupied Palestinian territory had fallen by a third of its 1999 value, from $1612 to $1129.[26]

Assessment of the health-care system

Complementarity between the four main providers of health care in occupied Palestinian territory has not developed from an attempt to establish a rational and efficient division of labour but has mainly arisen because of the political and economic situation. Closures,[9] segregation,[27] strikes,[28] and impoverishment lead many transfers of patients from one provider to another.[29] Restrictions on movement imposed by multiple checkpoints, barriers to movement,[29, 30] and the separation wall[31, 32]prevent access for patients and medical staff (figure). In July, 2007, alone, there were 40 recorded cases of ambulances being denied access to patients in the West Bank.[34] A survey at the end of 2003 found that the number of people needing 1 h or more to reach an appropriate health facility had increased by ten times in 3 years.[29] A network of mobile clinics now caters for the needs of people living in remote and isolated localities.[35] There are few effective restrictions in the system, and patients seeking referral services are generally entitled to receive them.[36]



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Distribution of and access to health facilities in the West Bank

Planned barrier path based on Israeli Government map published Feb 20, 2005. Reproduced with permission from the UN Office for the Coordination of Humanitarian Affairs.[33]

After the Oslo Accords, the number of primary health-care centres run by non-governmental organisations fell from 242 in 1992 to 177 in 1994.[37] The decrease was mainly due to abrupt changes in donor aid policies and the Palestinian National Authority budget allocation strategy,[32, 37, 38] which aimed to reserve resources to rehabilitate the dilapidated services of the Ministry of Health. The increase in primary health-care centres sponsored by the Palestinian National Authority more than compensated for these losses, with about 170 new primary health-care facilities being opened (mostly in the West Bank) in 13 years.[18] Moreover, in 2006, over 40 clinics were mutually operated by the Palestinian Ministry of Health and non-governmental organisations.[39]

Secondary and tertiary care are provided through general and specialised hospitals, mainly located in urban areas. The non-governmental sector operates 1582 beds in 28 hospitals (table), with a substantial proportion of its workload covered by the Palestinian National Authority health-insurance scheme.[18] The shortage in tertiary health-care services is clear, and those concentrated in Jerusalem are inaccessible to most people in the occupied Palestinian territory because of Israeli restrictions on movement.[30, 31] As a result, an increasing number of cases are referred for treatment in other countries—about 15 000 cases in 2005[21] mainly to Jordan, Egypt, and Israel—thereby increasing the financial burden on the system and society.[41]

TableTable image

Distribution of health-care facilities in the West Bank and the Gaza Strip according to provider[18, 40]

The Ministry of Health's share in overall service delivery has risen significantly, mainly because of severe population impoverishment, starting at the end of 2000, and the accompanying extension of free insurance coverage (see below).[18]However, this increase was not matched by increased capacity of the ministry, resulting in falling quality of care. Most ministry hospitals have to turn away many patients because they have no capacity. By contrast, non-governmental hospitals are underused,[18] emphasising the need for better coordination between providers. Despite several projects to promote quality of ministry-run services,[20] they are still perceived as inferior.[12]

Financial accessibility to health services, especially for the most deprived sections of the population, has been compromised since 2000.[28, 29] Results of recent surveys show that a third of a representative sample of the population could not access health services because of high costs[29] and that people living with financial hardship or in poverty are twice as likely as rich people to be unsuccessful in accessing hospital care.[42] Hence, patients' preferences to improve quality of care have concentrated on urgently meeting the most basic needs.[43] This pattern accords with Amartya Sen's hypothesis of adaptive preferences:[44] populations confronted with fundamental material constraints have objective difficulty in expressing what their true needs would be if they had more opportunities available to them.[45]

Inequitable distribution of health facilities between and within the West Bank and the Gaza Strip, favouring the Gaza Strip and the central areas of the two regions, contributes to health inequity—especially under the exceptional restrictions on movement.[30,32] The Gaza Strip has 1·4 beds for every 1000 people, and the West Bank has 1·2;[18] in the West Bank, Ramallah has 1·1, whereas Salfeet district has only 0·2; and in the Gaza Strip, Gaza city has 2·1 and Rafah city only 0·5.[18] Primary health-care facilities, however, are more available in the West Bank than in the Gaza Strip[18] (2·1 *vs* 0·9 centres per 10 000 people). This pattern is caused by more dispersed and enclosed populations on the West Bank—due to Israeli checkpoints and the separation wall—and results in inefficiency in allocation of scarce resources. In both the West Bank and the Gaza Strip, UN Relief and Works Agency facilities are mainly concentrated in Palestinian refugee camps.

Health services in the Gaza Strip have deteriorated rapidly since the political impasse between the Palestinian National Liberation Movement (known as Fatah) and the Islamic Resistance Movement (known as Hamas), and the Israeli and international boycott of Hamas,[46] beginning in mid-2006 after the movement's election victory.[9] Secondary and tertiary care in the Gaza Strip are provided mainly by the Palestinian Ministry of Health, which is the only provider able to cope with the many cases and injuries related to the conflict, indicating the burden of the deteriorating Palestinian National Authority health sector in the Gaza Strip.[47]In June, 2007, Israel refused to allow travel outside the Gaza Strip for all patients referred to health-care services abroad (282 cases),[34] a policy indicative of Israel's decision to impose collective restrictive measures against civilians in the Gaza Strip.[48]Limited access to care has been documented in a series of reports prepared by the WHO office in Jerusalem, showing emerging shortages of drugs, medical supplies, and equipment during 2006 and 2007.[49] A recent WHO report documents 32 patients who died between October, 2007, and March, 2008, after being denied access to specialised treatment from outside the Gaza Strip.[50]At the time of writing (December, 2008), some hospitals in the Gaza Strip lack basic health commodities, such as anaesthetics needed for surgery.[51]

A plan for human resource development was prepared in 2000,[52] but its implementation has been poor. Although there are 2·6 physicians for every 1000 people in the Gaza Strip, there are only 1·8 in the West Bank.[18] Furthermore, the ratio of allied health professionals to population is very low compared with that in other countries,[36] and the skills of these workers are poorly developed and underused. Whereas Israel has 6·3 nurses for every 1000 people, the occupied Palestinian territory has only 1·7.[18]Health-care services remain highly physician oriented,[10] with doctors running many activities that could be done by nurses and community health workers at much lower costs.[53], [54]

As a result of generalised unemployment[24] and impoverishment[25] since 2000, the Palestinian National Authority tried to soften the economic blow by putting more people on the government payroll,[26], [55] and has done so despite an increasingly unsustainable wage bill.[26] Meanwhile, many workers have been hired to bolster political support.[26] Between 1999 and 2006, public-sector employment grew by 60%,[26] from fewer than 100 000 to 157 800, and increased further to 189 000 by mid-2007[56] under the Hamas-led government. An estimated 1 million Palestinians (workers and their dependants) depend on wages earned in public employment.[57] Such costs are further increased when Palestinian clearance revenues are withheld by Israel

and international financial support is frozen, as happened between March, 2006, and July, 2007[26]—when Palestinian National Authority employees, including Ministry of Health staff, did not receive their usual salaries.[18]

Although nearly all health service staff during the Israeli military occupation of 1967 to 1994 were Palestinians, they had only token involvement in the decision-making process, with a consequent failure to promote Palestinian leadership capacity.[58] The available health education programmes cannot meet the needs of the health sector,[18] and health professionals must therefore get training in schools outside the occupied Palestinian territory (mainly in Arab countries and in eastern Europe). The poor performance of the health-care system, and the obscure track of career progression—commonly a function of personal connections and cronyism—has also led to loss of talented health professionals from Ministry of Health facilities to international and local non-governmental organisations, the private sector, and through migration outside the occupied Palestinian territory: in a study of 95 medical doctors, 29 had reported seriously considering emigration.[59]

Insufficient monitoring and lack of supervision have allowed cronyism and corruption,[60] a lack of commitment and interest, and erosion of public trust and satisfaction.[12] An absence of requirement for continuing education activities[52] compromises the quality of care and threatens patients' safety.

A health information system to support evidence-based policy formulation was devised; however, data collection, analysis, and reporting need further development. The second report in this Series[10] shows how obtaining a reliable estimate of an indicator as basic as infant mortality is problematic. Many surveys are done and huge amounts of data are obtained that are improperly analysed. Barriers to promote a culture of evidence-based practices mainly relate to resistance to change and the feeling of a lack of ownership. The lack of effective partnership with those who are supposed to use the evidence, the almost absent dissemination of results, and the disengagement from the implementation process all culminate in loss of incentive to tackle change. The absence of proper financial incentives (eg, in the form of results-based financing) contributes to the entrenchment of current practices.

The deficit in the information needed for health-care management is a major difficulty, restricting the capacity to plan and assess performance. Information is urgently needed about the most common problems (eg, non-communicable disease prevalence and complications) to assess cost-effectiveness of various programmes; financial analysis is also needed to identify the treatments abroad with the largest budget shares; and patterns of use of non-governmental and Ministry of Health hospitals should be investigated to inform planning and improve efficiency.

Ministry of Health expenditure on drugs and disposables exceeds a fifth of its actual expenditure (23% in 2005)[21]—17% in Jordan and 25% Lebanon.[61] The ministry implemented the first Essential Drug List in 2000 and prepared a Drug Formulary in 2002. The effect of these initiatives has not been fully assessed.[62] However, observational studies indicate that irrational prescribing is a continuing difficulty,[63] created by short consultation and dispensing times and absence of treatment guidelines.[62]

A recent review of medicines use in 6032 encounters with patients in selected non-governmental clinics showed that antibiotics (mostly wide-spectrum) accounted for 33% of medicines prescribed, followed by analgesic and anti-inflammatory treatments (29%).[62] Combination medicines (8%) and injections (16%) were also given in many cases. 77% of prescriptions were of locally produced medicines, which typically cost less than similar drugs of Israeli or international origin (eg, the average price of co-amoxiclav in 2004 was $5·25 if of local origin, $6·05 from Israel, and $6·85 from other sources).[62] Data from nine eastern Mediterranean countries showed that medicines account for a high proportion of health expenditure (35% in Egypt and Jordan).[64]Irrational prescribing and the higher prices of some prescribed medicines both contribute to the exaggerated burden on public expenditure and society as a whole. Investments in expensive medical technology do not also seem to have arisen from population-based requirements or from examining the cost-effectiveness of technologies.[65]

Health financing consists of collecting revenues, pooling risks, and allocating resources to purchase services.[66] The high proportion of GDP devoted to health[67] was a direct result of both the high level of investment needed to rehabilitate a system that had been neglected between 1967 and 1994,[58] and the low GDP. For example, between 1986 and 1989, while under the Israeli military government, the West Bank yearly public budget for health was kept at about $20 million, despite rising costs of living and population increases.[68]

After establishment of the Palestinian National Authority in 1994, the task of building a functioning health-care system has been supported by substantial donor assistance. Between 1994 and 2000, donors committed $353 million to the health sector and disbursed about half of that in actual assistance;[69] by 2005, over 40 donors[70] had contributed $10 billion to the Palestinian National Authority[26] (most of which was donated by the European Union[71]). The inadequate coordination of funding sources has contributed to the difficulty of even achieving simple objectives. Relief and emergency have repeatedly been the focus of health programmes, rather than long-term development, which has limited effectiveness, duplicated efforts, and eventually undone previous progress.[10], [11] This situation has perpetuated dependence on external funding, compromising sustainability and future self-sufficiency. Indeed, after the recent Palestinian National Authority financial crisis, the Ministry of Health was not able to provide its essential operational budget,[18] and most activities in the *Medium Term Development Plan 2006—2008*[72] did not start.[18]

The Ministry of Health budget accounts for about 10% of the overall budget of the Palestinian National Authority.[67] However, the finances of the ministry have been precarious since 2001, both because of a steep decline in health insurance revenues, and an increase in the number of people insured. The increase in insurance coverage was partly due to the decree issued by the then president of the Palestinian National Authority, Yasser Arafat, that all Palestinian victims of the *intifada* would be covered by the health insurance scheme, without contributions. From 2000 to 2002, the number of households covered by the new free insurance scheme increased by 205 430,[21] whereas revenue from premiums fell from $29·5 million to $22·0 million.[6]

All revenues collected by the Ministry of Health are transferred to the Ministry of Finance, including any user fees and insurance co-payments; this practice undermines the potential incentive for improving the quality of care and providing some

financial flexibility at a facility level.[73] Indeed, the centralised financial management of the Ministry of Health at the Ministry of Finance restricts the capacity of the directors of hospitals and health centres to exercise control over budgeting and staffing.[74]

The Palestinian National Authority health insurance system covered 56% of Palestinian households in 2005, 55% of which were insured without contributions.[21] The present fragmentation of the health financing system makes risk pooling a real challenge and compromises horizontal equity (ie, the requirement that people with equal ability to pay make equal payments).[75] Although the Palestinian National Authority compulsory health insurance is for public-sector employees only and insurance premiums do not adequately accord with ability to pay, the scheme does progressively assist poor people.[13] Unlike most financing plans elsewhere, the authority's health-insurance scheme requires patients to pay for diagnostic services and drugs but not for consultation costs. This situation is contrary to the idea that patients are in control of the decision to consult doctors but exercise little control over diagnostic services used.[36]

In a recent survey of national health expenditure,[15] households reported spending an average of 40% (range 9—61%) of their own out-of-pocket resources on health.[6] Out-of-pocket payments are clearly regressive (ie, the proportional cost of payments decreases as ability to pay increases) and remain the most inequitable way of financing health care;[76] they are also unlikely to generate sufficient revenue to support adequate services.[77] The current structure of out-of-pocket payments in the occupied Palestinian territory has almost no price-discrimination policies to account for differences in ability to pay.[13]

In 2005, the total operating expenditure of the Ministry of Health was $139·6 million (compared with $100·3 million in 2000), of which 52·4% was spent on salaries, 22·6% on drugs and supplies, 15·7% on referrals outside the Ministry's facilities (excluding cases referred by the Palestininan National Authority Cabinet), and 9·3% on other operating costs.[18]

Scarce resources have been wasted by health-care provisions that were not cost-effective, with inappropriate focus on high-technology interventions and tertiary health-care services, which were mainly provided outside the area. The total cost of treatment outside the Ministry of Health (inside and outside the occupied Palestinian territory) was $58·1 million in 2004 and $59·6 million in 2005, constituting 46·0% and 42·7% of the ministry's expenditure, respectively.[21] In 2005, more than $40 million was spent on services provided outside the occupied Palestinian territory, mainly in Jordan, Egypt, and Israel.[21] In 2006, the number of patients referred elsewhere fell by 27·9%, lowering the costs of such treatment by 37%.[78] The high expenditure on treatment outside the occupied Palestinian territory leads to loss of benefits to the Palestinian economy.[78]

The World Health Report 2000 defines stewardship as the careful and responsible management of the wellbeing of the population,[79] and refers to the responsibility of the state for the welfare of its population.[80] Under Israeli military occupation, severe budgetary restrictions, underdevelopment[58] and de-development—the destruction of the development process[81]—became key features, including marginalisation of government health services and ad hoc dependence on Israeli medical services.[68]

Since 1994, the Ministry of Health has endeavoured to establish the role of the health sector, ideally through promotion of accessible, affordable, and sustainable health care of good quality and cost-effectiveness.[82] The ministry is the steward of the system and five of its six main stated functions relate to leadership and regulation.[82] Since then, in addition to increasing the number of primary health-care centres and hospital beds and promotion of the Palestinian National Authority's health insurance scheme, the ministry introduced new programmes (eg, reproductive health[10] and dental care) and upgraded old ones (eg, school health[83] and chronic diseases[11]). The ministry is also responsible for licensing health professionals and institutions. Present practice, however, takes into account several input criteria in the licensing process with almost no consideration given to result and performance indicators. The prevailing circumstances restrict the capacity of the ministry to oversee the entire system, collectively plan its development, and exercise its regulatory role effectively.

A health plan for the occupied Palestinian territory[84] was developed with input from many stakeholders before the ministry was established. Since then, and before the third national health plan,[18] non-ministry stakeholders were not effectively involved in the planning process, with the result that there has been no overall development policy around which national and provider-specific policies could be developed. Although many of the objectives in successive national strategic health plans have been clear and restricted, few have had target completion times, or adequate budget preparation and prioritisation[6] (this is being attempted in the latest plan[18]). Furthermore, there have been no regular reviews and updates of stated objectives, taking account of achievements and changing circumstances.[6] Although preparation began in 2003, the third health plan[18] was only finalised in 2008.

System building under military occupation

Several attempts to build a health-care system for the occupied Palestinian territory have been made in recent years, with some advances being achieved against the odds.[58] However, despite the substantial amount of money injected into the system[6] and the two concluded national health plans,[82], [85] systemic goals remain far from met.[9], [12], [13] This failure is mainly due to three inter-related factors—endogenous Palestinian features, donors' policies, and political havoc—that compromise the WHO building blocks.

The Palestinian National Authority is expected to perform as the government of a state[86] while lacking control over its borders, basic resources, and many of the social determinants of health. The absence of a long-term Palestinian development agenda focusing on sustainable and equitable growth[26] has compromised any strategic planning. The extensive overlap of specialisation and the duplication of functions result from inadequate delineation of responsibilities, which impedes formulation, planning and prioritisation, implementation, and assessment of policies.[87] Internal mismanagement has promoted divides within the divide, with each stakeholder seeking its own financial survival.[60] The highly centralised financial and staffing systems and the lack of will to provide value for money have impeded development. Vague institutional arrangements have hindered the establishment of a proper governance system characterised by transparency, separation of powers, and the rule of law.[55]

Despite the important role of external funding in alleviating short-term effects of a socioeconomic crisis, the existing confusion in the system is compounded by the multiplicity of donors, who can have conflicting agendas and be poorly coordinated.[58]Notwithstanding several initiatives for joint programmes,[88] aid in the occupied Palestinian territory has repeatedly been reactive and has not always encouraged institution-building or created incentives for reform.[70] Many donations are based on bilateral deals that suit the donor's political needs and preferences as much as Palestinians requirements.[70] A 2007 document[26] presented to the Ad Hoc Liaison Committee[89] established to support the Middle East peace process recognises that donations remained “fragmented and focused on bilateral arrangements with donors based on short-term political positions rather than a collective, longer-term view on broader economic and governance fundamentals.”[26] A recent report called for even more donations to enhance growth and enable development.[90]

The political instability of the Palestinian National Authority, with frequent ministerial changes (six ministers of health have been nominated in the past 3 years), has contributed to system instability. In the local context, many positions are filled on the basis of political favouritism[55] and ministerial changes are commonly accompanied by changes in mid-level and high-level managers—sometimes by additional recruitment.[56]

The factors that hinder health system development are not unique to the occupied Palestinian territory, but they are exaggerated and perpetuated under the oppressive conditions of the Israeli military occupation.[60] Furthermore, occupation creates some of the difficulties.[91] Occupation policies of separation, isolation, and segregation have created uncertainty, raised transaction costs, and shrunk markets, resulting in critical constraints on the survival of the Palestinian economy as a whole.[26] A recent World Bank report states that: “…growth rates will depend critically on the commitment of the international community to fill the total fiscal gap…[nevertheless]…Even with full funding but no relaxation in the closure regime, growth will be slightly negative…”.[90] Admittedly, as Ajluni[92] has said, imagining a rational system of planning and financing is difficult when Israeli policy has greatly damaged infrastructure and impoverished the population.[92] The intensified siege and closure of the Gaza Strip has complicated already difficult reform efforts;[18] and the uncertainty about future developments, imposed by a fruitless peace process, aggravate the situation further.

A way forward

Considering that Israel has never defined its borders,[93] the feasibility of steps to improve the health system in the occupied Palestinian territory will depend on future political developments and border definitions, and the commitment on the part of the Palestinian society and the Palestinian National Authority to effect change. Although a best-case scenario would include establishment of a sovereign Palestinian State on all of the Palestinian territory occupied in 1967 (in accordance with UN resolution 242[94]), other possible scenarios can also be envisaged.

First, an enduring status quo, with continued construction of Israeli settlements and the separation wall in the West Bank (both deemed illegal under international law[95], [96]), continued separation of the Palestinian Arab East Jerusalem from the West Bank and the Gaza Strip under Israeli military occupation, and continued political impasse between Fatah and Hamas.[9]

Second, a worst-case scenario would include a worsening political situation leading to the collapse or dissolution of the Palestinian National Authority, as a result of the persistent failure of peace talks—a situation now seen as plausible (or even imminent) by high level officials in the authority.[97] Dissolution of the authority would result in one of three possible developments: Israel resuming full responsibility, as a signatory of the Fourth Geneva Convention,[98] for the Palestinian population, which it now controls de facto; a return to the pre-1967 arrangements, with Jordan resuming control of what remains of the West Bank and Egypt administering the Gaza Strip;[99] or the systematic, illegal,[98] expulsion of Palestinians to neighbouring Arab countries, as repeatedly suggested by some former[100] and current[101] Israeli leaders.

Should a Palestinian governing body continue to exist, the most important feature of any successful initiative toward building an effective, efficient, and equitable health-care system will be effective stewardship, by which the Palestinian Ministry of Health becomes empowered and has the capacity to oversee and steer the entire system. A clear vision is needed of the regulations to be put in place, with frameworks for monitoring and evaluation being essential. Commitment from stakeholders other than the ministry is also important—stewardship after all is about collective rather than individual responsibility.[80] The high cost of treatment abroad might be countered by persuading partner sectors to provide services the ministry cannot afford. Here, the private sector can play an important part.[78] Moreover, focus should be given to stewardship for health, rather than just for health care, calling for intersectoral collaborations.

A clear policy for human resources for health is needed. Efforts to form, upgrade, and integrate individual capacities would not only enable future development plans to succeed[102] but also help build experience and confidence and introduce a momentum to promote change. As one observer of the situation in the occupied Palestinian territory put it, it is the “strong individual capacities against severe institutional weaknesses” that has enabled a system of sorts to survive.[103] Creation of an effective human-resources capacity should start with revision of the available national plan for human resources[52] to identify needs in terms of health professionals and education and training programmes, as related to predefined strategic objectives. Rather than merely being providers of academic services, universities should build the required capacities, for example, through continuing education ventures. Strengthening of monitoring and supervision, accompanied by a system of rewards and sanctions, seems crucial to boost motivation, to halt the brain drain, and to enhance effectiveness and future development.

Efforts should be made to remedy malfunctioning schemes of health-care financing. Concrete steps are needed towards the institutionalisation of a genuine social insurance scheme with a view to universal coverage. The current health insurance scheme should become a sovereign and accountable legal entity, functioning under collective ministerial supervision, with control over its own revenues, which can be used to purchase services with appropriate methods of financing.[104] Community-based health financing schemes and the current Palestinian National Authority health insurance together could form a nucleus

to enable efficient and equitable resource mobilisation[105] and to introduce the change gradually, taking into consideration prevailing political, economic, and social conditions. Recommendations for health-sector reform suggest that payment by capitation for primary care and per admission for inpatient care might improve cost-effectiveness and increase equity.[76] In the local context, evidence suggests that patients are willing to pay to benefit from improved essential quality attributes,[106] with amounts varying according to the extent of improvement and patients' abilities to pay.[107] Such information could be used to help identify areas for improvement and inform the pricing structure in the adopted financing scheme.

Decisions should be evidence based, and for this to be possible, an accurate and continuously updated health information system is needed. Culturally sensitive evidence is needed, followed by the development and implementation of national protocols and standard operational procedures. However, only by involvement of those to whom the evidence is directed (eg, health-care providers and decision makers) and follow-up of the implementation process would practices effectively change to help fulfil the three systemic goals—improving health, responding to expectations, and enhancing risk protection—in the most cost-effective way. Quality of care should be at the core of any endeavour—acknowledging that improvement in quality does not always mean higher cost, but it does demonstrate political commitment (panel).

Panel

Six WHO building blocks for health systems and the way forward for the occupied Palestine territory

Service delivery

- Promote primary health care as the effective backbone of the health-care system by increasing investment in primary centres and public-health activities (eg, preventive programmes for chronic diseases)
- Integrate and coordinate all providers and human-resources activities, with clear division of roles and tasks

Workforce

- Revise the available plan for human resources and its concordance with established policies and plans and prevailing gaps
- Assess available training programmes and activities in terms of their quality and appropriateness
- Build human capacities in planning, financing, and provision of health care
- Strengthen monitoring and supervision
- Develop a results-based system of rewards and sanctions, with transparent tracks of career progression

Information

- Upgrade the current health-information system to provide the information needed for all levels of clinical and administrative decision-making processes

- Develop national clinical management and administrative protocols, while involving those to whom the evidence is addressed in the process
- Promote a culture of evidence-based decision making at all levels of health-care planning and provision through hands-on training and intensive follow-up and supervision

Medical products and technology

- Promote rational use of drugs and effective drug management to increase accessibility and avoid wastage of scarce resources
- Revise practices of purchasing, prescribing, and dispensing to focus on the most cost-effective medications and technology

Financing

- Transform the current Palestinian National Authority health insurance scheme into a sovereign and accountable legal entity with control over its own resources
- Promote community-based health financing to cover the health-care costs of various categories of the population
- Integrate a system of payment by capitation for primary health care and per admission for inpatient care
- Work towards institutionalisation of a genuine universal scheme of social insurance
- Establish a single treasury account for the donors to reduce duplication and wastage of resources

Stewardship

- Empower the Ministry of Health through appropriate regulations and enhance capacity of planning and supervision
- Collectively redefine a vision for the health system
- Enhance intersectoral collaboration at all levels of planning, financing, and provision
- End cronyism and growth of public employment

The view of health in Palestinian Public Health Law as a fundamental human right should be integral to any efforts to establish a Palestinian State, while acknowledging limitations of resource availability and the need for self-sufficiency. Promotion of primary health care and integration of providers' activities and available human resources (medical, paramedical, and non-medical) will ensure the most benefits for the most people. Preventive programmes are needed to enable favourable long-term health outcomes at low costs (eg, tobacco control and diet promotion efforts that reduce the burden of chronic diseases[11]). The Palestinian Ministry of Health's ability to set priorities that address individual preferences and to negotiate with donors should be improved to help avoid conflicting agendas and promote the welfare of the population.

Under the best-case scenario, the Palestinian Ministry of Health can choose to limit its role to being the steward of the system, while providing a basket of core services (including public-health activities), and the funding needed to cater for the needs of specific categories of the population (eg, vulnerable groups). Services could be purchased by an independent insurance fund that would raise money through an appropriate insurance-based risk-pooling mechanism to gradually create a self-sufficient, efficient, and equitable health-care system. Under the worst-case scenario, the focus has to remain on emergency relief, with attempts made to pursue human capacity development to enable the change, if circumstances allow. Finally, the scenario of the continuing status quo means consideration should be given to coordinating and harmonising the efforts of donors and providers to avoid wastage of scarce resources. Such synergy can be established by ending cronyism and inflation in public employment, establishing a single treasury account for the donors, while striking the balance between recruited staff and task allocation by putting competent professionals in the right places, by decentralisation of decision making, by promoting team work, and by involving the community.

A new opportunity to improve Palestinians' quality of life and increase national prosperity[108] emerged at the Paris conference in December, 2007.[90] Delegates decided to allocate a substantial sum of money to the Palestinian National Authority, including about $120 million to be raised for the health sector between 2008 and 2010. The best allocation and use of these new funds will plant the seeds of genuine and sustainable development.

But health systems do not evolve in a vacuum. For continued development, social determinants have to be addressed. In the case of the occupied Palestinian territory, the occupation has to end. For a long time, Palestinians have declared “we are here to stay”. What Palestinians want was summarised in the words of a woman in a recent article that appeared in *The New York Review of Books*: “We want to live in peace and dignity…our suffering will not end without ending the occupation.”[109]

Contributors

AM wrote the first draft, all coauthors helped revise subsequent drafts before submission.

Conflict of interest statement

We declare that we have no conflict of interest.

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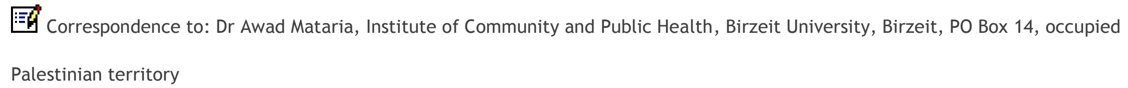
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