

FOR THE RECORD

WHO issues call for action to redress health inequities in cities

With more than half of the world's population expected to be residing in cities as of this year and at least a quarter of those living in slum populations — an estimated 828 million of 3.4 billion urban dwellers — health inequities will spiral out of control if governments fail to act to narrow the gap between “the worst off and best off,” according to a World Health Organization report.

While urban dwellers are often healthier than their rural counterparts, “the urban poor suffer disproportionately from a wide range of diseases and health problems,” states the report, *Hidden Cities: Unmasking and Overcoming Health Inequities in Urban Settings* (http://hiddencities.org/downloads/WHO_UN-HABITAT_Hidden_Cities_Web.pdf). “Families with the lowest incomes in urban areas are most at risk for adverse health outcomes such as early childhood death, have less access to health services such as skilled birth attendance, and are also disadvantaged in terms of their living conditions, such as access to piped water. Importantly, these inequities exist along a social gradient, also affecting middle-class city dwellers to at least some extent. The underlying causes of these inequities in health are primarily social in nature, including household wealth, education and location of residence, which outweigh the effects of predetermined attributes such as age and gender.”

“In many cities around the world, health determinants have combined to create a triple threat of urban diseases and health conditions. This triple threat consists of (a) infectious diseases such as HIV, tuberculosis, pneumonia and diarrhoeal infections; (b) noncommunicable diseases and conditions such as

heart disease, cancers and diabetes; and (c) injuries (including road traffic accidents) and violence. Infectious diseases are a major threat in many cities due to population density, overcrowding, lack of safe water and sanitation systems, international travel and commerce, lack of provision of health care services, and poor health care access, particularly in slums,” the report adds.

“Noncommunicable diseases and conditions are exacerbated in urban areas by changes in diet and physical activity, exposure to air pollutants (including tobacco smoke) and harmful use of alcohol. In many developing countries, urbanization and the increased number of motorized vehicles have not been accompanied by adequate transport infrastructure, enforcement of traffic regulations or implementation of measures to ensure improved road safety. Major contributors to urban violence include social exclusion, poverty, unemployment and poor housing conditions.”

The report urges that companies adopt a three-pronged strategy to reducing the inequities: “targeting disadvantaged population groups or social classes, narrowing the health gap, and reducing inequities throughout the whole population.”

Among recommended interventions are ones calling on urban planners to:

- Use zoning and land use regulations as a way to prevent exposure of city dwellers to pollution emissions and hazards from industrial and commercial activities, waste and chemicals, and transport.

- Develop and adopt building practices that protect health among building users regarding indoor air environment, safety, noise, water, sanitation and waste management, among several other health determinants in urban settings.

- Build compact cities, where dwellers have easy access to green areas, public transport and bicycle paths, as well as health, education and other fundamental social services.

- Incorporate health impact assessment into the consideration of alternative planning choices and policies.” — Wayne Kondro, *CMAJ*

Countries have limited window to curb malaria drug resistance, WHO says

Lax monitoring of antimalarial drug resistance is jeopardizing advances in controlling the infectious disease, according to a World Health Organization report.

Only 34% of malaria-endemic countries are complying with WHO recommendations to routinely monitor the efficacy of first- and second-line antimalarial treatments, states the report, *Global report on antimalarial drug efficacy and drug resistance: 2000–2010* (http://whqlibdoc.who.int/publications/2010/9789241500470_eng.pdf).

The report urges countries to conduct therapeutic efficacy studies of all antimalarial treatments currently in use to allow for earlier detection of drug resistance and timely policy changes. That includes changing treatment policies where failure rates exceed 10% after 28 to 42 days of treatment, depending on the half-life of the drug in question.

The report also recommends monitoring the proportion of patients who still have parasites on the third day of treatment, an early warning of drug resistance.

While artemisinin combination therapies (ACTs) remain the global standard for malaria treatment, the emergence of artemisinin resistance on the Cambodia–Thailand border in 2009 served as a “wake-up call” to the importance of monitoring, said Dr. Robert Newman, director of WHO's Global Malaria Programme, in a news release (www.who.int/mediacentre/news/releases/2010/malaria_20101118/en/index.html).

Despite containment efforts, increases in the proportion of patients with parasites on the third day of treatment were also reported on the Myanmar–Thailand and China–Myanmar borders, as well as in one province of Vietnam.

Moreover, there's concern that resistance could spread from the Cambodian–Thailand border to Africa, as it did with other antimalarial drugs in the 1960s and 1970s.

"A greater political commitment to support and sustain national monitoring of the efficacy of antimalarial medicines is critical to prevent a wider emergence of artemisinin resistance," said report author Dr. Pascal Ringwald in the news release.

Countries may only have a limited window of opportunity for containing and eliminating artemisinin resistance before it spreads to high transmission areas, according to the report. That spread could be devastating in malaria-endemic countries, as no other treatments are available that offer the same efficacy and tolerability of ACTs.

In response to the findings of the report, WHO is drafting a Global Plan for Artemisinin Resistance Containment for release in January 2011. — Lauren Vogel, *CMAJ*

WHO says universal health coverage can be achieved in most nations

Countries, rich and poor, need to spend more, spend smarter and reduce waste in their health systems to achieve sustainable universal health coverage, according to a World Health Organization (WHO) report.

The report, *Health systems financing: the path to universal coverage*, identifies insufficient funding, overreliance on direct payments for health services and waste of existing health resources as major obstacles to universal coverage (www.who.int/whr/2010/en/index.html).

Even countries with accessible and affordable health services face challenges in preventing the burden of costs

from being shifted onto the shoulders of patients. Those include aging populations, increased rates of chronic disease and soaring costs associated with new treatments and technologies.

"No one in need of health care should have to run the risk of financial ruin as a result," Dr. Margaret Chan, WHO director-general, said at a news conference in Berlin, Germany, on Nov. 22 (www.who.int/mediacentre/news/releases/2010/whr_20101122/en/index.html). "The report sets out a stepwise approach. We encourage every country to act on this and do at least one thing to improve health financing and increase health coverage over the coming year."

Among its recommendations, the report urges governments to reprioritize their budgets, implement innovative financing strategies and increase the efficiency of revenue collection to allow for increased spending on health. According to the report, the 49 poorest countries in Africa could raise an additional US\$15 billion per year for health from domestic sources by increasing health's share of total government spending to 15%.

Taxation of products harmful to health, such as tobacco, alcohol and unhealthy foods, could also yield considerable resources for health spending in all countries, with the additional benefit of reducing the consumption of such products. The report estimates a 50% increase in tobacco excise taxes alone would generate an additional US\$1.42 billion in funds for 22 low-income countries.

Revamping taxation systems to curb tax avoidance, and more efficient tax and insurance premium collection, could also increase funds available for health expenditures, the report states.

At the same time as increasing prepayment for health care through taxes, insurance or a mix of the two, the report also recommends countries reduce dependence on direct, out-of-pocket payments for health services. In countries that depend heavily on people paying directly for services at the point of delivery, the report estimates medical bills force 100 million people into poverty each year.

Smarter spending of existing

resources could increase global health coverage by as much as 20%–40%, according to the report. Countries could save up to 5% of their health expenditures alone by reducing unnecessary purchasing and use of drugs.

The report also recommends that governments implement controls to prevent over-servicing in countries where fee-for-service payment is the norm. Over the course of next year, WHO plans to help all countries "review their health financing systems and strategies alongside their national health policies and plans. It will encourage and facilitate exchanges of experiences between countries, and help countries adjust financing systems so that more people get to access the health services they need" (www.who.int/mediacentre/news/releases/2010/whr_20101122/en/index.html). — Lauren Vogel, *CMAJ*

Ontario survey indicates increasing reliance on electronic medical records

A survey of Ontario doctors indicates that physicians are becoming more reliant on electronic medical records (EMRs) in managing their practices and increasingly confident of the benefits to patients.

The data was collected by OntarioMD, a subsidiary of the Ontario Medical Association, which manages Ontario's EMR Adoption Program on behalf of eHealth Ontario, a provincial agency that has allotted \$386 million to subsidize physician purchases of EMRs since 2005.

The primary message from the survey of over 2000 physicians using EMRs in Ontario since 2008 is that "if you give physicians the EMR that they need, they will adopt it and they will use it," says OntarioMD Chief Executive Officer Brian Forster. To date, OntarioMD has helped about 5000 physicians purchase EMRs. The plan is to bring that number to 9000 by April 2012 using government grants of up to \$30 000 per physician.

In a survey published online, OntarioMD indicated that it used eight

criteria to determine whether physicians made “meaningful” use of EMRs in the provision of medical services. Those eight criteria: “scheduling patient appointments; billing for services; entering problems lists for patients seen; making new prescriptions/renewals; generating automated alerts/reminders to support care delivery; receiving lab results electronically, directly into the EMR from private labs supported by the EMR Specification; and storing patient care related information and documents within the EMR that originated from another healthcare provider/organization” (www.ontariomd.ca/imageserver/OMDContent/pdf/EMR_Meaningful_Use_Results_final_2.pdf). Since 2008, OntarioMD has collected more than 2000 EMR usage surveys designed to probe whether physicians are using their government-subsidized EMRs to fulfil these usage criteria.

The survey results also indicated that (all comparisons from 2008):

- 90% of physicians with EMRs use them regularly to write and renew prescriptions;
- 90% regularly receive and manage lab results electronically (up from 82%)
- 92% use EMRs to enter encounter notes, eliminating the need for paper records
- 73% felt they were primarily paperless (up from 60%)
- 53% “leverage” their EMRs to remind them of overdue or upcoming preventative or chronic care events (up from 41%)
- Once physicians move to EMRs, 83% use it as their primary source for patient information (up from 81%)
- 65% felt that EMRs improve the quality of care delivered to their patients (up from 57%)
- 84% believe EMRs improve, or at least maintain, revenue streams (up from 74%), while 79% reported improved or the same productivity (up from 62%)
- 87% felt that the privacy and security of patient information on an EMR either improved or remained the same over paper records (up from 78%). — Paul Christopher Webster, Toronto, Ont.

Parliamentary committee recommends Canada not abandon isotope production

Canada should reject Prime Minister Stephen Harper’s avowed intention to get out of the medical isotope business and even consider the feasibility of building another multipurpose nuclear reactor, according to a report by the Standing Committee on Natural Resources (www2.parl.gc.ca/HousePublications/Publication.aspx?DocId=4500827&Language=E&Mode=1&Parl=40&Ses=3).

“Considering the important role that Canada plays in the production of medical isotopes, the Committee recommends that the Government of Canada continue to support Canadian involvement in isotope production,” states the report, *The National Research Universal Reactor Shutdown and the Future of Medical Isotope production and research in Canada*.

The report is the result of an investigation by the committee into the unexpected shutdown of Canada’s National Research Universal (NRU) reactor — which has for years produced a major portion of the world’s medical isotope supply — on May 14, 2009 because of the discovery of a heavy-water leak. After 15 months of complex repairs, the reactor, located at Atomic Energy of Canada Limited’s Chalk River laboratories in eastern Ontario, was restarted on Aug. 17, 2010.

Concerns over the viability of the Chalk River reactor have been ongoing for several years. In December 2008, a shutdown resulted in a worldwide isotope shortage and considerable embarrassment to Canada’s nuclear isotope industry (www.cmaj.ca/cgi/doi/10.1503/cmaj.080154).

Still, the Standing Committee on Natural Resources, which visited the Chalk River site in April 2010, recommends in its report that the government of Canada provide the necessary support to ensure the reactor is licensed to operate until 2016. The committee also recommends that the government study the feasibility of

constructing a new multipurpose research reactor.

In June 2009, Canadian life sciences company MDS Nordion, which processes raw materials from nuclear reactors into medical isotopes, issued a press release urging the government to reconsider its decision to scrap the Multipurpose Applied Physics Lattice Experiment (MAPLE) reactors that were supposed to replace the aging NRU (www.cmaj.ca/cgi/doi/10.1503/cmaj.091256).

The new report, however, suggests that instead of bring the MAPLE reactors into service, the government should consider selling them.

“If a private sector proposal is made for the MAPLE reactors that accepts fully the commercial risk associated with the reactors and requires no additional costs on the part of the government, the Committee recommends that the Government of Canada remain open to considering the proposal,” the report states.

In total, the report makes 18 recommendations to the government regarding the future of medical isotope production and research in Canada. These include continuing to support international cooperation with other isotope suppliers, working to strengthen domestic supply, encouraging the use of alternatives to medical isotopes, funding research into linear accelerators and cyclotrons, and compensating provinces and territories for increased costs as a result of the shortage of medical isotopes.

The committee also suggests that the federal government come clean with its intentions regarding the country’s future in isotope production. The government should “issue a public statement to clarify whether or not it intends to get out of the supply side of isotope production by 2016,” the report states. “If the Government of Canada intends to get out of the isotope business as stated by the Prime Minister, the Committee recommends that it issue a public statement and table a detailed exit strategy that includes its plans to keep the NRU reactor operating until 2016.” — Roger Collier, *CMAJ*

First Canada-wide organ donation registry will save lives, health dollars

Heralded as the first Canada-wide organ donation registry, the Living Donor Paired Exchange (LDPE) has been launched to connect patients with willing but medically incompatible donors to others in the same situation. The new registry, which matches people in need of a kidney to living donors, became operational in late November 2010, after adding Quebec residents to its donation pool.

"The inclusion of all provinces in the LDPE is a significant development for patients as it increases the pool of donors. And of course the larger the pool, the more likely patients are to find a match and receive the transplant they need," said Canadian Blood Services CEO Dr. Graham Sher in a news release (www.blood.ca/CentreApps/Internet/UW_V502_MainEngine.nsf/page/Kidney_Exchange_Registry_Goes_National?OpenDocument&CloseMenu). "This is a prime example of how better collaboration and integration can improve donation and transplantation rates in this country, and ultimately, save more lives."

The registry compares the medical information of all patient-donor pairs in its database and matches those able to exchange donors. It also lists "non-directed donors" — people who don't sign up as part of a pair but want to donate a kidney to anyone who needs it.

The partnership between Canadian Blood Services and transplant programs across the country began as a pilot project in Ontario, British Columbia and Alberta in 2009. Other provinces have joined gradually, with Quebec being the last to confirm participation in October 2010.

To date, the program has registered some 185 donor-recipient pairs from across the country, and has facilitated 57 kidney transplants, with 16 other surgeries scheduled for the coming weeks.

The registry made its first match using the Canada-wide database in late November 2010.

According to Paul Shay, executive director of the Kidney Foundation of Canada, the national program has the

potential to cut transplant wait times, saving lives and health care dollars.

"Each kidney transplant saves the health care system up to \$40 000 annually," he said in the news release. "The 57 transplants that have happened as a result of this registry will save the system millions of dollars and improve the quality of life of the transplant recipients beyond any monetary value."

Far too many patients continue to die while waiting for transplants, he added.

Kidney disease is the ninth leading cause of death in Canada, according to Statistics Canada, resulting in 3803 deaths in 2007 alone (www.statcan.gc.ca/pub/84-215-x/84-215-x2010001-eng.htm).

Two more registries — a national organ urgent wait list and a registry for difficult-to-match kidney patients — are now in development and planned for rollout in 2011. — Lauren Vogel, *CMAJ*

Trends in physician payment and supply

Clinical payments to Canadian physicians rose an average 9.6% to more than \$17 billion in 2008–09, the highest annual increase in a decade, according to new data from the Canadian Institute of Health Information (CIHI).

Confirming earlier CIHI data that indicated physician expenditures are now the fastest-growing category of health spending, CIHI's updated *National Physician Database* reveals that the nation's physicians billed roughly \$12.95 billion in fee-for-service charges in 2008–09, while receiving \$4.75 billion in alternative modes of payment such as salaries and contracts (http://secure.cihi.ca/cihiweb/products/NPD_2008_2009_Data_Release_EN.zip). That translates into a split of 73%–27% in terms of the number of doctors who are paid through fee-for-service as opposed to salaries or contracts. The split is highest in Alberta (85.3% fee-for-service) and British Columbia (80.2%) and lowest in the Northwest Territories (3.7% fee-for-service) and Nova Scotia (50.8%).

The database indicates that the high-

est annual percentage increases in clinical payments occurred in Quebec (13.4%), Ontario (11.9%) and Prince Edward Island (10.2%), while the lowest occurred in the NWT (–1.3%) and in BC, Saskatchewan and New Brunswick (3.9%).

CIHI's database states that in 2009, the average gross fee-for-service billing for a full-time equivalent family physician was \$235 420. For specialists, it was \$323 004. (Gross billings include physician salaries as well as office staff salaries and expenses).

In a parallel release, *Supply, Distribution and Migration of Canadian Physicians, 2009*, CIHI indicated that the national supply of physicians rose 4.1% to roughly 68 100 physicians in 2009, again the highest annual percentage increase in more than a decade (http://secure.cihi.ca/cihiweb/products/SMDB_2009_EN.pdf).

The national average of physicians per 100 000 population is 201, with Nova Scotia having the most at 231, followed by Quebec 221, Yukon 218, Newfoundland and Labrador 219, BC 212, Alberta 204, Ontario 187, Manitoba 182, New Brunswick 194, PEI 165, Saskatchewan 164 and the NWT 99. Nunavut brought up the rear with a scant 37.

The data also indicate Ontario and Quebec are the two jurisdictions in the country with more specialists per capita than family practitioners. In fact, were it not for two territories and PEI, Ontario would be the most difficult place in the country to find a family doctor, while several provinces such as BC and Alberta have made major strides in increasing their number of family physicians in recent years. On average, there are 103 family physicians per 100 000 Canadians, led by Yukon 188, BC 118, Newfoundland and Labrador 117, Nova Scotia 116, Alberta 113, Quebec 110, New Brunswick 109, Manitoba 95, Saskatchewan 93, Ontario 90, PEI 89, NWT 69 and Nunavut 31. There are 98 specialists per 100 000 Canadians, led by Nova Scotia 115, Quebec 112, Newfoundland and Labrador 101, Ontario 97, BC 95, Alberta 91, Manitoba 87, New Brunswick 85, PEI 76, Saskatchewan 71, NWT 30, Yukon 29 and Nunavut 6.

The average age of physicians was 49.7 years but about one in five physicians is over 60. “Physicians continue to represent one of the oldest workforces in Canada among health practitioners, with the highest average age. This is in part because physicians tend to be older when they enter the profession due to long years in medical school, and they tend to retire later than

other health care workers,” says Geoff Ballinger, CIHI’s Manager of Health Human Resources said in a news release (http://www.cihi.ca/CIHI-ext-portal/internet/en/Document/spending+and+health+workforce/RELEASE_02_DEC10). “However, with the increase in new graduates this year, we are seeing a noticeable influx of younger blood in the profession. As a result, the

age of the physician population has stopped rising for the first time in almost two decades.”

The report also indicates that doctors are working longer. They now retire at an average age of 69, compared to just shy of 68 in the 1980s. — William Burr, Ottawa, Ont.

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