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SPECIAL FOCUS

Attacks on Healthcare Workers in War Zones

Reducing the Impact of Attacks against Healthcare by Curbing the Use of Explosive Weapons in Populated Areas: Developments at the Global Level

Strategic Documentation of Violence against Healthcare: Towards a Methodology for Accountability

To Stay or Go? The Complexities of Providing Healthcare in Insecure Environments









COVER IMAGE

The destroyed operating room of the Médecins Sans Frontières (MSF) trauma centre in Kunduz, Afganistan, after the centre was hit by a sustained aerial attack on 3 October, 2015. At the time of the airstrike, the operating theatres were in use. Photo by Dan Sermand/MSF (http://kunduz.msf.org/). Used with permission. The colour of the image was modified slightly.





FROM THE EDITORS **COMMENTARY Negotiating Pharmaceutical Prices: A Change in Chinese Health Policy** Michael M. Costello **RESEARCH PAPER** Relative and Global Health: A Comparative Study between Healthcare Systems of Jordan and France Aladeen Alloubani, Ibrahim Mbarak Abdelhafiz and Abdulmoneam A. Saleh SPECIAL FOCUS: ATTACKS ON HEALTHCARE WORKERS IN WAR ZONES 20 **RESEARCH PAPERS** Reducing the Impact of Attacks against Healthcare by Curbing the Use of Explosive Weapons in Populated Areas: Developments at the Global Level **Simon Bagshaw** 31 Strategic Documentation of Violence against Healthcare: Towards a Methodology for Accountability Phuong N. Pham, Patrick Vinck, Rob Grace, Adrienne Fricke and Michael VanRooyen **COMMENTARY** To Stay or Go? The Complexities of Providing Healthcare in Insecure Environments **Larissa Fast and Christina Wille**

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From the Editors

his issue of World Health & Population (WHP) begins with two papers that deal with broadly defined global health issues. In the first article, Costello (2016) examines pharmaceutical purchasing in China and a recent change in pricenegotiation tactics. In the second, Alloubani et al. (2016) compare and contrast the French and Jordanian healthcare systems. The remaining three papers form a Special Focus section devoted to the pressing problem of attacks on healthcare workers in war zones.

According to a recently released World Health Organization report (WHO 2016), from January 2014 to December 2015 there were 594 reported attacks on healthcare workers and hospitals and clinics in 19 countries with military conflict; these strikes resulted in 959 deaths and 1,561 injuries. More than half of the attacks were against healthcare facilities and another quarter were directly against healthcare workers. Perhaps most disturbingly, 62% of the attacks were reported to have intentionally targeted these healthcare workers and facilities. Early in May of this year, the United Nations Security Council unanimously adopted a resolution "to strengthen protection for healthcare workers, the sick and wounded, hospitals and clinics, in war zones" (UN 2016). The UN resolution did not specifically mention the conflict in Syria; however, its adoption came less than a week after an airstrike on a major Syrian pediatric-care centre in Aleppo killed scores of people (PHR 2016b). The non-profit organization Physicians for Human Rights has been extensively documenting the war in Syria. According to their records (PHR 2016a), there have been 359 deliberate attacks on healthcare facilities in Syria since 2011, killing 730 medical workers.

The WHP Special Focus: Attacks on Healthcare Workers in War Zones is a continuation of the work of the conference organized by the Center for Public Health and Human Rights (CPHHR n.d.) in November 2013 in Bellagio, Italy. The report was published in WHP in 2014 (CPHHR 2014).

In the first paper of this section, Pham et al. (2016) discuss the importance of accountability in deterring attacks against healthcare systems. They suggest an approach that could increase further accountability efforts for organizations interested in the gathering of evidence for presenting criminal charges against attackers. They propose that these organizations should aim to gather not only information about the nature of the attacks but also data that help establish specific characteristics about the victims, the intent of the attackers and the patterns of violence.

Bagshaw (2016) reminds us in the second paper that explosive weapons, such as aircraft bombs, mortars and improvised explosive devices, account for more deaths, injuries and damage than any other type of weapon in attacks on healthcare facilities. He proposes that curbing the use of explosive weapons in populated areas could contribute to reducing the incidence and devastating impact of attacks against healthcare organizations.

In the final commentary in this section, Fast and Wille (2016) discuss the devastating consequences for civilians of healthcare providers being compelled to withdraw or temporarily close their programs when violence intensifies.

Conflict zones will probably never be entirely safe areas for conducting essential healthcare work, particularly as modern 4 EDITORIAL

warfare evolves. However, people who deliberately attack, intimidate or threaten healthcare workers and facilities – at any point but particularly in times of war – show an appalling lack of respect for the sanctity of healthcare and for international humanitarian law. Although there are no easy solutions here, the international community needs to stand up against the barbaric rise in the intentional targeting of healthcare workers. These individuals are there to help civilians and combatants from all sides, often choosing to remain in dangerous locations at great personal risk, and they should not have to fear direct assault while executing their ethical duties to the wounded and sick.

In conclusion, we hope that you find the papers in this issue interesting and

worthwhile additions to the global health issues debates. WHP remains committed to its mission to provide a forum for researchers and policy makers worldwide to publish and disseminate health- and population-related research, and to encourage applied research and policy analysis from diverse global and resource-constrained settings.

We look forward to continued enthusiastic submission of manuscripts for consideration, peer review and publication. Finally, the editors and publishers of *WHP* are always interested in any comments or suggestions you might have on the papers or about the journal and our mission.

- The Editors

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Negotiating Pharmaceutical Prices: A Change in Chinese Health Policy



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Abstract

Like many other nations, China believed the key to restricting national health expenditures for pharmaceuticals was the use of governmentally imposed price caps. Given the recent growth in pharmaceutical expenditures, China is moving away from price caps to a new process that includes locally negotiated prices in the hope that such price competition will lower national pharmaceutical pricing. The success of this policy endeavour will depend significantly on managing other aspects of pharmaceutical purchasing.

China's recently announced decision to lift central government-imposed price caps on pharmaceuticals is an interesting development in the nation's health policy. Under the newly announced measures, as one part of national health reform efforts, pricing power regulation for Chinese purchases of pharmaceuticals would shift to many local government entities. Pharmaceutical manufacturers will have to go through provincial bidding processes in order to win contracts with hospitals and insurance companies (Burkitt 2015).

The policy change undoubtedly reflects the central government's concern with rapidly increasing pharmaceutical costs. From 2013 to 2014, pharmaceutical sales increased by 14% from \$92,100,000,000 to \$105,000,000,000. Any effort to restrain national healthcare expenditures would have to take into consideration the impact of pharmaceuticals on total spending. China's spending on pharmaceuticals is about 40% of the total national healthcare expenditures compared to the international norm of 15% to 25% (Thomas 2015).

Market Pricing Dynamics

Price caps on pharmaceuticals have traditionally been viewed as a means to reduce drug expenditures in the short run. Many nations believed that such centrally imposed restrictions on drug prices would lead to a reduction in drug expenditures, as part of national efforts to reduce total healthcare expenditures. Assuming that the capped prices were below the previous pricing levels and that purchased quantities did not increase, the anticipated result would be lowered total expenditures. In imposing such price caps, China's Central Government obviously believed that this would help control pharmaceutical expenditures.

A major argument against pharmaceutical price controls is the belief that such measures will negatively impact the research and development expenditures, which drug companies must make in order to produce new medications for the future (Feldstein 2011). Limitations on pharmaceutical prices are believed to limit manufacturer's margins, thereby reducing the incentive to invest significantly in the development of new products for the future. While reduced pricing resulting from price caps may theoretically benefit purchasers in the short term, the belief is that they would have negative long-term impacts on the pharmaceutical industry.

Price controls only have their desired effect on pharmaceutical drug expenditures if the quantities of pharmaceuticals prescribed under the price controls are held within certain limits. That is, a reduction in the unit price of the pharmaceuticals will be easily off-set or exceeded if the quantities of pharmaceuticals ordered under these price controls exceed the quantities ordered prior to the price controls being put into effect.

In many of the world's nations, the effort to reduce the quantity of medications required can prove problematic. Factors such as the aging of national populations and the incidence of disease, as well as population growth, mean that pharmaceutical utilization would be expected to increase in the absence of appropriate policy measures.

Price controls of any sort have always remained somewhat controversial in the eyes of many economists. Issues associated with price controls on pharmaceuticals have been summarized by Scherer (2000) as follows:

"In sum, efforts by national authorities to curb pharmaceutical costs and offset the demand increasing effects of generous health insurance by imposing drug price controls are found throughout the industrialized and less-developed world. These sometimes succeed in their proximate goal, but cause bulges in other parts of the health care balloon, bias new drug research and development incentives, and distort international trade and investment patterns. Although one may share the underlying cost control goals, a review of the consequences suggest that the aversion of most economists to price controls is well founded."

In China, the hope would be that locally negotiated prices would be less than, or at least equal to, prices under the national price control mechanism. A reasonable assumption under such a mechanism is that the newly

negotiated local prices would be somewhat similar on a region-by-region basis.

A chief concern of Chinese policymakers will be the likely impact that such a new pricing mechanism has on domestic pharmaceutical companies. Will the newly negotiated prices encourage market expansion in further development of manufacturing and research capabilities by Chinese drug manufacturers?

As the world's second largest economy with a population of more than 1.3 billion people, China's new policy on prescription drug pricing will be closely watched in many other nations to see what impact it has on total pharmaceutical and healthcare expenditures.

Some Other Considerations

China experimented with lifting centralized price controls once before, in the period from 1992 to 1996 (Sun et al. 2008). That experiment came to an end in 1997 over government concerns of price increases resulting from market-based pricing, poor quality control of pharmaceuticals offered within the country and corruption and kickbacks. It would appear that the current situation merits a reconsideration of price cap elimination.

The magnitude of pharmaceutical expenditures as a percentage of China's national healthcare expenditures would seem to be a major consideration in the recent policy change. In China, pharmaceutical expenditures constitute 40% of the total national health expenditures as compared to 16% in Organisation for Economic Co-Operation and Development (OECD) countries (The Economist 2014). By 2016, China is expected to become the world's second largest pharmaceutical market (ibid). This growth is predicated upon predictions of an aging population, the expansion of public health insurance which pays for pharmaceuticals, and the demands of a wealthier society.

Pharmaceutical sales have also contributed significantly to the funding of China's public hospitals. Government subsidies contributed approximately 9% of hospital revenues as of 2011, while the sale of medicines accounted for an additional 40% (ibid). Although efforts are underway to curtail certain markups, the current policy allows Chinese hospitals to markup pharmaceuticals by a 15% margin prior to sale to the public. The enhanced revenue from pharmaceutical sales by hospitals also benefits physicians, many of whom work in these public facilities.

Since hospital and physician income are dependent on pharmaceutical revenues, there is little incentive on the provider side to reduce either the price or utilization of prescription drugs. In fact, recent prosecutions have focused on inflated drug invoices, used as a means of increasing revenues to hospitals. According to Sun et al (2008):

"Contradictory goals plague China's pharmaceutical policy. The government wants to develop the domestic pharmaceutical industry and has used drug pricing to cross-subsidized public hospitals. Yet the government also aims to control drug spending through price caps and profit margin regulations to guarantee access even for poor patients. The resulting system has distorted market incentives, increased consumers' costs, and financially rewarded inappropriate prescribing, thus undermining public health."

Considerations for The Future

If China's most recent effort at lifting nationwide drug price caps is to be successful in restraining pharmaceutical expenditures, the national health policy should be rethought to take into consideration certain concepts that could conceivably lead to successful policy implementation.

- 1. All efforts should be made for Chinese healthcare providers to make use of effectiveness studies on various pharmaceutical agents before approval of purchase. Such effectiveness studies are becoming an increasingly important part of health economic policy throughout the world. As Taylor (2004) indicated: "Increasingly, new drugs must show evidence of cost effectiveness." The introduction of effectiveness studies, and their use in pharmaceutical purchasing decisions, can demonstrate the value of certain pharmaceutical purchases compared with others.
- 2. Negotiated pharmaceutical prices, as evidenced through local and regional purchases, should be transparent nationwide. That is, the prices negotiated by local authorities in one region should be made available for informational purposes to purchasing officials in other areas. Such information diffusion would hopefully lead to comparable pricing, and constitute an important source of market information. Any perceived deviations from such pricing norms should be thoroughly justified in order to rationalize price disparity.
- 3. Despite the factors listed above indicating potential reasons for the increased use of pharmaceuticals in China in the future, serious efforts must be taken to reduce and/or limit the quantities of pharmaceuticals purchased as reflected in national health expenditures. Newly negotiated prices may be effective to a certain degree, but if there is no check on the quantities of pharmaceuticals ordered, overall drug expenditures will not be reduced.

The success of the new Chinese drug pricing policy will, in a large part, be determined by successfully addressing some major internal considerations. Economic theory would indicate that negotiated prices do have the opportunity to reduce healthcare expenditures, but the ultimate success of the endeavour will be determined by addressing other significant internal national concerns such as the overall quantity of pharmaceuticals utilized. Among the external concerns to be addressed are the overall international price levels and the willingness of pharmaceutical manufacturers to meet the price expectations of local negotiators.

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Relative and Global Health: A Comparative Study between Healthcare Systems of Jordan and France



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Abstract

Objective: This relative study includes categorical exploration of the economics, demographic, political, social and financial data to realize the basic reasons of the present healthcare systems in these countries.

Methods: Descriptive and comparative methods were used. This study tries to relate the healthcare systems of Jordan with that of France to produce effective lessons that can be helpful for guiding future developments down the correct path. **Popults:** Depending on many factors such as life expectancy, the mortality rate in

Results: Depending on many factors such as life expectancy, the mortality rate in infants, universal medical coverage and availability of healthcare services to the masses, significant disparities between the two systems were found.

Conclusion: Through this study, it has been concluded that the healthcare system of Jordan has a lot to improve with regard to standards of services offered, and there are many aspects to be learned from the French healthcare system by the Jordanian one, including the healthcare coverage system and the cost-sharing strategies.

Introduction

The World Health Organization (WHO) defines health from a very broad perspective. According to the WHO, health indicates a condition of total well-being including physical, mental and social aspects (WHO 1993). Health, therefore, is not only about the healthcare system but also includes issues like housing, heredity and nutrition. At present, France is one of the most developed nations and is often considered a leader amongst the European countries. The healthcare system of France was ranked first by the WHO in 2000 mainly due to its global approach, promptness and liberties of the patients, as well as of the healthcare providers (WHO 2011).

Socio-Cultural, Economic And Political Circumstances

Lasting social and economic changes occurred in France from 1914, the period covering the second and third republics (Sciolino 2006). However, modernism in social systems that include healthcare took place in the fourth and fifth republics spanning from 1944 to date (Sciolino 2006). France made radical changes to the social and economic systems at the time of the fifth republic as a colonial master in both Asia and Africa, including healthcare as part of the foreign policy of assimilation of colonies annexed as "the other France" rather than as French territories (Sciolino 2006). Although France was amongst the winners in the World Wars I and II, the state suffered extreme damages regarding affluence and manpower reducing its positioning as a steady state both socially and economically (Segouin et al. 2007).

In 1993, France participated in the establishment of the European Union to become a resilient political authority (Stuckler et al. 2010). Table 1 shows the total population of France including a majority of Roman Catholics (63–66%) (Frenk 2010) and other religions such as Islam (7–9%), Protestants (2%), Jewish (0.5–0.75%) and unaffiliated (23–28%) (Frenk 2010). From 1992, French is the only official language of the country (Frenk 2010). Therefore, except the autonomous microstates, France is the only nation in Western Europe with one official language (Frenk 2010).

Table 1. Demographical features of Jordan and France (2014 est. except where indicated)

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Demographical data	Jordan	France
Population	7,930,491	62,814,233
Age structure		
0–14 years of age	35.8%	18.7%
Male	1,457,174	6,337,877
Female	1,385,604	6,053,185
15–64 years of age	60.3%	63%
Male	2,408,340	20,881,936
Female	2,371,803	20,846,888
65 years of age and over	3.9%	18.3%
Male	145,515	5,197,519
Female	162,055	6,941,607
Median age	21.8 years	40.9 years
Male	21.5 years	39.3 years
Female	22.1 years	42.4 years
Population growth rate	3.86%	0.45%
Net migration rate (migrants/1,000 population)	17.22	1.09

Demographical data	Jordan	France		
Sex ratio (male:female)				
Total population	1.03	0.96		
At birth	1.06	1.05		
Under 15 years of age	1.05	1.05		
15–64 years of age	1.02	1		
65 years of age and over	0.95	0.74		
Ethnic groups	Arab 98%, Circassian 1% and Armenian 1%	Celtic and Latin, with Teutonic, Slavic, North African, Indochinese and Basque minorities		
Religions	Islam, Christianity and other	Christianity, Islam, Judaism and unaffiliated		
Languages	Arabic (official), English widely spread	French		
Literacy rate*				
Total population	95.4% (2015 est.)	99% (2003 est.)		
Male	97.7%	99%		
Female	92.9%	99%		
School life expectancy (primary to tertiary education)				
Total population	13 years (2011 est.)	16 years (2012 est.)		
Male	13 years	16 years		
Female	14 years	16 years		
Education expenditures (% of GDP)	4.9% (1999 est.) 5.6% (2007 est			
Health expenditures (% of GDP)	7.2% (2013 est.)	11.7% (2013 est.)		

 $\label{eq:estimate} \textit{Est.} = \textit{estimate}; \ \textit{GDP} = \textit{gross domestic product}.$

The Healthcare System of France Structure, coverage, costs and reimbursements across in-patients and ambulatory care

The French health insurance system comprises both public and private insurers (Saltman and Dubois 2005). The health system of France is based on the Public Health Insurance (PHI) of the country. PHI is a vital part of the Social Security System privilege plan (Glied 2008).

It has private and public sectors that contribute to the overall national health system (Glied 2008). In France, government hospitals own 65% of the hospital beds, with the rest held by a non-profit, profit-oriented and surgery-centred hospitals (Glied 2008). The offices usually cater for the optional charges for the health services rendered to patients covered under a health insurance plan (Glied 2008). Availability of healthcare meets accessibility through the parliamentary health insurance system. However, the patients also take part in meeting the costs of the healthcare in a cost-sharing program that encourages patient responsibility and accountability in the healthcare services being offered. Besides, the patient needs to be referred by a qualified and practicing medical specialist to lower the cost of medication. Otherwise, the cost of health services increases for the patient (Chevreul et al. 2015).

The French PHI allows the patients to pay at the point of service delivery and be reimbursed immediately by their health insurance providers to a given rate for the cost incurred. This system means that even the outpatient care in the country is not free for the patients at the time of health service delivery (Green and Irvine 2013). However, the immediate reimbursement by the insurers means no financial hitch is felt by the patient under the carte vitale reimbursement rates that also differ from various health needs of the patients (Green and Irvine 2013). For instance, those with human immunodeficiency virus (HIV) or acquired immune deficiency syndrome (AIDS), diabetes and other chronic conditions are exempted from the cost-sharing system. Besides, the patients with special conditions such as pregnancy into the fifth month, pensioners of war and children with disability lack the opportunity for co-payments (Green and Irvine 2013).

In the ambulatory category, 80% of the total incurred medical cost is refunded to the patient (Green and Irvine 2013).

^{*}Age 15 and over can read and write.

However, any stay as inpatient attracts a fixed charge pegged per day at €18 for every patient (Green and Irvine 2013). A visit to a general practitioner (GP) under the out-patient category also attracts between 50% and 75% cost reimbursement pegged on the level of compliance (Green and Irvine 2013). Other reimbursement rates for the ambulatory category include vaccinations at about 65-100%, seeing a dentist is reimbursed at 70%, other costs that encompass transport at 30% and drug prescriptions ranging from 35% to 100% based on the level of effectiveness and necessity (Green and Irvine 2013). Increased cost sharing towards medical costs is improved recently in France set at a maximum of **€**0 annually (Green and Irvine 2013). Besides, some excluded medical conditions by the National Health Insurance (NHI) also covered by special private insurers as based on the health policy agreement between the health consumer and the insurer. The NHI system recognizes and covers healthcare delivery for both private and public hospitals, diagnostic services, medical appliances and products and determined transport closely related to medical service visits (Green and Irvine 2013). Medical services derived from GPs, dentists, midwives and other health specialists are covered by the NHI (Green and Irvine 2013).

Insurance

Legislation of the health insurance coverage

Subscribing to a medical insurance policy is mandatory. This legislative provision enables France to reach nearly 100% health insurance coverage for its entire population (WHO 2011). A pillar in this achievement is the program called Assurance Maladie that ensures people of low socio-economical class also enjoy the health insurance (Chevreul et al. 2015). Assurance Maladie works to include independent citizens such the self-employed, the unemployed and their eligible dependants (Chevreul et al. 2015).

Corresponding Coverage by Health Insurance

Complete coverage for the costs of health-care is provided in cases of severe ailments, industrial injury or maternity (Awad et al. 2009). The only refunded part of the healthcare cost is pegged on the extent of services offered (Awad et al. 2009). Still, other services are funded by the patient exclusively (Awad et al. 2009).

Some other similar health insurance plans are available to provide coverage for the expenses allowed by the patient (Saltman and Dubois 2005). One of these plans is mutuelles or the mutual benefits funds that cover more than 40 million people as of today. Moreover, private insurance organizations and sound foundations are jointly run by the councils of companies and workers (Saltman and Dubois 2005).

Universal Medical Coverage Scheme

Under Couverture Maladie Universelle (CMU), social security and health insurance coverage is extended to people with lower incomes depending on their legitimate residential status (Rough 2013).

Finance and Health Expenses

France has a total healthcare expense of 11.7% of the gross domestic production (GDP) which is the maximum amongst the European countries. The projected expense of the nation on healthcare is \$42,513.3 per capita (Table 2) (OECD 2013; CIA 2014a).

The great financing of the PHI is accomplished through the offerings of companies and workforce. Up to 12.8% of the monthly wage of each employee is paid to the fund by the employer and the employees give 0.75% of their salary to the fund (Green and Irvine 2013). Also, 5.5% of the income collected as a personal income tax is added to the PHI fund (Green and Irvine 2013). The detailed specifications of the PHI of a person depend on own profession and the total money earned.

Table 2. Economical features of Jordan and France

Economical data	Jordan	France			
GDP – real growth rate (2011 est.)	2.5%	1.7%			
GDP – per capita (PPP) (2013 est.)	US \$5,214.20	US \$42,513.30			
GDP – compositio	n by sector (2014 es	t.)			
Agriculture	3.2%	1.7%			
Industry	29.3%	19.4%			
Services	67.4%	78.9%			
Labour force (2013	est.)				
Total population	1,772,636	30,143,373			
Agriculture	2.0%	3.0%			
Industry	20.0%	21.3%			
Services	78.0%	75.7%			
Unemployment rat	Unemployment rate				
Total population	13.0% (2015 est.)* 11.9% (2014 est.)*	9.9% (2015 est.) [§] 9.9% (2014 est.) [§]			
World ranking	142	114			
Youth aged 15–24 (2012 est.)					
Total	29.3%	23.9%			
Male	25.2%	23.7%			
Female	48.8%	24.2%			
World ranking	27	39			
Budget (2014 est.)					
Revenues	US \$9.845 billion	US \$1.507 trillion			
Expenditures	US \$11.42 billion	US \$1.631 trillion			
Inflation rate	3.0% (2014 est.)	0.6% (2014 est.)			
Consumer prices	5.6% (2013 est.)	1.0% (2013 est.)			

Est = estimate; GDP = gross domestic product; PPP = purchasing power parity.

Approximately, 75% of the total expenses of healthcare are covered by PHI (Green and Irvine 2013). Services like outpatient care, hospital admission, nursing home care, recommended medications, visual and dental care are covered by PHI, while the remaining costs will be shared between the patient and additional private insurances (Chevreul et al. 2015).

Health System of JordanPolitical, socio-cultural and economic backdrop

Jordan is a small nation with incomes in the lower-to-middle range. The nation has a total of 89,300 km² area with only 7.8% of arable land (CIA 2014b). The nation's natural resources are limited. Jordan is a statutory kingdom where the prime right is bestowed on the king and the ministers of his assembly. Jordan has a population of 7.93 million with an average growth rate of 3.86% per annum (CIA 2014b). Only 30% of the population is above the age of 30 years (CIA 2014b). Jordan has the best performance amongst all the Arab nations in the aspects of life expectancy, the rate of school admission, adult literacy and literacy of female and other direct pointers (Awad et al. 2009).

Health System Institutions

Jordan enjoys much-modernized healthcare arrangements compared to other countries in the Middle East (Ajlouni 2010; Kronfol 2012; Mainil et al. 2011). According to Ajlouni (2010), there are three main divisions in the healthcare system of Jordan consisting of the public sector, the private organizations and the non-profit organizations. Two key public plans make the public health sector, namely, the Royal Medical Services (RMS) and the Ministry of Health (MOH). There are other minor public plans contributing to the national public healthcare system. These programs include different those run by the universities like the Jordan University Hospital, the special program of the Royal Cabinet of Jordan (RCJ) that caters to the full expenses of medical cost of the lowest socio-economic class with no apparent medical cover, and the King Abdullah Hospital in the cities of Amman and Irbid (Hasna et al. 2010).

In 2013, the total cost of healthcare was estimated to be 7.2% of the total GDP, which made the per capita expenditure on health reach US\$5,214.2 (CIA 2014b). Official health

^{*}Official rate; unofficial rate is approximately 30%.

[§]Includes overseas territories.

insurances cover around 87% of the population of the country (CIA 2014b). At 27%, the RMS is the highest insurer in the health sector (CIA 2014b). The MOH insures 19.5% of the population, and 11% of the population is insured by the United Nations Relief and Works Agency (UNRWA) (CIA 2014b). Private firms and the university hospitals account for 8.8% and 2% of the population insured (Al-Qudah 2011).

Relative StudyComparison of Significant National Demographics

The elderly population is much higher in France than in Jordan. This situation naturally explains the higher rate of mortality in France. However, the rate of infiltration is much greater in Jordan compared to France mainly because of the volatility of the surrounding nations (Zineldin 2006). This scenario naturally contributes to a higher rate of population growth in Jordan. In addition, a greater rate of fertility can also be a reason for high population growth in the country compared to France (Zineldin 2006).

Comparison of health systems Structure

A characteristic feature of the healthcare system of both countries is observable. In France, as well as in Jordan, both public and private institutions strongly exist forming the healthcare sector. Besides, both the services offered and the initiatives also enter into play for providing coverage. However, in 2000, WHO ranked the French healthcare system at the first position with the Jordanian at the 83rd overall (WHO 2011). Therefore, significant disparity between the two healthcare systems is expectable (WHO 2011).

Public sectors Eligibility

As mentioned, all the citizens of France are entitled to a free-of-cost health services. Immigrants working as missionaries for an institution, even outside the territory of France, have the right to get the same facilities.

Healthcare Charges

Services in the healthcare system of France are provided without any fees except for some pre-determined charges applied to adults for medicaments, dentistry and optical care. However, for people in the low-income range comprising kids of less than 16 years of age and pensioners, there are no charges for these services either (Fund 2010).

In case the patient willingly opts for treatment as a private candidate, in the public healthcare systems of France and Jordan, no refund will be provided by the public sector and the total expense of the healthcare will be shouldered by the patient. The Ministry of Health and Solidarity became the MOH in France after 2007 (Chevreul et al. 2015). The French MOH is also known as the Administration Sanitaire et Sociale (Administration of Health and Social Affairs). It comprises four directorates including the General Directorate of Healthcare Supplies (Direction Générale de l'Offre de Soins: DGOS) and General Directorate of Health (Direction Générale de la Santé; DGS) (Chevreul et al. 2015: 24). The other dockets within the MOH are the General Directorate for Social Security (Direction de la Sécurité Sociale; DSS) and the General Directorate of Social Policy (Direction Générale de la Cohésion Sociale, DGCS) (Chevreul et al. 2015: 24). This MOH in France is concerned with healthcare cover charges patients, who access private services, 10% and 20% more than the rest when treated in health centers and hospitals, respectively (Chevreul et al. 2015).

The medical practitioners

In France, the general practitioners (GPs) working in private practice need to be in a contract with the national health agency to offer medical services. These GPs are paid a different fee negotiated and determined by the concerned national health agency.

Every French citizen needs to register with the GPs in their area because they cannot

directly see a specialist unless referred by their own GP (Green and Irvine 2013). On the other hand, the doctors, including the GPs and the specialists working with the hospitals, work on a direct payroll of the public healthcare sector while getting regular wages from the hospital (Green and Irvine 2013).

In the case of Jordan, the scenario is quite different. In Jordan, every medical staff in the public sector, including the doctors working in the hospitals and the GPs, are on the direct payroll of the public healthcare sector and paid wages by their respective healthcare facilities for which they work (Green and Irvine 2013). In contrast to the healthcare system of France, in Jordan, it is not compulsory for a patient to be referred by own GP to see a specialist.

Private Sectors

About 85% of the French population is medically covered by the private insurers (Green and Irvine 2013). It should be highlighted that the private healthcare is never considered as superior to public healthcare in a matter of efficiency in France. This equal consideration of both healthcare sector players in France emanates from the fact that similar senior specialists perform the treatment in either public or private healthcare provision (Green and Irvine 2013).

The private healthcare sector of Jordan includes some hospitals and clinics. According to the latest data, there are a total of 58 private hospitals in the country (Ministry of Health 2014). However, all of these facilities are available only in the major cities. Private insurance covers around 8.8% of the population of Jordan (Ministry of Health 2014). This population mainly includes the employees of big companies who either are self-insured or are provided with private health insurance by their companies (Hasna et al. 2010). Also, a significant information gap exists concerning the contribution of private sector firms to the

national strategy of providing comprehensive health insurance coverage to the population.

Health indicators

The next section provides the primary indicators in both the healthcare systems of France and Jordan. It details the major differences between the healthcare systems of the two countries.

Maternal mortality rate and infant mortality rate

It can be observed from Table 3 that the infant mortality rate is much higher in Jordan compared to France. However, according to 2001 Jordan Annual Fertility Survey, the infant mortality rate in Jordan has come down to 15.57 per 1,000 live births from 33 per 1,000 live births (CIA 2014b). This improvement in infant mortality rate is no doubt a remarkable development.

To reduce the rate of maternal mortality, the MOH is offering 27% of the health budget on basic healthcare (CIA 2014b). This plan includes, free-of-cost delivery and prenatal care in 385 health centres offering maternal and childcare (CIA 2014b).

The much higher birth rate in Jordan compared to that of France could be due to many reasons. Reduction in the infant mortality rate and expansion of life expectancy along with extensive infiltration, particularly from Iraq, can be pointed to like some of the primary causes of high population growth. Jordan uses mobile health service delivery such as those set up in the refugee camps to cater for the medication of the influx populations from the unstable neighbouring nations (Hasna et al. 2010; Young 2011). The cost of such medication to non-citizens is met mainly by the aid assistance such as the United Kingdom Aid (UKAID) supplementing the national official efforts (Hasna et al. 2010). The exact figures of the amounts of money going into the medication of the immigrant refugees into Jordan is, however, not available in the public domain as of now (Young 2011).

The government contribution is low compared to the foreign aid supporting the refugee influx, but it still creates a strain in the social health system of the country in terms of medical personnel and facilities (Young 2011).

The public sector healthcare system of Jordan, including the Jordanian Association for Family Planning and Protection, UNRWA and others, offers free-of-cost family planning services (CIA 2014b). Based on the reports of the WHO in 2012, 61.2% of the married women population was using contraceptives for birth control (Table 3) (CIA 2014b).

Table 3. Health indicators for Jordan and France (2014 est. except where indicated)

Health indicator	Jordan	France		
Infant mortality per 1,000 live births				
Total population	15.73	3.31		
Male	16.63	3.63		
Female	14.79	2.97		
Maternal mortality per 100,000 live births	50	9		
Neonatal mortality per 1,000 live births	11 (est. 2014)	2 (est. 2013)		
Births per 1,000 population	25.23	12.49		
Deaths per 1,000 population	3.8	9.06		
Life expectancy at birth (years)				
Total population	74.10	81.66		
Male	72.79	78.55		
Female	75.50	84.91		
Healthy life expectancy total population (2002 est.)	61 years 75 years			
Fertility rate (children born per woman)	3.16	2.08		
Contraceptive prevalence	61.2% (2012 est.)	76.4% (2008 est.)		
Adult obesity rate	28.1%	25.7%		
Hospital beds per 1,000 population	1.8 beds (2012 est.)	6.4 beds (2011 est.)		
Physicians per 1,000 population	2.56 (2010 est.)	3.19 (2013 est.)		

Est = estimate.

According to this study, the cultural tendency towards having big families is one of the reasons for higher birth rate in the nation. However, with time, this concept has started

to change, mainly due to the financial conditions of the parents and also the efforts by the MOH to educate people with the help of media (Hasna et al. 2010). Conversely, for the healthcare system of France, offering the best care to their senior population is a challenge. Integrating all the healthcare services, like welfare, primary, secondary and tertiary services, through proper planning is the other challenge to the system.

In Jordan, only 3.9% of the population is aged over 65 years (CIA 2014b). This group of people, however, needs lesser healthcare because the culture of the society in Jordan dictates that the other members of the family take care of their elders. In Jordanian society, it is a matter of great shame to leave an elderly member of the family alone in a retirement center (Hasna et al. 2010).

Main Causes of Death

In both countries, the dominant pattern of illness is not infectious diseases but chronic ones. This pattern can be attributed to the alteration in demographics and also the changing style of life as shown in Table 4. In France, as well as in Jordan, cancer in different forms and of different organs and cardiovascular diseases are the main reasons for death. This health situation can be directly attributed to the effects of smoking. According to the 2002 WHO reports, 30% of the population of Jordan is regular smokers (WHO 2011). There are no stern rules about smoking in either of the countries, but some initiatives to restrict smoking in and around public places have started to come into action in the last few years (WHO 2011).

In Jordan, cancer is the second highest cause of death (CIA 2014b). For detecting cancer at an earlier stage, proper treatment and prevention initiatives have been started in both countries. However, due to inadequate funds, medicines and dearth of specialty in the area, Jordan suffers from higher mortality rate attributed to cancer. In Amman of Jordan, the first cancer specialty center was established in 1997 (Hasna et al. 2010). Since then, the organization has been

providing cancer treatment to the Jordanian population. However, due to the quick growth of population, more specialty centers for treating cancer have become indispensable.

Table 4. Common causes of death in France and Jordan

	France		Jordan	
Cause of death	Rank	No. of deaths	Rank	No. of deaths
Coronary heart disease	1	4,261	1	4,688
Stroke	2	3,411	2	3,188
Alzheimer/ dementia	3	3,142	28	127
Lung cancer	4	3,083	17	307
Colon/rectum cancer	5	2,056	14	352
Influenza and pneumonia	6	1,429	7	1,160
Breast cancer	7	1,395	13	401
Other injuries	8	1,265	11	453
Diabetes mellitus	9	1,181	4	2,048
Prostate cancer	10	1,081	24	155

No. = number.

Evaluation of Jordanian healthcare system and French healthcare system

Although the healthcare system in Jordan is facing ample challenges, it also has some noteworthy high points compared with the other nations in the region. These strengths are:

- Well-trained healthcare staff: From the very beginning, Jordan has stressed creating highly trained personnel, and this is no doubt a major advantage of the healthcare system of the country.
- Medical tourism: Jordan has a better healthcare system compared to neighbouring countries, and hence some patients from different Arabian nations come to Jordan for treatment. Medical tourism has a strong, positive effect on the overall

- economy of the country, and can be a great assistance for offering better healthcare services.
- Jordan nurtures a well-coordinated relationship with different global health associations like United States of America Aid (USAID). The organization has started various programs for the betterment of the healthcare services in the county.

The following drawbacks can be observed in the healthcare system of Jordan:

- Lack of research initiatives and statistical studies.
- The paucity of resources, mainly finance, in developing the healthcare system.
- As much as 32% of the population is not covered by any health insurance (CIA 2014b).
- Huge gap in services offered by private and public sectors.
- Redundancy of some pattern of services due to an absence of proper coordination between different healthcare providers.

France works together with major international bodies like the WHO, Organisation for Economic Co-Operation and Development (OECD) and health ministries of other nations to achieve healthcare goals related to research on the ways to resist and check epidemics. These collaborations and partnerships enable France to establish higher healthcare standards than Jordan while encouraging preventive health actions. The healthcare system of France draws strength from this aspect, especially the interaction with other nations, because it also enables France to learn from the experiences of other nations, thereby employing best practices to various aspects of healthcare service delivery (Hyder 2007).

Jordan, therefore, needs to learn the comprehensive health cover system using a

strategy similar to the Assurance Maladie in France to increase its coverage from the current 87% to 100% (Green and Irvine 2013). In addition, Jordan needs to emulate the cost-sharing strategy but moderate the cost-burden to the patients. Lastly, Jordan needs to improve on the general quality of the healthcare system and services in competition with the Western European nations like France that are ahead of the game worldwide rather than against the peer Asian nations.

Conclusion

The measure of success of the healthcare system of France

- 1. Depending on some healthcare factors, the WHO ranked the healthcare system of France number one, in the year 2000.
- 2. The healthcare system in France was found to be well structured and planned according to the requirements and anticipations of the masses. The system offers sufficient coverage across different geographical areas, and all the players in the healthcare sector were well coordinated.
- 3. The healthcare system of France provided global coverage combining both private and public hospitals and care providers. After putting the best efforts forth for over half a century, finally, in the month of January 2000, France was able to insure the residual 1% of the population that was not covered.
- 4. Advances in the sector of medical sciences and pharmacology have brought wide enhancements into the French healthcare system.
- 5. According to the healthcare rules of France, the coverage is provided to the patient depending on the level of illness. For individuals, with any one or more of the 30 marked long-term conditions that have expensive treatments like mental illness, cancer and diabetes, 100% of the healthcare cost is assured.
- It has been observed that the citizens
 of France enjoy a longer and healthier
 life, which can be attributed to the best
 healthcare provided right from the time
 of birth.

The Challenges Faced by the Healthcare System of France

Although there is a substantial and vigorous effort towards improvement, still the healthcare system of France has its challenges (Annual Report 2006). Some of these are discussed below.

Accessibility

Control of the excessive demand for the significant cost sharing in the French healthcare system is governed by capping of minimal fees to be paid by the patients depending on the extent of the coverage by the private or public sector insurers (Green and Irvine 2013). The reimbursement schedules outlined earlier provide the breakdown of the cost sharing per service or goods category in either the ambulatory and in-patient care delivery modes (Green and Irvine 2013). In the public healthcare sector of Jordan, the rules for gaining healthcare are different. As, the MOH and RMS serve only their staffs and wards of their personnel and other referred patients from public providers, the masses do not have any admittance to these services (Chevreul et al. 2015).

Financial shortage

The financial crunch is a major drawback for the healthcare systems of both the countries. In France, the GPs are given salaries, or receive a pre-set fee for the services offered, which, in either case, is considered as inadequate by medical professionals. This inadequacy results in long waiting lists for the patients.

In the same way, the doctors and staffs working in the Jordanian healthcare sector felt discouraged and discontented due to minimum pay and improper working environments (Hasna et al. 2010).

Continuous improvement and restructuring

The increasing rate of immigration, growing number of aged people and the alterations in the global financial scenario bring the healthcare system of France under the continuous requirement of re-assessment and active restructuring.

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Reducing the Impact of Attacks against Healthcare by Curbing the Use of Explosive Weapons in Populated Areas: Developments at the Global Level*



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Abstract

Attacks against healthcare in situations of armed conflict have emerged as an issue of increasing concern with explosive weapons – such as aircraft bombs, mortars and improvised explosive devices – accounting for more deaths, injuries and damage than any other type of weapon in attacks on healthcare facilities. While this is perhaps unsurprising, it offers some insight into a possible course of action for dealing with the problem of attacks against healthcare – by curbing the use of explosive weapons in populated areas. There has been growing recognition in recent years of the humanitarian problems caused by the use of such weapons in populated areas. Steps are now being taken at the global level to curb this use which could, in time, make an important contribution to reducing the incidence and devastating impact of attacks against healthcare.

^{*}This paper was originally written in 2014.

Introduction

Attacks against and other forms of interference with healthcare in situations of armed conflict and violence have emerged as an issue of increasing concern. The International Committee of the Red Cross (ICRC 2011) characterized it as one of the biggest, most complex and under-recognized humanitarian issues today. Conflict disrupts healthcare in many different ways and when it is most needed. Hostilities prevent personnel, the wounded and sick from reaching healthcare facilities. Healthcare facilities and vehicles are sometimes directly targeted or damaged; military or security personnel forcibly enter such facilities looking for enemies; and gaining control of a hospital is sometimes an objective of non-State armed groups. The wounded and sick are attacked and medical personnel are threatened, abducted, injured or killed or prosecuted. As a result, it is difficult or impossible to provide adequate care to those in need. Moreover, a single act of violence that damages a hospital or kills healthcare personnel has consequences for many other people requiring care who suffer further through lack of treatment.

In view of its gravity, the issue has figured prominently in the last two reports of the United Nations (UN) Secretary-General to the Security Council on the protection of civilians in armed conflict. The Secretary-General's report of May 2013 (UN 2013) called on parties in conflict to immediately cease attacks against, or other forms of interference with, healthcare facilities, transport and providers in violation of international law. His report of November 2012 (UN 2012) recommended that the Security Council becomes more "proactive" on the issue. Specifically, the Secretary-General recommended that the Council call for the systematic collection of information on attacks against, or other forms of interference with, healthcare facilities, transport and providers and people seeking medical

treatment. He also recommended that the Council systematically condemn and call for the immediate cessation of attacks against or other forms of interference with healthcare facilities, transport and providers and people seeking medical treatment. It should also apply targeted measures (such as travel bans, asset freezes) against the leadership of parties that perpetrate attacks against or other forms of interference with healthcare facilities, transport and providers.

The adoption of such measures by the Security Council is one potential course of action for seeking to address the problem of attacks against healthcare facilities. But they are not the only one. The aforementioned ICRC study found that the use of explosive weapons caused more deaths, injuries and damage than any other weapon in attacks on healthcare facilities. This finding is important, as it points towards a further course of action for addressing, or at least reducing, the devastating impact of attacks against healthcare facilities – by curbing the use of explosive weapons in populated areas.

The Humanitarian Impact of Explosive Weapons in Populated Areas

Concerns have long existed over the impact on civilians of specific types of explosive weapons. Indeed, the devastating shortand long-term impact of antipersonnel landmines and cluster munitions was a driving force behind efforts by States, the UN and civil society that led to the prohibition of these weapons in the Mine Ban Treaty and the Convention on Cluster Munitions (Borrie and Randin 2006; Borrie 2009).

More recently, concern has shifted away from specific types of explosive weapons to focus increasingly on the humanitarian problems caused by explosive weapons in general when used in populated areas. Many types of explosive weapons exist and are currently in use. These include aircraft bombs, artillery shells, missile and rocket warheads,

mortar bombs, grenades and improvised explosive devices (IEDs). Some are air dropped, while others are surface launched. Whilst different technical features dictate their precision and their explosive effect, these weapons generally create a zone of blast and fragmentation that has the potential to kill, injure or destroy anyone or anything in that zone. This makes their use especially problematic in populated areas – a term that does not refer exclusively to urban areas but more broadly to any concentration of civilians, be it permanent or temporary, such as inhabited parts of cities; inhabited towns and villages; camps or columns of refugees; or displaced persons, evacuees or groups of nomads (Office for the Coordination of Humanitarian Affairs (OCHA) and Chatham House 2013). During 2013, some 37,809 people were reported killed and injured by explosive weapons, of which 82% were civilians. When explosive weapons were used in populated areas, 93% of casualties were reportedly civilians (Action on Armed Violence 2014).

As Valerie Amos, the UN Emergency Relief Coordinator, has observed, as well as being killed and injured, civilians are also displaced, often for long periods and in precarious conditions (SCA 2014). Speaking in February 2014, Amos noted that in Syria, 6.5 million people are internally displaced; nearly 2.8 million have left the country as refugees. Many of those displaced have fled fighting characterized by the devastating and continuing use of explosive weapons in populated areas, in particular barrel bombs. Between February and July 2014, for example, some 650 attacks involving barrel bombs were recorded in the Syrian city of Aleppo alone, an average of five per day (Human Rights Watch 2014). In the Sudanese states of Blue Nile and South Kordofan, aerial bombardment of civilian areas by Sudanese forces and shelling by both Sudanese armed forces and the Sudan People's Liberation Movement-North, continue to result in death, injury and

widespread displacement. It is important to recognize that becoming displaced often marks the beginning of new challenges to the survival of those affected. These include continuing insecurity; repeated displacement through attacks on camps; and exposure to further serious risks, especially in militarized camp settings, such as sexual violence and forced recruitment. Despite the efforts of relief agencies, displacement too often leads to hunger and illness, both physical and mental. It erodes human dignity, as individuals and families become dependent on others for their survival. Where children are deprived of access to education and adequate healthcare, the effects of displacement can last a lifetime and ruin future generations, too. For too many of the world's displaced, the experience will translate into a permanent loss of livelihood, culture and opportunities, and turn into chronic destitution (OCHA 2007).

Amos further notes that explosive weapons use in populated areas results in damage to, or destruction of, housing, schools and other essential infrastructure on which civilians depend, such as water and sanitation facilities. For example, around one-third of housing stock in Syria has been destroyed by the fighting, while nearly one-fifth of schools are either damaged or being used as shelters. Livelihoods are also devastated as land and other means of production are rendered unusable, as explosive remnants of war pose a continuing threat to civilians until their removal. Damage and destruction resulting from the widespread use of explosive weapons in Gaza during the hostilities in July and August 2014 are reported to have cost the private sector more than US\$186 million, affecting small-scale enterprises, including food industries, furniture, construction, metal, wood, small business and commerce, several of which are located in either rented or owned properties that were partially or totally damaged during the hostilities (UN Development Programme (UNDP) 2014).

Explosive Weapons and Attacks on Healthcare

Explosive weapons can result in horrific injuries requiring emergency and specialist medical treatment, rehabilitation and psychosocial support services. But often this treatment and support is unavailable, in part because healthcare facilities have been damaged or destroyed. Indeed, as mentioned above, explosive weapons are the leading causes of damage to healthcare facilities in armed conflict.

The situation in Syria is a particularly acute example of this, with attacks against healthcare perpetrated by both government and anti-government forces. According to the UN Human Rights Council's Independent International Commission of Inquiry on the Syrian Arab Republic (Human Rights Council's 2014), since the beginning of the conflict, government forces have strategically assaulted hospitals and medical units to deprive persons perceived to be affiliated with the opposition of medical care. As the violence escalated in early 2012, government forces reportedly bombed and shelled opposition-operated field hospitals providing treatment to the wounded. According to the Commission, the pattern of attacks indicates that the government forces deliberately targeted hospitals and medical units to deprive anti-government armed groups and their perceived supporters of medical assistance. In Homs, for example, hospitals and medical units came under violent attack throughout 2012. In February and March, the government forces shelled field hospitals in Bab Amr from nearby villages. Three field hospitals providing emergency first aid were hit multiple times, causing considerable damage. The operating room of one field hospital was entirely destroyed. The government forces repeatedly targeted hospitals in Tal Rifat during military operations in northern Aleppo governorate between April and August 2012. On 5 April, a private hospital was aerially bombarded,

reportedly from Mennagh airport. Also in April, Tal Rifat public hospital was destroyed by airstrikes and forced to close. Aleppo's Dar Al Shifa public hospital was one of a number of hospitals in Aleppo to also suffer repeated attacks in 2012 including shelling, rocket and missile attacks. These attacks injured and killed civilians receiving treatment in the hospital and medical personnel, significantly damaged the hospital's infrastructure and substantially reduced its ability to treat patients. These attacks continue to date, including the use of unguided and highly explosive barrel bombs. In March 2014, the World Health Organization reported that 73% of hospitals and 27% of primary healthcare facilities were out of service. According to Physicians for Human Rights (2014), of the 460 health professionals killed across Syria, 41 per cent of the deaths occurred during shelling and bombings.

Acute though the situation in Syria is, it is by no means unique. The problem is global in scope, with the shelling and bombing of hospitals a feature of conflicts in Iraq (Human Rights Watch 2014), Libya (UN Human Rights Council 2012, 2014), Somalia (ICRC 2010), Sri Lanka (Human Rights Watch 2009) and elsewhere.

Strengthening the Protection of Civilians from the Use of Explosive Weapons

The need to strengthen the protection of civilians from the humanitarian impact of explosive weapons in populated areas has emerged in recent years as a key concern for the UN, the ICRC, civil society and an increasing number of States. Beginning with his 2009 report to the Security Council on the protection of civilians in armed conflict (UN 2009), the UN Secretary-General has consistently drawn attention to the issue. In his 2012 report (UN 2012), the Secretary-General recommended that parties to conflict refrain from using explosive weapons with wide-area effects in populated areas. He further recommended that States,

UN actors, international organizations and non-governmental organizations (NGOs) intensify their consideration of the issue, including through more focused discussion (see below).

The UN Emergency Relief Coordinator has highlighted the problem in Côte d'Ivoire, Libya, Sudan and Syria and called upon parties to refrain from using explosive weapons in populated areas (OCHA and Chatham House 2013). Concern has been expressed also by consecutive Special Representatives of the Secretary-General on children and armed conflict (OCHA and Chatham House 2013). In 2011, the Security Council, in resolution 1975, authorized the UN Mission in Cote d'Ivoire to take action to prevent the use of heavy weapons against civilians. The following year, it issued a Presidential Statement on 5 April 2012, in which it called upon the Syrian Government to immediately end the use of heavy weapons in populated centres. The General Assembly, in resolution 66/253, also strongly condemned the continued escalation in the use by the Syrian authorities of heavy weapons, including indiscriminate shelling from tanks and aircraft, and the use of ballistic missiles and other indiscriminate weapons, as well as the use of cluster munitions, against populated centres. An increasing number of States are also referring to the importance of the issue in their statements during the Security Council's open debates on the protection of civilians in armed conflict (OCHA and Chatham House 2013).

Outside the UN, in October 2011, the ICRC noted that due to the significant likelihood of indiscriminate effects and despite the absence of an express legal prohibition for specific types of weapons, explosive weapons with a wide-area impact should be avoided in densely populated areas. Civil society has also mobilized around the issue, including the establishment in March 2011 of an NGO coalition, the International Network on

Explosive Weapons (INEW). INEW calls on States and other actors to take action to prevent the harm caused by explosive weapons in populated areas, to gather and make available relevant data, to realize the rights of victims and to develop stronger international standards. Civil society is at the forefront of efforts to systematically collect data that more concretely help demonstrate the humanitarian impact.

London expert meeting

In response to the Secretary-General's aforementioned recommendation for more focused discussion of the problem, OCHA, in partnership with the International Security Research Programme of Chatham House and with the support of the Norwegian Ministry of Foreign Affairs, convened an expert meeting on the issue in London, UK, September 23-24, 2013. The 51 participants included governmental/military experts from Australia, Austria, Germany, Kenya, Mexico, Norway, the UK and United States; UN actors; the ICRC and civil society organizations under the umbrella of INEW; and individual military experts and academic and research institutes.

The meeting provided first opportunity for these various actors to discuss the scope of the problem, the key concerns and steps that could be taken to address it. The meeting considered the range of explosive weapons that exists and how its use in populated areas can be problematic. Particular concern was expressed regarding the elevated risk to civilians from explosive weapons that have "wide-area effects," whether from the scale of blast that they produce, their inaccuracy or the use of multiple warheads across an area.

The meeting considered the actual impact of the explosive weapons on civilians in populated areas, drawing on the experience of UN and non-governmental actors in Afghanistan, the occupied Palestinian territory, Somalia and Syria. It also discussed efforts to mitigate that humanitarian impact,

focusing on the operational steps taken by the International Security Assistance Force (ISAF) in Afghanistan and the African Union Mission in Somalia (AMISOM). These include the issuance of tactical directives to ISAF commanders to use the least destructive force to obtain a military purpose in defensive operations and the development and adoption of an indirect fire policy by AMISOM limiting the use of mortars and other indirect fire munitions in populated areas. In both cases, it was recognized that these policies were not necessarily legally demanded but allowed harm to be reduced by curbing the use of certain weapons in certain contexts. Emphasis was also placed on the important role of civilian casualtytracking mechanisms for allowing the parties concerned to better understand the impact they are having on the civilian population and to identify the steps that need to be taken to reduce that impact and strengthen the protection of civilians. In recognition of the significant role of non-State armed groups in the use of explosive weapons, consideration was also given to steps to mitigate the impact of use by such actors, such as through the conclusion of written agreements or commitments, and the challenges in doing so.

In terms of taking the issue forward, the OCHA-Chatham House meeting identified three work streams within the broader area of concern that could be taken forward by interested States, UN actors and civil society. First is the need to address the use in of explosive weapons with wide-area effects, such as heavy artillery, large aircraft bombs and multiple launch rockets in populated areas, by collecting good practice in this area and the development of a political commitment by States through which they recognize the problem and agree to address it. Second is the need to address the use of IEDs in populated areas, which is often associated with non-State armed groups; and third is the need to affirm the apparent presumption against explosive weapons' use in law enforcement.

In 2013, the UN Secretary-General instructed OCHA to continue to engage interested States, UN actors, ICRC and civil society on the first of these work streams. This led to the convening by OCHA and the Norwegian Ministry of Foreign Affairs of a second expert meeting, held in Oslo, Norway, June 17–18, 2014.

Oslo expert meeting

The Oslo meeting saw increased participation from States with governmental experts from Argentina, Austria, Canada, France, Germany, Luxembourg, Mexico, The Netherlands, Nigeria, Norway, Switzerland, the UK and United States; representatives from NATO and ICRC and civil society organizations under the umbrella of the INEW; active and retired senior military personnel from the US Army and the UK's Royal Marines; and individual military experts.

The Oslo meeting reaffirmed the continuing importance of the problem and the need to address it, including through the development by States of a possible political commitment that would recognize the problem and commit to take steps to address it. The meeting also reaffirmed that the principal areas of concern are addressing the use of IEDs, particularly, although not exclusively, by non-State armed groups and the use of explosive weapons with "wide-area effects". In terms of the latter, which was the principal focus of the meeting, important progress was made in delineating the sorts of weapons encompassed by this category, based on their common characteristics (OCHA and the Norwegian Ministry of Foreign Affairs 2014).

Participants discussed the protection from explosive weapons afforded by international humanitarian law, or the law of armed conflict. It was noted that international humanitarian law contains important provisions for the protection of civilians, including from the effects of explosive weapons. The principles of distinction, proportionality and precautions are key in this respect.

It was widely acknowledged that greater compliance with international humanitarian law by parties to conflict would significantly contribute to protecting civilians from explosive weapons, particularly from direct attacks.

However, it was also observed that international humanitarian law does not clearly address the full range of humanitarian impacts resulting from the use of wide-area effect explosive weapons. The general rules on the conduct of hostilities do not provide sufficient guidance on how the risk of civilian harm from the effects of explosive weapons is to be assessed and reduced, and the particular risks to civilians from blast and fragmentation are not explicit in international humanitarian law standards. In addition, while certain types of infrastructure are specially protected and international humanitarian law establishes a presumption that places of an essentially civilian character are not military objectives per se, the protection of civilians at such locations was considered to be tenuous. For example, although places of worship are specially protected, marketplaces are not. Therefore, civilians in populated areas remain at the risk of being harmed by attacks with explosive weapons on military objectives in their vicinity – in particular when those weapons have wide-area effects.

Some participants asserted that existing international humanitarian law is adequate and just needs to be applied effectively. Others noted that whilst new laws might not be necessary, there was a potential for stronger political standards to respond to the consistent, verified and predictable pattern of humanitarian harm. It was noted that under international humanitarian law, the use of wide-area effect explosive weapons in populated areas might be lawful in some cases and unlawful in others. But irrespective of the lawfulness (which is only ever judged on a case-by-case basis and even then only if

there are grounds to suspect that a serious violation has occurred), empirical data show that this practice bears a high risk for civilians, both in the short- and long-term, and so presents a challenge for the implementation of international humanitarian law. Although there was no consensus, there was some agreement that raising the political cost of using wide-area effect explosive weapons in populated areas would be a helpful tool for addressing this challenge.

There was broad agreement that this does not necessarily mean that there is a need for a new law or a specific prohibition on the use in populated areas of explosive weapons with wide-area effects. Indeed, there was agreement that this is not the immediate objective and is probably unrealistic, as States are unlikely to want to commit to binding obligations in this area. However, it was recognized that steps need to be taken by States to change practice and move towards avoiding or curbing such use, that is, towards a presumption against the use of explosive weapons with wide-area effects in populated areas and, in time, the stigmatization of such use when it occurs.

The meeting noted that there is, fortunately, movement in that direction. As mentioned, some military forces, such as ISAF and AMISOM, are instituting policy and practice that place limits on the use of certain weapons in certain contexts. This is based on the recognition that civilian casualties are not in the best interests of one's longer-term military or political objectives, but it also reflects the need to take into account the perception of international and domestic audiences. The meeting also heard from some States that there are national laws, policies and doctrine that are also relevant here. Participants noted that it would be useful to ensure that such policy and practice and lessons learned are also disseminated to other militaries, including in the context

of bilateral training of the armed forces of other States and also members of non-State armed groups. This is all crucial to changing practice.

A fundamental component to changing practice would be moving forward with discussions on a political commitment. It was recognized that, while there is support for such a commitment from some States, there are also concerns from others, and it will be important to continue to engage in discussions on this, to air those concerns more fully and move towards agreement on this.

In terms of next steps, OCHA stated that it will begin a process of capturing and compiling the sort of practice and policy discussed and mentioned in the London and Oslo meetings. OCHA has also indicated that it will work to facilitate discussions with interested States, UN actors, civil society and ICRC on the content and scope of a possible political commitment that would seek to curb the use of explosive weapons in populated areas.

Conclusion

Although at their early stages, and while not specific to healthcare, the ongoing efforts to strengthen the protection of civilians from the use of explosive weapons in populated areas described above could make a significant contribution to protecting healthcare facilities from attack. As indicated, explosive weapons are the leading cause of death, injury and destruction in attacks on healthcare facilities. The greater the degree to which the international community is able to curb the use of explosive weapons, to instil a widespread presumption against the use of the explosive weapons in populated areas and to stigmatize such use when it occurs, the greater are the chances that we will see progress in reducing the incidence and impact of attacks against healthcare facilities and the consequences thereof

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Strategic Documentation of Violence against Healthcare: Towards a Methodology for Accountability



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Abstract

The valuable efforts that have arisen in recent years to document attacks against healthcare workers and infrastructure during armed conflicts have brought this issue to the forefront of the policy agendas of many health, public health, humanitarian and human rights organizations. However, although professionals and

activists have highlighted the importance of accountability in deterring these attacks, considerations of international criminal responsibility in data-gathering efforts remain underexplored. This paper suggests an approach that could direct further accountability efforts for organizations interested in engaging in documentation. Such non-governmental organizations should aim to gather not only information about the nature of the attack but also data that help establish specific characteristics about the victim, the intent of the attacker and the patterns of violence. Additionally, these efforts to document attacks on healthcare workers, facilities and patients should involve a systematic, rigorous and demonstrable methodology.

Introduction

Healthcare workers and institutions provide essential lifesaving aid, especially during humanitarian crises. Yet, during armed conflicts, attacks on health facilities endanger the lives of those providing essential healthcare, as well as those in need of care. In May 2013, The International Committee of the Red Cross published a report analyzing 921 violent incidents affecting healthcare (i.e., attacks and other violent acts perpetrated against healthcare personnel, infrastructure and vehicles) during armed conflict and other emergencies in 22 countries over the course of 2012 (ICRC 2013). Among those incidents, 60% of the people directly affected were healthcare staff (doctors, nurses and paramedics). More recently, Physicians for Human Rights documented 224 attacks on 175 separate medical facilities and the deaths of 599 medical personnel in Syria that occurred since the beginning of the country's civil war through December 2014 (PHR 2015). A recent United Nations General Assembly resolution acknowledged the severity of the problem by "[s]trongly condemn[ing] all attacks on medical and health personnel, their means of transport and equipment, as well as hospitals and other medical facilities" and "urg[ing] States to develop effective measures to prevent and address violence against such personnel" (UNGA 2014).

In light of the prevalence and gravity of these incidents - many of which could violate international criminal law - human rights professionals and activists have highlighted the need for greater accountability, in particular, to deter perpetrators from undertaking such attacks in the future (CPHHR 2014; HRW 2013; Rubenstein and Bittle 2010). Various non-governmental organizations (NGOs) have engaged in extensive documentation efforts of attacks against civilian and military medical personnel, medical transports and medical facilities, as well as against inpatient populations. Their efforts have been integral to raising awareness about these incidents, improving the security of medical personnel operating in conflict zones and enhancing the ability of affected populations to receive medical care.

However, the systematic integration of considerations of legal liability under international criminal law into data-gathering efforts by health, public health, humanitarian and human rights organizations concerning attacks on healthcare remains underexplored, especially in the public health and medical literature. This article aims to help fill this gap by assessing the role that evidence collected by NGOs can have in international criminal investigations at the International Criminal Court (ICC) and by examining the importance of well-designed methodologies that are informed by relevant legal and evidentiary standards.

Before proceeding, it is worth acknowledging that although NGOs or their local partners active in conflict zones may have access to information on incidents that could qualify as international crimes – either from victims and witnesses, or through documentation for internal or organizational purposes - they might choose not to make such information or documentation available for criminal investigations. It is each individual or organization's choice - based on factors such as the organization's mandate, as well considerations of field worker security and access to beneficiaries - whether to gather this information in a form that may be later used by an international court as evidence or as information leading to the gathering of evidence. This paper advocates neither for nor against evidence gathering for the purpose of legal accountability by NGOs, and indeed recognizes that such activities may have adverse implications for NGOs' abilities to provide humanitarian and medical services. For instance, a belief among local actors that an NGO might submit information to a judicial body could detrimentally affect perceptions of its neutrality and independence, access to the populations it seeks to serve and the security of its staff. In 2009, Sudan's government expelled 13 international NGOs from Darfur on suspicion of cooperating with the Office of the Prosecutor at the ICC in its investigation of international crimes allegedly committed in the region. To preserve its neutrality, avoid the risk of jeopardizing access and respect the confidentiality of beneficiaries, the International Committee of the Red Cross (ICRC) does not, as a rule, provide information to international courts and tribunals. In cases where the ICRC might choose to submit information to the ICC, special rules of evidence apply. Specifically, Article 73(4) of the Rules of Procedure and Evidence to the ICC grants the ICRC the right to nondisclosure of its information, and Article 7(6) establishes special consultative procedures

for circumstances where the Court determines that ICRC "information, documents or other evidence are of great importance for a particular case."

NGOs can enter into confidentiality agreements with the prosecutor of the ICC who would shield information from further disclosure. However, this might limit the prosecutor's ability to use the information in proceedings before the ICC because the Rome Statute imposes obligations on the prosecutor to disclose certain kinds of information to Defence Counsel as well as Chambers to protect the rights of the accused (Whiting 2009).

Not all rigorous documentation efforts carry the kind of risks experienced by NGOs in Darfur, and many organizations continue to provide information about serious crimes to the Court. The work of many organizations with human rights mandates - Human Rights Watch, for example – is inherently dedicated to reporting on and seeking accountability for such crimes. Furthermore, healthcare workers and institutions themselves could serve an important function in advancing international criminal investigations, as they have special protection under the Rome Statute and international humanitarian law, and the nature of their work gives them access to those who may have been the victims of international crimes. In the ICRC's 2013 report, 422 of the 921 healthcare attack incidences (46%) were reported to the ICRC by "medical personnel, administrative and support staff and victims – who had been identified by the various ICRC delegations as pertinent and reliable sources of information" (ICRC 2013).

If healthcare personnel or organizations wish to submit information to a judicial body, the usefulness of the information would be enhanced if gathered with a view to the legal framework in which the information will be evaluated (Boutruche 2011). The information-gathering process can be shaped by the elements that are necessary to prove for

a prosecution to be successful. Given the link between law and data collection, this article highlights some aspects of the Rome Statute and the ICC's investigative process that may guide healthcare organizations or personnel wishing to gather information for submission to the ICC. Although prosecutions for international crimes may also take place before ad hoc tribunals or national courts, which may define international crimes differently than the ICC, the Rome Statute and the ICC's investigative process nonetheless serve as a useful reference for NGOs gathering information on international crimes.

Use of third-party evidence by the ICC

NGOs seeking to gather information in a way that can be useful to the ICC should be cognizant of how, and at what stage of its proceedings, the Court might use the information. ICC jurisprudence distinguishes between "direct evidence" and "indirect evidence" and has established that "direct evidence" - generated by the investigations team of the ICC under the ethical and legal guidelines of the Rome Statute and the Court's jurisprudence – has a higher probative value than indirect evidence, which encompasses "hearsay evidence, reports of international and non-governmental organizations (NGOs), as well as reports from national agencies, domestic intelligence services and the media" (ICC 2012b).

The role played by evidence collected by NGOs varies depending on the stage of the proceedings. High-quality NGO documentation can be useful to the prosecutor prior to the opening of an ICC investigation. Article 15(1) of the Rome Statute allows the prosecutor to initiate investigations "on the basis of information on crimes within the jurisdiction of the Court." The Court has established procedures for receiving communications from individuals or organizations under Article 15; by the end of 2013, it had received and analyzed over 10,000 such communications. Article 15(2)

requires the prosecutor to "analyze the seriousness of the information received," and for that purpose, allows him or her to "seek additional information," including from "non-governmental organizations or other reliable sources that he or she deems appropriate." Article 15(3) provides that if the prosecutor concludes there is a "reasonable basis to proceed with an investigation," he or she must request authorization to do so from the Court's Pre-Trial Chamber and must submit to the Pre-Trial Chamber "any supporting material collected." (ICC 1998) In short, information or evidence collected by NGOs can assist the prosecutor in making an assessment about whether an investigation is warranted and in persuading the Court to authorize the investigation.

During subsequent phases, the Rome Statute imposes progressively higher standards of proof, and evidence gathered by NGOs appears to play a correspondingly less significant role. The standard required for the issuance of an arrest warrant or a summons to appear before the Court is "reasonable grounds to believe." Thus, in the case against President Omar Hassan Ahmad Al Bashir of Sudan, the prosecutor successfully sought an arrest warrant, relying, in part, on evidence gathered by NGOs (ICC 2009). In her separate and partly dissenting opinion on the issuance of the warrant, Judge Anita Usacka cited a Physicians for Human Rights report on Darfur to establish facts and corroborate statements made by witnesses (ICC 2013b).

For the Pre-Trial Chamber to confirm charges after the defendant has been detained, the standard is "substantial grounds to believe." This higher standard may make it more difficult for the prosecutor to rely on evidence collected by NGOs. At the confirmation of charges stage in the case of former President Laurent Gbagbo of Côte d'Ivoire, the Pre-Trial Chamber adjourned the hearing, criticizing the prosecutor for "rel[ying] heavily on NGO reports and press

articles with regard to key elements of the case" (ICC 2013a).

For the Trial Chamber to convict the accused, at the trial stage, the standard is that of proof "beyond reasonable doubt" (ICC 1998). Evidence – including evidence collected by NGOs - must meet three criteria for admissibility, namely, that the Chamber must deem the evidence to: "(1) be relevant to the case; (2) have probative value; and (3) be sufficiently relevant and probative as to outweigh any prejudicial effect its admission may cause" (ICC 2012a). At the trial of Jean-Pierre Bemba Gombo for crimes he allegedly committed in the Central African Republic, the Trial Chamber allowed the prosecutor to introduce reports produced by the International Federation for Human Rights and Amnesty International, as, the Chamber held, the reports met all three criteria required for admissibility of evidence (ICC 2012a).

The Court's treatment of NGO-gathered information at different phases can help guide both the kind of information that medical personnel or organizations gather and how it is gathered. An attack on medical personnel or facilities - being civilian objects that are usually undefended and are involved in humanitarian assistance – can be a war crime under Article 8 of the Rome Statute. Establishing criminal responsibility involves proving both that the incident occurred and other elements, including the civilian nature of the person or object attacked and the attacker's intent. For instance, if a belligerent launches an attack directed at a command and control center, but instead hits a hospital, this attack may not constitute a war crime. This is because, despite the attack inadvertently hitting the hospital, which is a civilian object, the attack was directed at a legitimate military objective. Although NGOs are more likely to have access to victims and witnesses, as opposed to the attackers themselves, information that could be acquired through

witness statements, documentation and/or physical evidence could be relevant to establishing critical elements of the attack. For example, after the bombing of a hospital, information provided by a patient indicating that the hospital had not been used for military purposes could corroborate that the hospital had not lost its status as a protected object and thus would not constitute a lawful military target.

Attacks on healthcare workers or facilities may also amount to crimes against humanity if they can be shown to be part of a widespread or systematic attack directed against any civilian population, or genocide if part of a campaign intended to destroy, in whole or in part, a national, ethnical, racial or religious group. Regarding crimes against humanity, information demonstrating that a similar pattern of attack occurred in different locations – for example, several hospitals in different cities attacked in a similar manner could be indicative that the attack was widespread and/or systematic. Regarding genocide, evidence that attackers spared individuals who were not part of a targeted national, ethnical, racial or religious group could support a finding of genocidal intent.

Documentation that an attack against healthcare has occurred, then, need not be the end of the data-gathering process. Rather, NGOs and medical workers may be in a position to gather additional information to indicate the kinds of violations that may have occurred. The importance of examining the attack within a broader context, and potentially a pattern of incidents, points to the need for more systematic data-gathering processes that document the situation as a whole rather than isolated incidents.

Documentation for legal accountability

In developing a methodology for assessing the documentation gathered, NGOs documenting attacks on medical workers or facilities may consider adopting an internal standard of proof for deciding which incidents to report. An internal standard of proof would permit an organization to develop its own rigorous protocol that can be systematically implemented within the organization. As previously noted, the ICC's standards of proof become stricter as a case proceeds, and NGOs should be aware that even when they have adopted an internal methodological standard for verification and validation of information, it might not align with the standards set out in the Rome Statute. Even when internal standards formally match those found in the Rome Statute, the Court may interpret that standard differently (Wilkinson 2014). Nevertheless, both the quality of the information and the way that it is collected are critical to its usefulness and value to a judicial body. NGO reports should also include acknowledgment of any possible methodological limitations, incomplete data sets and sources of bias.

The types of information that prosecutors could use to prove the elements of the crimes can be divided into four categories: (1) witness statements (including eyewitnesses, as well as hearsay accounts); (2) documentary information (including hospital records and maps, as well as photographs and/or videos acquired by or produced by the data gathering team); (3) physical evidence (such as shell casings, fingerprints and hair follicles); and (4) electronic data (including emails, electronic word documents, data mining of social media, crowdsourcing and remote sensing imagery) (Nystedt 2011).

For witness statements, a credible interview methodology entails using skilled interviewers who do not ask leading questions during interviews; do not offer money or services to interviewees in exchange for information; and assess the credibility of the interviewee, including the consideration of any underlying motivations that the interviewee may have to be untruthful. For documentary and physical evidence, it is important for data gatherers to note when,

where and by whom the documents or physical evidence were acquired and, as the information changes hands, to document the chain of custody (Boutruche 2011). Similarly, with respect to digital data, it is important to be able to demonstrate that the chain of custody has been maintained through proper data collection, transfer, handling and storage (Human Rights Center 2014).

In any event, NGOs gathering these types of information should be aware that their activities are not a substitute for an investigation carried out by a prosecutor and that there is potential for mishandling of information that could interfere with a later investigation. NGOs undertaking these efforts and that lack sufficient expertise on staff may wish to seek outside expert guidance. The adoption of a clear internal documentation of the process used to collect, organize and analyze the gathered information is important for demonstrating the credibility of the information. Additionally, during international criminal trials, expert testimony from individuals involved in the data collection can help establish that information-gathering efforts adhered to credible methodological procedures.

Conclusion

NGOs can play an important role in documenting and analyzing attacks on medical infrastructure. Health practitioners associated with NGOs may have been witnesses to (or victims of) an attack, or they may have privileged access to the scene of a crime or victims and/or witnesses. The usefulness of such documentation for prosecutors will be enhanced by the application of a rigorous and demonstrable methodology when acquiring and storing data. By documenting in a transparent manner, and with an understanding of the role thirdparty evidence can play in supporting the work of the ICC, NGOs working in the field of healthcare can contribute to international justice processes.

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To Stay or Go? The Complexities of Providing Healthcare in Insecure Environments



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On June 17, 2014, an aerial attack on a Sudanese village severely damaged a hospital operated by the international medical humanitarian organization Médécins Sans Frontières (MSF) in the war-affected region of South Kordofan (MSF 2014). The bombs injured a staff member and destroyed the emergency room, the pharmacy and the hospital kitchen. Hospitalized patients had to be evacuated (MSF 2014). On January 20, 2015, a cluster of 13 bombs was dropped on the same hospital. Two landed within the hospital compound and injured a staff member and a patient. Others struck just outside the hospital compound (MSF 2015).

After the first incident, MSF continued to work in the damaged premises but reported that the bombing had hampered the effectiveness of its work (MSF 2014). After the second bombing, the organization suspended its work. The second incident caused limited physical damage to the hospital, but MSF halted activities to avoid putting staff and patients at risk (MSF 2015). In West Africa, Red Cross and other healthcare providers working to educate and provide care in Ebola-affected communities were attacked and killed, exacerbating the challenges of eradicating the virus that has taken more than 10,000 lives (Izadi 2014).

These examples illustrate how many healthcare providers are compelled to withdraw or temporarily close their programs when violence intensifies. This has devastating consequences for the civilian populations who often have few available alternative healthcare options.

The lethal consequences of war and conflict on the health of civilians are well documented and last well beyond the end of the fighting. Indirect deaths from war and armed conflict, resulting from war-related disease and malnutrition and not violence, surpass deaths on the battlefield (Human Security Report 2010). A study examining mortality rates in the Darfur conflict in Sudan pointed to decreased mortality from violence and to increased mortality from indirect causes among populations with more internally displaced persons. Moreover, the higher rates of mortality corresponded to periods with reduced humanitarian presence, caused by both funding constraints and insecurity (Degomme and Guha-Sapir 2010). The destruction of health infrastructure, such as clinics and hospitals, the looting of supplies and equipment and the deaths of healthcare workers themselves all exacerbate the death toll from reduced access to healthcare long after the violence stops (Kruk et al. 2009). The lack of adequate healthcare is one reason why mortality rises dramatically during violent conflict. In the Democratic Republic of Congo, babies born to mothers displaced by violence die from lack of adequate medical care. Access to basic and clean supplies and trained healthcare workers can significantly reduce maternal mortality rates, even in the midst of violent conflict (UNFPA 2011).

Clearly, continued healthcare provision during periods of intensified violence is crucial to reducing mortality rates during war or armed conflict. The consequences for civilians are generally well known, even if country-specific mortality rates remain difficult to accurately quantify, as are the types of risks that health providers face.

Less-well documented, and therefore understood, are the decisions health providers make in response to actual or anticipated violence and insecurity and the reasons for these decisions. As the South Kordofan and West Africa examples above illustrate, substantial risks often accompany the provision of healthcare.

The risks and challenges of providing healthcare in the midst of violence are myriad. From Afghanistan to South Kordofan, health facilities and infrastructure have been damaged. The patients and their families are also not immune. The MSF documented at least 58 cases of patients being killed in hospitals in South Sudan over a six-month period in 2014 (Batha 2014). In Iraq in June 2014, a car bomb killed 14 people when it exploded outside a hospital and in front of a café frequented by relatives of patients (Reuters 2014). Doctors in Somalia and Syria have been deliberately targeted and killed. In December 2013, for instance, one Somali and three Syrian doctors were ambushed and killed by unknown assailants (BBC 2013). In Nigeria and Pakistan, vaccinators and their escorts have been shot and killed while attempting to vaccinate children against polio.

Non-lethal attacks on healthcare providers and services also present significant challenges. Medical personnel have been kidnapped in Yemen (Al-Arabiya News/Reuters 2014), harassed and threatened in Nepal (IRIN 2014b) and expelled in Burma (IRIN 2014a). They have been targeted and attacked while helping protestors in Ukraine and Bahrain (HRW and Safeguarding Healthcare 2014). In Afghanistan, military personnel have stopped medical staff on their way to provide healthcare to civilians (Terry 2010). The campaigns to safeguard healthcare and protect those providing life-saving health services in the midst of conflict are indispensable for advocacy efforts to raise awareness of these challenges and their cost for both healthcare providers and the affected civilian populations (Box 1).

Box 1: Advocacy Campaigns

A number of separate yet complementary campaigns focus on violence against healthcare providers:

- Medical Care Under Fire (Médecins Sans Frontières): articles and updates about threats and attacks against healthcare providers and facilities in selected countries.
 www.msf.org/topics/medical-care-under-fire>
- Physicians for Human Rights: documents persecution of health workers in Bahrain, Iran and Syria. Interactive map of Syria available at: https://s3.amazonaws.com/PHR_syria_map/web/index.html
- World Health Organization (WHO) is developing a monitoring system on attacks on healthcare infrastructure; advocates work on the protection of healthcare infrastructure.
- Safeguarding Health in Conflict Coalition: produces an annual report to highlight the issue; works to strengthen the mechanisms for monitoring, reporting and accountability. See <www.safeguardinghealth.org/>.
- Healthcare in Danger campaign (International Committee of the Red Cross): documents incidents and promotes practical solutions. See <www.icrc.org/eng/what-we-do/ safeguarding-health-care/>.

Yet, why do healthcare providers decide to remain in some situations and to withdraw in others? Do some types of attacks more often result in staff evacuation or program closures? A complex interplay between a variety of factors influences whether and why healthcare providers either close or choose to maintain services in the face of threats or insecurity. In some cases, healthcare providers withdraw in anticipation or fear of violence. In Mali in February 2012, Médécins du Monde withdrew its staff and suspended its operations due to insecurity, indicating that the conflict preventing them from delivering services safely and effectively. Local health workers also fled the violence, leaving civilians who remained without access to healthcare (Fominyen 2012). In other cases, the fear of violence is related to the threat of violence or past experiences. For example, in Baluchistan, Pakistan, in 2004, several humanitarian healthcare providers suspended activities due to anticipated suicide attacks in the area (IRIN 2004). Similarly, the International Federation of the Red Cross suspended activities in Chad in 2008 due to a serious security threats (Reuters 2008).

To more effectively respond, we need more research on how types of violence, threats of violence and perceptions of violence influence agency decisions to either stay or go. The Insecurity Insight Security in Numbers Database (SiND)1 and Aid in Danger project have the potential to contribute to a better understanding of these issues. The database has already compiled over 15 years of data about the effects of insecurity on humanitarian organizations and their operations, taken from public sources, such as media reports, and directly reported information from participating organizations. This includes the effects on health programs.² The events affecting the delivery of healthcare and healthcare services include a range of event types, from attacks on doctors, nurses or ambulances to armed intrusions into healthcare facilities. Specific information about these events, however, is kept confidential to protect the identity of affected providers and to ensure that public discussion of this issue does not further hamper the ability of these actors to provide healthcare.

The underlying database contains information about victims, perpetrators and damage to infrastructure, as well as the weapon used in an event. The information can be used to examine and compare attacks on different types of healthcare providers (e.g., local hospitals and international agencies) or to examine morbidity and mortality resulting from different types of attacks. It has the potential to compare non-state actors with government actors and to examine the types of attacks each commits against health programs, to test theory and commonly held assumptions about these types of violence. Crucially, the SiND also includes information about measures taken in response to either actual or anticipated violence and how this affects the provision of services. Thus, the information in the SiND makes it possible to identify patterns in the responses of healthcare providers,

and therefore, to better anticipate the effects of these decisions on local populations.³

As the root causes of the reduction in healthcare services are the result of the complex interplay of types of violence and destruction, the threat of force and fear of violence, the data set has the potential to provide important new insights about differences in the magnitude of damage and in responses over time across contexts. The information contained in the SiND can assist in raising awareness about the problems and in generating a better understanding of where and when agencies decide to stay or go in response to or in anticipation of violence.

The SiND is one component of what is already a broader effort to investigate violence against healthcare providers. Initiatives to document the types and occurrence of violence are indispensable in raising awareness and providing essential information about the scope of the problem. The MSF Medical Care under Fire project examines selected contexts in depth and provides information on crises as they develop.4 Physicians for Human Rights documents persecution of health workers in Bahrain, Iran and Syria and runs an interactive map of incidents that affect healthcare in Syria.⁵ The World Health Organization (WHO) is developing a monitoring system on attacks on healthcare infrastructure and advocates for the protection of healthcare infrastructure. The Safeguarding Health in Conflict Coalition highlights the global issue in an annual report and seeks to strengthen mechanisms for monitoring, reporting and accountability.6 The Red Cross Movement's Healthcare in Danger campaign focuses on documenting incidents and promoting practical solutions, with its "Towards Solutions" publications.7 Country-level studies, such as those by researchers in Burma (Footer et al. 2014), document the specific threats and security management innovations that healthcare providers use

in situations of violent conflict and can give voice to the local staff whose perspectives are often neglected. Each of these initiatives is complementary. Yet additional approaches and methods are also needed to advance our understanding of the ways to better protect healthcare providers and facilities during armed conflict. In-depth case studies of specific decision-making processes and outcomes would shed light on the reasons for a decision to stay and the subsequent effects on staff and patients, thereby helping to answer the question of what leads agencies to either stay or go. Together, such a body of research will build the evidence base to develop appropriate and effective policies to safeguard healthcare in contexts of violence.

Notes

- The authors are the co-founders and principal researchers of the SiND project.
- 2. These events will be visualized on the Aid in Danger project website: http://aidindanger.org>.
- 3. For more information, or to become a project partner, contact Christina Wille, <christina.wille@insecurityinsight.org> or Larissa Fast, <larissafastphd@gmail.com>.
- 4. <www.msf.org/topics/medical-care-under-fire>.
- https://s3.amazonaws.com/PHR_syria_map/web/index.html.
- 6. <www.safeguardinghealth.org/>.
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