Social History of Medicine Vol. XX, No. XX pp. 1–26

Making Hepatitis C History? Médecins sans Frontières, Hepatitis C and Humanitarian Medicine in Cambodia 2016–2021[1]

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Handling Editor:Flurin Condrau

Summary. This article investigates how a medical non-governmental organisation Médecins sans frontières (MSF) developed and promoted the treatment of Hepatitis C (HCV) in Cambodia. This article is based on an operational archive collected in real time within the MSF mission which was completed with repeated oral history interviews over a period of 5 years across the history of the humanitarian 'mission' between 2016 and 2021. This archive and a historical account produced synchronously revealed the evolution of the role of humanitarian organisations in setting the medical agenda regarding the development of a nation's health priorities. The article argues that such a campaign represents a new development for the history of humanitarian medicine. As an experimental historical project, we aimed to capture how a humanitarian organisation defined its intervention as a 'proof of concept' and developed a public health campaign from a vertical approach reliant on new and very effective treatments.

Keywords: hepatitis C; humanitarian medicine; MSF; national plan; biomedicine

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[1]This article, sources and interviews and the many presentations it gave rise to in MSF training are available in the MSF Paris digital archives.

https://doi.org/10.1093/shm/hkaf040

This article investigates how a non-governmental organisation (NGO) led a medical campaign against hepatitis C in Cambodia. This initiative and its deployment as a 'national' initiative must be understood in relation to a nexus of medical issues and exchanges between international humanitarian organisations, ministry of health and pharmaceutical industry. This example of supply-led medical intervention is set in a longer history of humanitarian medicine as a normative intervention and unsettling contribution to public health developments.[2] By considering how a humanitarian organisation developed a programme specific to hepatitis C, then a relatively neglected disease in Cambodia, this article will consider the experimental dimensions of humanitarian work in defining the urgency and aims of a public health campaign. Starting immediately after the homologation of newly available diagnostic tools and effective drugs, it evolved to become a 'proof of concept' experiment aimed at challenging states and biomedical actors to consider simplified and proactive treatment protocols and even aspiring to the elimination of Hepatitis C in developing countries.

Médecins sans frontières has been the object of considerable historiographical and anthropological study, often focusing on its self-critical culture of medical innovation.[3] For some organisations, such as Médecins sans Frontières (MSF), the largest international medical non-governmental organisation which emerged in 1971,[4] one needs to consider the history of institutions and practices together. As a result, this historical account of a very contemporary humanitarian 'mission' was set as a historical intervention within the humanitarian work itself. This article reflected a historical project associated with the development of an operational archive addressing directly the paucity of records in the digital age as well as the urgent need to record different decision-making processes in humanitarian medicine.[5] Until we began the systematic collection of operational records, as part of this project, MSF contemporary operations remained often very loosely documented. What remained were some record management plans and these drip-fed existing archives if the operations were not the object of sporadic anthropological field observations.[6] This project was built methodologically on the existing oral history of MSF and the considerable anthropological and sociological literature devoted to this organisation[7] to establish a rich operational and human archive, what Esteva calls a 'natural

[2]Jenna Grant, 'How to Rename a Hospital: Biomedical Technologies and New Combinations of Business and Charity in Cambodian Public Health', *Anthropological Quarterly*, 2017, 605-636.

[3]Renée C. Fox, *Doctors without Borders: Impossible Dreams of Médecins sans Frontières,* (Baltimore, Johns Hopkins University Press 2014); Elsa Rambaud, 'L'Organisation Sociale de la Critique à Médecins Sans Frontières', *Revue Française de Science Politique,* 2009, 59, 4, 723-756; Peter Redfield, 'Doctors, Borders, and Life in Crisis', *Cultural anthropology*, 2005, 20, 3, 328-361.

[4]Bertrand Taithe, 'Reinventing (French) universalism: religion, humanitarianism and the "French doctors"', *Modern & Contemporary France,* 2004, 12, 147-158.

[5]For details of the process itself see Bertrand Taithe, Mickaël Le Paih, Fabrice Weissman, Historicising Humanitarian Action: Synchronicity in historical research and the archiving of humanitarian missions. *Journal of Humanitarian Affairs*, 4, 2. https://doi.org/10.7227/JHA.090

[6]Vanya Kovačič, *Reconstructing Lives: Victims of war in the Middle East and Médecins Sans* Frontières (Manchester: Manchester University Press, 2022); A. Balabeau, '*Gestion des archives chez Médecins sans frontières: une approche records management'* (diplôme dissertation, Haute école de gestion de Genève, 2002); Ahmed Youssef Laarfi, 'Life: A Huge Archive Electronic Archive Has Become an Urgent Necessity in the Face of Enormous Technological Advances', *Journal of Computer and Communications*, 2020, *8*, 1-10.

[7]Berenice Golding and Janet Hargreaves, 'Humanitarian Nursing with Médecins Sans Frontières: Foregrounding the listening guide as a method for analysing oral history data', *Journal of Advanced Nursing*, 2018, 74, 1984-1992.

archive', susceptible of being used for historical perspectives.[8] This digital archive is now part of the MSF records and it includes the material gathered through regular ethno-historical visits as well as over 30 interviews of medical and support staff.[9] The humanitarian staff were local and international. The international staff originated from Nepal, Ivory Coast, and France and were more transient than the Cambodians or, indeed, the research team over the history of the 'mission'. Compared with most humanitarian operations, however, the leadership remained stable for the final four years of the operations. The nature of the interviewing itself was to set up an account, repeated over time, of what the project staff imagined themselves to be doing.[10] Over the four years of research, the narrative evolved without often acknowledging how or why. The medical staff employed in the missions had often had experience of MSF prior to their current employment or they had worked in other humanitarian environments. Their story tied this research to the complex debates on the role of humanitarian medicine in shaping the health system of Cambodia.[11] The historian went from the headquarters to the two main sites of Battambang province where MSF later worked, visiting and interviewing nursing and medical staff during different stages of the project, living with them for regular but short periods.[12]

The significance of operational records in writing the history of humanitarianism has been the object of many theoretical debates and, as Peter Redfield noted, it is the field of humanitarian practice that shapes its definitions and the nature of organisational cultures.[13] MSF as an organisation was originally French but has diversified to the point of being today a conglomerate of national branches federated through operational centres. Working in Cambodia or near Cambodia has been central to its history and to the definition of what humanitarian medical practice might be.[14] From the arrival of the first wave of refugees in 1979 at the border of Cambodia until MSF begun working in 'pacified' Cambodia itself, after the 1991 Paris power sharing accord,[15] the organisation grew in parallel with the growing awareness of medical needs. By the early 1990s, the

[8]Maria Esteva, 'Formation process and preservation of a natural electronic archive.' *Proceedings of the American Society for Information Science and Technology,* 2008, 45, 1-9: John Borton, 'Improving the use of history by the international humanitarian sector', *European Review of History: Revue européenne d'histoire*, 2016, 23, 193-209.

[9]This collection is part of a broader conversation on operational archives in humanitarian settings which now involves the entire MSF movement. This conversation is supported by the Humanitarian Archive at the John Rylands Research Institute and Library, University of Manchester.

[10]In a sense this use of history echoed the practices of the United Nations Relief and Rehabilitation Administration between 1943 and 1948 when it used historians to document its work.

[11]Anne Yvonne Guillou, *Cambodge, Soigner dans les Fracas de l'Histoire. Médecins et sociétés,* (Paris: Les Indes Savantes, 2009).

[12]As this article will show the patients themselves were extremely transient taking a twelve week treatment with, by the end of the programme, barely more than a few medical appointment. They were not part of the archiving process as a result.

[13]Peter Redfield, *Life in Crisis: The ethical journey of doctors without borders*. (Berkeley: University of California Press, 2013).

[14]Bertrand Taithe, 'The Cradle of the New Humanitarian System? International Work and European Volunteers at the Cambodian Border Camps, 1979–1993.' *Contemporary European History* 2016, 25, 335-358.

[15]Bertrand Taithe, 'Between the Border and a Hard Place: Negotiating Protection and Humanitarian Aid after the Genocide in Cambodia, 1979-1999' In Michael Barnett, ed. *Humanitarianism and Human Rights: A World of Differences?* (Cambridge: Cambridge University Press, 2020), 219-34.

country had been devastated by secret wars, civil wars, genocide, and invasion for a period of over 25 years, while its initial medical infrastructure was always limited.[16] For MSF decision makers Cambodia had a particular appeal which undoubtedly biased the 'need to help' in the country. In 2019-20 an itinerant exhibition, 'Connecting Hands', organised by MSF toured medical and nursing schools of Cambodia to recall the variety of missions that the organisation had undertaken over the previous decades: social and medical work with sex workers in Poipet, clinical and laboratory training, etc.[17] This medical work has left profound traces in the health system throughout the country. Even in the most remote health posts of the province of Battambang in North West Cambodia, one would discover that the head nurse of the dispensary was herself an ex-employee of MSF decades earlier, while patients in Maung Russey recalled encountering MSF in the refugee camps at the border.[18]

This continuous presence reflected in effect the regular reinterpretation of what humanitarian medical organisations might deliver in a country facing myriad needs. Continuity of presence was made of an irregular sequence of projects and reflected more than simple loyalty to a site, to a culture or to a highly symbolic 'people in need'. This continuous engagement over a range of projects (or 'missions') also entailed considerable re-tooling of humanitarian work, the development of new practices, often framed as 'innovative', and the constant quest for relevance in a fast-moving environment. Cambodia is now a fast-growing economy from which, after nearly 45 years of continuous work in and around Cambodia, MSF removed itself..

Hepatitis C was poorly studied in Cambodia in the mid-1990s. At that time the WHO published a 4 per cent prevalence for the disease based on only one study.[19] By 2010, when MSF began to consider hepatitis C as a plausible concern, some narrowly scoped studies of blood donors in rural areas estimated its prevalence to approach 9.9–14.1 per cent. These figures, based on very small samples, made Cambodia possibly one of the countries experiencing the highest rate of hepatitis C in the world.[20] This perception was then roughly evaluated thanks to random sampling strategies rather than routine surveillance or epidemiological awareness but it chimed with the social construction of hepatitis C as an 'emerging illness' to borrow from Randall Packard, et al's definition[21]

In this context, the final project of MSF in Cambodia was thus not simply a legacy mission but something of a new departure. Its focus on Hepatitis C was set out as a

[16]Jan Ovesen and Ing-Britt Trankell, *Cambodians and their Doctors: a Medical Anthropology of Colonial and Post-colonial Cambodia,* (Copenhaguen: Nias Press, 2010); Anne Yvonne Guillou, 'Les Médecins au Cambodge. Entre élite sociale traditionnelle et groupe professionnel moderne sous influence *étrangère*' (PhD thesis, École des Hautes Etudes en Sciences Sociales Paris).

[17]Interview with Sue Myat Han, 25 November 2019 Krong Stung Treng MSF archive, Cambodia, Oral History; Bertrand Taithe, 'Moving on: remembering humanitarian aid and the shaping of normative experiences', *Emotions: History, Culture, Society,* 2024, 1-24 https://doi.org/10.1163/2208522x-bja10065.

[18]Field research notes, January 2018, oka referent hospital, Battambang, 29 November 2019, two staff had worked with MSF in 1992-3 on children programmes; Interview with Samnang, 9 December 2019, Maung Russey, MSF archive, Cambodia/ Oral History

[19]World Health Organization. 'Hepatitis C: global prevalence: Update.' *Weekly Epidemiological Record= Relevé épidémiologique hebdomadaire,* 1997, 72, 341-344. The figure was reiterated in 1999.

[20]Ha Sam Ol, et al. 'Prevalence of Hepatitis B and Hepatitis C Virus Infections in Potential Blood Donors in Rural Cambodia.' *Southeast Asian journal of tropical medicine and public health,* 2009, 40, 963-71, 968.

[21]Randall M Packard, Peter J Brown, Ruth L Berkelman, Howard Frumkin eds. *Emerging Illnesses and Society, Negotiating the Public Health Agenda*, (Baltimore: Johns Hopkins University press, 2004), p.1, 388-404.

medical breakthrough as much as fitting in a long sequence of humanitarian interventions. Hepatitis C, a disease transmitted through blood and, in the West, most associated with drug use or contaminated needles, often in co-morbidity with HIV, was an apposite historical ailment with which an NGO might contend as it considered its historical trajectory. Many of its patients would have carried the virus for decades and their disease mirrored the history of Cambodia itself.

By 2021, having concluded that they had demonstrated how hepatitis C might be dealt with, MSF's role appeared less pertinent and MSF had no further mandate in the country. The closure led to the setting up of a specific archive composed of observations and internal sources that might be replicated in other settings.[22] For the purpose of historical writing the challenge, therefore, was not one of access to source material, at the exclusion of medical records or patients in a vulnerable state, but more perhaps of identifying the significance of contemporary practices in a wider narration of what the history of humanitarian medicine might be.[23] The policy and practice change MSF and the Ministry of Health of Cambodia engaged with, aimed at changing international norms of treatment for a disease affecting millions of people. By 2024, the policies and experimental practices of Cambodia had become part of the World Health Organisation guidelines.[24] By considering how a humanitarian organisation engaged with a 'vertical programme', resembling colonial medical ones and how this programme grew into a 'proof of concept' experiment susceptible to be exported beyond Cambodia, this article aims to present a nuanced understanding of what humanitarian medicine aspires to be in the 2020s.[25]

Hepatitis C in its Cambodian Context

Hepatitis C (HCV) is a slow killer. The virus, usually transmitted by blood transfusions, injections and iatrogenic contamination, causes initially mild inflammations for 70 per cent of the cases of contamination. These in most cases turn into chronic hepatitis C, which then leads to long-term damage to the liver (Jaundice) and for a third of infected cases to cirrhosis, and cancer. Some 25 per cent of contaminated will clear the virus unaided but remain seropositive.[26]The virus was originally defined negatively as being

[22]See Bertrand Taithe, 'Historicising Humanitarian Action'

[23]These issues feed a contemporary approach into much older debates dating from David Arnold, 'Introduction: Disease, Medicine and Empire' In D. Arnold (ed.), *Imperial Medicine and Indigenous Societies* (Manchester: Manchester University Press,1988), 1–26 and David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-century India*, (Berkeley: University of California Press, 1993).

[24]https://www.who.int/news-room/fact-sheets/detail/hepatitis-c released 9 April, 2024.

[25]Guillaume Lachenal, *Le Médicament qui devait sauver l'Afrique: un scandale pharmaceutique aux colonies* (Paris: La Découverte, 2014); Guillaume Lachenal, 'Biomédecine et décolonisation au Cameroun, 1944-1994: technologies, figures et institutions médicales à l'épreuve' (unpublished PhD thesis, Paris 7, 2006).

[26]Grebely J, Prins M, Hellard M, Cox AL, Osburn WO, Lauer G, Page K, Lloyd AR, Dore GJ;' International Collaboration of Incident HIV and Hepatitis C in Injecting Cohorts (InC3). Hepatitis C virus clearance, reinfection, and persistence, with insights from studies of injecting drug users: towards a vaccine'. Lancet Infect Dis. 2012 May;12(5):408-14. doi: 10.1016/S1473-3099(12)70010-5. PMID: 22541630; PMCID: PMC3608418.

neither hepatitis A nor B.[27] After a long sequence of clinical observations and serological tests, the virus was eventually identified sui generis and tests became available in 1989, at least in blood transfusion settings.[28] Initially believed to be relatively innocuous, subsequent studies showed that patients would, over a period of up to forty years, often end up with liver failure. As Seef showed in 2009, the reporting of serious outcomes worsened as 1990s retrospective studies built up a clearer aetiology of hepatitis C. Subsequent studies clearly identified that cirrhosis would follow at a mean of 21.2 years and liver failure at 29 years after transfusion of contaminated blood. The early natural history of hepatitis C suffered from the paucity of data regarding the infection dates and was complicated throughout by other factors affecting patients (for instance, alcohol consumption). A more recent article by Butt, Yan and the Erchives longitudinal cohort study[29] analysed a dataset of over 12,000 cases and showed that, within a nine-year period, 'cirrhosis was diagnosed in nearly one-sixth of the untreated persons and nearly 30 per cent died' while only 3,5 per cent of treated patients succumbed in the same nine-year period.[30] Long-term and debilitating illnesses also arose from hepatic decompensation and contributed to the morbid load of the untreated disease. In Cambodia, as Hepatitis C emerged in the nosology late in the 1980s from ambiguous diagnostics, studies showed that it had been primarily transmitted iatrogenically through medical practices from the past, contaminated IV drips, traditional bloodletting rituals as well as drug injections.[31]

Connecting the 'natural history' of the disease with its political history makes sense in Cambodia. The history of HCV contamination in Cambodia cannot be entirely explicitly associated with a single set of events. Yet there are multiple factors that explain, in hindsight, why Cambodia seemed to have, by 2010, one of the highest prevalences of hepatitis C in the world. Contrary to its radical Luddite image, the Khmer Rouge regime (in power between 1975 and 1979) claimed to have developed its own medicine and public health. The 'new' medicine was predicated on finding a specifically Khmer path, based on local and indigenous lore rather than foreign-influenced medicine.[32] The Khmer Rouge thus practiced a form of allopathic medicine that involved the massive use of infusions of vitamin B, calcium, coco water and idiosyncratic concoction using unsterilised IV drips.[33] This phase in Cambodian 'public health' was followed by the import of Vietnamese war trauma medicine during the war between Kampuchea (Cambodia) and

[27]Michael Houghton, '*The long and winding road leading to the identification of the hepatitis C virus'. Journal of Hepatology,* 2009, 51, *939–48*

[28]Leonard B. Seeff, 'The History of the 'Natural History" of Hepatitis C (1968–2009)', *Liver International* 2009, 29, 89-99.

[29]Adeel A Butt, Peng Yan, and ERCHIVES study team, 'Natural History of Hepatitis C Virus Infection in a Large National Seroconversion Cohort in the Direct - acting Antiviral Agent Era: Results from ERCHIVES', *Journal of Viral Hepatitis* 2021, 28, 916-924.

[30]Butt et al, 'Natural History of Hepatitis C', 920-921

[31]Sanaa M. Kamal, *Hepatitis C in developing countries: Current and future challenges* (London: Academic Press, 2017).

[32]Anne Yvonne Guillou, 'Medicine in Cambodia during the Pol Pot Regime (1975-1979)', in *' East Asian Medicine under Communism: A Symposium',* Graduate Center, City University of New York. 2004. https://shs.hal.science/halshs-00327711/document

[33]Ovesen and Trankell. *Cambodians and their doctors,* 89-91, 106-7. Leng Vuoch Eng (1982) 'Les soins dispensés à la population sous les Khmers Rouges'. *ASEMI*, 12, 203–210.

Vietnam (1979-1989), and Soviet and Eastern bloc humanitarian medical aid.[34] All these practices probably spread the virus. Meanwhile, there was probably some iatrogenic contaminations in the camps at the borders of Thailand where much of the Japanese and Western-led international humanitarian aid congregated between 1979 and 1991. Some refugees were hastily trained as 'medical practitioners' ('medics') through humanitarian interventions. After the war ended, these unrecognised 'medics' resettled and later eked a living practicing vaccinations, injections or delivering IV drips. As a result, major iatrogenic localised outbreaks of HIV and HCV have been documented. The most internationally famous incident came to light in 2014 in Roka, Battambang province, where an unlicensed medical practitioner, trained in refugee camps, Yem Chrin, was arrested and convicted to 25 years imprisonment for contaminating over 200 patients with HIV and Hepatitis C.[35] During the MSF mission in rural Cambodia in 2018-9, a local epidemic of Hepatitis C echoing the scandal of Roka was traced to a traditional healer (Kru Khmer), operating healing through incisions, in Krokor, district of Pursat.[36] Though this kind of iatrogenic contamination seems far from allopathic practices, Kru Khmer's healer practices also owed some their post Khmer Rouge legitimacy to the support humanitarian actors had once given them in psychiatry during the 1980s.[37] In the UNHCR camp of Khao I Dang, a psychiatrist, Jean-Pierre Hiegel, had thus collaborated with Kru Khmer to develop mental health treatments attuned to traditional practices.[38]

Taken together, public health and medical interventions of the past forty years undoubtedly contributed to the spreading of the virus between 1979 and now. There is additional forensic evidence of this history in the genotypes of HCV. The main genotypes of HCV impacted the treatment of HCV before 2016 and denote DNA variants. They are roughly the regional markers of Hepatitis C origins. In Cambodia, the study conducted by MSF showed the prevalence of three genotypes and subtypes (1b, 2, 6r and 6e) out of a possible list of 8 genotypes and 87 subtypes. The Cambodian genotypes can be associated with Vietnamese, South East Asian (6) and occidental (1b) contaminations adding to a local genotype.[39] As a result of work done by Dr Janin Nouhin of the Pasteur Institute in 2021, the mapping of the genotypes also illustrated striking variations in their

[34]Notably Czech and Soviet aid see Ovesen and Trankell, *Cambodians and their doctors,* 97-98; François Guilbert, 'L'Aide Soviétique à la Consolidation de la République Populaire du Kampuchea', *Revue d'études comparatives Est-Ouest*, 1991, 37-56.

[35]Chrin was sentenced to 25 years in prison. He had been practising medicine in Roka since 1996. See François Rouet et al, 'Massive Iatrogenic Outbreak of Human Immundeficiency Virus Type 1 in Rural Cambodia, 2014-2015', *Clinical Infectious Diseases,* 2018, 66, 1733-41.

[36]Archives MSF, Cambodia MSF, 10 medical/15 reports and Proposal/ Hotspots HCV/ 1, Pursat. Letter to LY Sovann, director of Communicable Diseases Control, 12 September 2018. Subject Suspected on-going HCV transmission.

[37]The preponderance of injected contamination over other means of blood contamination is the theory adopted by Peter Simmonds, 'The origin of hepatitis C virus' in Ralf Bartenschlager ed. *Hepatitis C virus: from molecular virology to antiviral therapy*, (New York: Springer, 2013), 1-15.

[38]Eisenbruch, M. "Traditional Healer for Refugees who Resettled, were Repatriated or Internally Displaced, and for those who Stayed at Home." *Coll. Antropol* 18, no. 2 (1994): 219-230; Hiegel, J. P. "Le CICR et la médecine traditionnelle khmère." *International Review of the Red Cross* 63.731 (1981): 255-266; Jean-Pierre Hiegel & Colette Hiegel-Landrac, *Vivre et Revivre au camp de Khao I Dang, une Psychiatrie Humanitaire,* (Paris: Fayard, 1996).

[39]Janin Nouhin et al. 'Molecular Epidemiology of Hepatitis C Virus in Cambodia during 2016–2017.' *Scientific reports* 2019, 9, 7314, 1-9.

distribution which likely reflected the historical context of the contamination.[40] Though molecular epidemiology can reinforce historical evidence of iatrogenic contamination, we can emulate Markov and Pepin and correlate the events of the 1970s and 1980s with a degree of certainty with the period of contamination when one considers the age profile of the patients who were identified through systematic active case finding.[41] The preponderance of patients aged above 50 in rural Battambang (with a mean age of 52) thus points to widespread contamination in the 1980s.

There is now a limited historiography of iatrogenic contaminations in which well-intentioned humanitarians and mass medical initiatives of the past played a part. In particular, the historian Guillaume Lachenal and a team of geneticists have shown that much colonial medicine and large-scale inoculation campaigns may have been the unwitting vectors of disease spread between 1920 and 1960 during the most active years of colonial prophylaxis and public health.[42] The evidence of hepatitis iatrogenic contamination in Egypt is now well documented,[43] while there is a growing debate on the role of colonial practices in disseminating HIV AIDS in the decades prior to its identification, even if a single cause cannot yet be identified.[44] To imply the history of iatrogenic origins in mass vaccination campaigns is obviously to intervene in very contemporary anti-vaccination fears.[45]

The previous humanitarian engagement with treatments in Cambodia had hitherto been closely associated with HIV treatment campaigns as would be the case in Europe[46] The treatments available until the mid-2010s were long. Cumbersome, expensive and presented many side effects. By 2012, however, humanitarian actors such as MSF became aware of the impending impact of extremely effective drugs, direct-acting antiviral (DAAs) such as Sofosbuvir developed by Gilead from 2013 and the drug with which it was most successfully combined, Daclatasvir produced by BMS. Both drugs were on the radar of campaigns for access to drugs. In 2014 an internal note arising from a

[40]'Distribution of Genotypes among MSF patients by province (n=3132)' in archives MSF, Cambodia, 10 medical research, 16 Operational Research, Institut Pasteur du Cambodge. Research conducted between September 2016 and December 2017.

[41]Peter V Markov, et al. 'Phylogeography and Molecular Epidemiology of Hepatitis C Virus Genotype 2 in Africa.' *Journal of General Virology* 2009, 90, 2086-2096.

[42]Guillaume Lachenal, 'The Iatrogenic Hepatitis C Virus Epidemic in Central Africa', *Les Tribunes de la santé,* 2011, 33, 59-66; E. Nerrienet et al., 'Hepatitis C Virus Infection in Cameroon: A Cohort - Effect', *Journal of Medical Virology*, 2005, 76: 208-214; R. Njouom et al. 'The Burden of Hepatitis C Virus in Cameroon: Spatial Epidemiology and Historical Perspective'. *Journal of viral hepatitis*, 2008, 25, 959-968; R. Njouom, et al. 'The Hepatitis C Virus Epidemic in Cameroon: Genetic Evidence for Rapid Transmission between 1920 and 1960', *Infection, Genetics and Evolution*, 2007, 7, 361-367.

[43]G.T. Strickland, 'Liver Disease in Egypt: Hepatitis C Superseded Schistosomiasis as a Result of Iatrogenic and Biological Factors', *Hepatology*, 2006, *43*, 915-922.

[44]Tarsisio Nyatsanza and Erasmos Charamba, 'Deconstructing the Collusion of the Colonial and Missionary Discourses in Framing the Origins of HIV and AIDS in South Africa', *African Journal of Development Studies,* 2021, 11, 253-268; G. Doupagne, A.Toukouki, and M. Moutschen, 'The Complex Interactions between the Origins of HIV and its Epidemic, Colonial Activities in Africa and Colonial Medicine in Belgian Congo', *Revue Médicale de Liège*, 2011, 66, 478-484.

[45]Yanto, Theo Audi, et al. "Prevalence and Determinants of COVID-19 vaccine acceptance in South East Asia: a Systematic Review and Meta-analysis of 1,166,275 Respondents." *Tropical medicine and infectious disease* 7.11 (2022): 361..

[46]Laurent Ferradini, et al. 'Positive Outcomes of HAART at 24 Months in HIV-infected Patients in Cambodia', *Aids*, 2007, 21, 2293-2301.

meeting assessing the possibility of a new project in Cambodia summarised the strategic intent of doing work on hepatitis C:

> MSF would like to develop a model of care for Hepatitis C in China (prevalence around 2.5 per cent). Problem, MSF doesn't have yet expertise in Hepatitis C. So China not agree, because but China wonder what would MSF added value in China? One idea, would be to also do start in Cambodia if it's easier to do, to get expertise, to develop a model of care and then to propose it in other countries
> · New molecule, Sofosbuvir (produced by Gilead), better drug, shorten treatment, only 12 weeks, less side effect, better result. But high price: 100 000$/patient. CAME push to reduce the price to 5 000$, lobbying to explain that it will open the market to more than 100 million Hepatitis C patients instead of the few million in US and Europe.
> · To implement Hepatitis C project, need CT scan and good lab, which are available in Cambodia.[47]

Of this initial proposal the aim to work in China did not dominate in the long run (though further conversations did take place between 2018 and 2021)[48] and an intervention in Cambodia became more clearly an objective in itself combined with a forceful disruption of existing HCV drug pricing.[49] In the early years, the Sofosbuvir component of the combined therapy initially retailed at between 84,000$ and 96,000$ per treatment (not quite the $100,000 used in internal discussions), while the complementary ARV drug Daclatasvir was only marginally cheaper. By 2019 the combined treatment price was brought down to $85 in Cambodia. In 2024, however, the marketplace of HCV treatment remains a moot point and one in which prices vary considerably according to national markets.[50] What these drugs promised, however, was a three-month oral cure with few side effects. The Cambodian HCV program showed that this treatment could indeed heal 98 per cent of patients who did not have cirrhosis or cancer.[51]

The access to a 'magic bullet' treatment, in this case, a direct action antiviral, whatever its initial cost, was an unusual opportunity for a humanitarian organisation.[52] It also met

[47]MSF Cambodia, Mission Archives, 2001-2016/ 024 Operational Propositions/ 2014 New Project in Cambodia, 10 April 2014.

[48]The main challenge in these conversation appears to have been that a HCV intervention would have to be considered a scientific study or a pilot program, unlike the hybrid developed in Cambodia. See Meeting Minutes with China CDC, 10 May 2019, MSF Cambodia Archive, China.

[49]The emphasis on doing work in China built on the 'Joint Evaluation Report of CDC/MSF-F HIV Project, Nanning city, Guangxi province China, 2003-2010', MSF Cambodia Archive, China., Meetings and Messages.

[50]OmarAlshuwaykh,Paul Y Kwo 'Current and future strategies for the treatment of chronic hepatitis C.', Clin Mol Hepatol. 2021 Apr;27(2):246-256. doi: 10.3350/cmh.2020.0230. Epub 2020 Dec 3. PMID: 33317245; PMCID: PMC8046635.

[51]For those patients MSF worked with Douleurs sans frontières on palliative care. MSF Archive, Cambodia, 10.Medicalm/ 14 MSF and MoH protocols/ 151 Palliative Care/ collaboration protocol.

[52]Another example of recent magic bullets, beyond tri-therapy for HIV was the deployment of Artemisinin in replacement of Chloroquine in treating malaria. See C. Faurant, 'From Bark to Weed: the History of Artemisinin', *Parasite: Journal de la Société Française de Parasitologie,* 2011, 18, 215-218; Youyou Tu, 'Artemisinin—a Gift from Traditional Chinese Medicine to the World (Nobel lecture).' *Angewandte Chemie International Edition*, 2016, 55, 10210-10226; Suna Balkan and Jean-François Corty, 'Malaria: Introducing ACT from Asia to Africa', in Jean Hervé Bradol and Claudine Vidal eds, *Medical Innovations in Humanitarian Situations,* (New York: MSF USA, 2011), 155-177.

the criteria needed to trigger the support from the access campaign, 'Access to essential drugs' launched in 1999,[53] which built on a decade-long campaign for access to HIV antiretrovirals.[54] In 2012, when pharmaceutical industrialists began to offer cheaply pegylated interferon drugs for the treatment of Hepatitis C in the 'Global South', they were attempting to sell a relatively complex treatment about to be superseded. At that stage, the medical team of MSF pleaded to ignore the offer and chose to await oral drug treatments which were then in the third phase of homologation.[55] As the MSF Access campaign argued in 2017, the "reasons underlying the continued lack of access to HCV treatment are… delayed scale-up by governments, intellectual property barriers, regulatory challenges and high prices."[56]

In terms of a quest for a 'holy grail', hepatitis C thus presented an opportunity for MSF to act at different levels simultaneously.[57] The term holy grail recurs often when discussing an overwhelmingly effective treatment and refers, mostly, to the quest to make it accessible to a wider number of patients. An international NGO could dream of ramp up a campaign against structural inequalities in the biomedical market. It could envision acting on the ground through scientific and epidemiological enquiries, contributing to clinical developments within and beyond Cambodia.[58] At a local level it could develop a program of clinical responses that might challenge existing processes and accelerate the diffusion of a promising treatment while lowering its actual cost.[59] And crucially, as a final development that arose through its engagement with the Ministry of Health, it could act at the policy level by helping draft a Cambodian national plan towards the elimination of the disease. The notion of elimination here suggests the radical reduction of transmission while eradication refers to the removal of the virus entirely in a manner which has very few historical examples beyond small pox.[60] Walter R Dowdle then director of programme of the US CDC defined elimination thus in 1999:

> '*Elimination of disease:* Reduction to zero of the incidences of a specified disease in a defined geographical area as a result of deliberate efforts; continued intervention measures are required. Example: neonatal tetanus; *Elimination of infections:* Reduction to zero of the incidences of infection caused by a specific agent in a defined geographical area as a result of deliberate efforts; continued measures to prevent re-establishment of transmission are required. Example: measles, poliomyelitis.'[61]

[53]J.M. Kindermans, and F. Matthys, 'Introductory note: The Access to Essential Medicines Campaign',*Tropical Medicine & International Health*, 2001, 6, 955-956.

[54]Thomas Olesen, '"In the Court of Public Opinion" Transnational Problem Construction in the HIV/AIDS Medicine Access Campaign, 1998–2001', *International Sociology* 2006, 21, 5-30.

[55]Ye, Jianyu, and Jieliang Chen. "Interferon and hepatitis B: current and future perspectives." *Frontiers in Immunology* 12 (2021): 733364; Keating, Gillian M., and Asha Vaidya. "Sofosbuvir: first global approval." *Drugs* 74, no. 2 (2014): 273-282.

[56]*Not even close,* https://www.msfaccess.org/sites/default/files/HCV_IssueBrief_HEP_C_6.pdf, 2017, (accessed 22.03.23).

[57]T.L. Applegate, E. Fajardo, and J.A. Sacks, 'Hepatitis C Virus Diagnosis and the Holy Grail' *Infectious Disease Clinics*, 2018, 32, 425-445..

[58]Nouhin, et al. 'Molecular epidemiology', 9.

[59]Jacqui Wise, 'MSF pushes down price of generic hepatitis C drugs to new low level', *British Medical Journal*, 2017; 359 doi: https://doi.org/10.1136/bmj.j5054

[60]Breman, Joel G., Isao Arita, Smallpox Eradication Unit, and World Health Organization. *The confirmation and maintenance of smallpox eradication*. No. WHO/SE/80.156. World Health Organization, 1980.

[61]Walter Dowdle, 'The Principles of Disease Elimination and Eradication' MMWR, Supplements 1999, 48, 23-7, https://www.cdc.gov/mmwr/preview/mmwrhtml/su48a7.htm (accessed 07.04.2023).

For a humanitarian organisation seldom engaged long-term in any health campaign, by design, the prospect of contributing to a debate on disease elimination was not even stated as a secondary goal. The main headline objective was merely to develop a sustainable treatment. The initial project proposal of 2015 described the intervention as primarily designed to 'Reduce morbidity and mortality of people infected with Hepatitis C'.[62]

Getting a Grip on a Virus and Foreign Medical Aid

Historicising the hepatitis C mission means that we need to resist the idea that the conclusions it reached were all clearly identified at the onset, as the initial operational propositions cited above show, there were many lofty objectives competing for dominance. Despite programme management tools which use GANNT charts and, in other organisations than MSF, logical programming[63] – humanitarian programmes are seldom defined by their intentions.[64] An intervention, or 'mission', proceeds from a negotiation in which arguments evaluating anticipated measurable outcomes are balanced against precedents. The political desire to intervene or the "need to help" to use Liisa Malkki's definition of the humanitarian urge to be useful[65] meets technical evaluations of the feasibility and plausibility of the intervention.[66]While much of the scholarship on humanitarian decision making has focused on sudden emergencies[67] – situations of acute need which require prompt decision making – the deployment of humanitarian aid towards a slow burning epidemic entailed a different timeframe and a very large MSF France budget supplemented with some long-term financing through 'innovation' funding schemes of MSF[68] Though still focusing on incidence, prevalence, targeting and screening, the response to a disease that can take decades to kill implies a very different construction of what an emergency *is* as well as the need for very substantial resourcing.

This issue does not arise in all non-governmental organisations alike. As their reliance on institutional and state donors increased, many INGOs delegated prioritisation

[62]MSF Archive, Cambodia, Mission Archives 2001-2016/ 110 HOM backup/ 11 HepC project/ MSF Hepatitis C project proposal, 26 October 2015, p. 8.

[63]Laurence McFalls, 'Benevolent Dictatorship: The Formal Logic of Humanitarian Government', in Didier Fassin and M. Pandolfi eds, *Contemporary States of Emergency: The Politics of Military and Humanitarian Interventions* (New York: Zone Books, 2010), 317-334; Joël Glasman, *Humanitarianism and the Quantification of Human Needs: Minimal Humanity* (London, Routledge, 2019).

[64]Richard Brown, 'Public Health in Imperialism: Early Rockefeller Programs at Home and Abroad', *American journal of public health* 1976, 66, 897-903.

[65]Liisa H. Malkki, *The Need to Help: The Domestic Arts of International Humanitarianism* (Durham: Duke University Press, 2015).

[66]Piers Robinson, 'The Policy-media Interaction Model: Measuring Media Power during Humanitarian Crisis', *Journal of Peace Research,* 2000, 37, 613-633.

[67]Mark Anderson and Michael Gerber, 'Introduction to Humanitarian Emergencies', in David Townes, Mike Gerber, Mark Anderson eds, *Health in Humanitarian Emergencies* (Cambridge: Cambridge University Press, 2018),1-8; Rebecca Walton, Robin E. Mays, and Mark P. Haselkorn, 'Defining Fast: Factors Affecting the Experience of Speed in Humanitarian Logistics.' Proceedings ISCRAM conference, 2011, http://www.idl.iscram.org/files/walton/2011/1059_Walton_etal2011.pdf (accessed 22.03.23); Ronak B Patel, et al. 'What Practices are Used to Identify and Prioritize Vulnerable Populations Affected by Urban Humanitarian Emergencies?', (London: Oxfam, 2017), https://oxfamilibrary.openrepository.com/bitstream/handle/10546/620190/rr-identify-prioritize-vulnerable-populations-urban-310117-en.pdf?sequence=7 (accessed 22.03.23)

[68]The program thus benefited from some limited UNITAID funding but mostly rested on MSF funding with 29 per cent TIC (transformational Invertment Capacity) funding. MSF Archives, Cambodia /Mission HepC project archives/60 Donors/ TICDNDI funding 2018-2020. Financial budget.

or negotiated priorities with their donors.[69] Setting up the 'strategic objectives' of a humanitarian mission in a humanitarian organisation managing its own income (at the difference of most the other large NGOs who depend on donors' priorities to organise their programmes) entailed negotiating a range of priorities and articulating a three-year plan purely within the organisation which would meet broad but sometimes inchoate organisational aspirations.

The MSF headline objective thus envisioned an end to the programme before it began and to consider transferring responsibilities to local partners a priority. Following negotiations in the Paris headquarters of MSF, it was agreed in December 2016 that the aim was to ensure that 'by June 2019, Hepatitis C diagnostic and care is integrated and accessible in a Cambodian National Program'.[70] This bold aim was meant to be measured through nine indicators intended to assess the delivery and success of treatments and the robustness of the bond with the Cambodian Ministry of Health. The project was built on long-standing history of sometimes conflictual relations with Cambodian partners, often impatient with the humanitarian organisation's methods. MSF had previously introduced antiretroviral therapy (ART) initially against the will of the national HIV AIDS programme in 2001 who did not think it affordable, before reconciling objectives and merging its own action with that of the Cambodian Ministry of Health.[71]

The Cambodian government also had its own agenda. It had set up a plan to take over full health responsibilities for the country before 2011 and for international NGOs like MSF to withdraw or become subservient.[72] In response the branch of MSF (Belgium) which worked in Cambodia handed over HIV and Tuberculosis (TB) programmes in July 2009, while the French branch of MSF intended to leave a year later its Phnom Penh hospital while maintaining projects on HIV and TB in provinces (Kampong Cham) and in prisons.[73] Though by 2011 the deadline for NGOs to leave had come and gone, humanitarian decision-makers queried:

> If Cambodia truly has the willingness to become less dependent from the international donor's community especially when the country can so easily take advantage of the donors competing with each other (US vs. China or China vs. Japan notably) and of the very high number of INGOs involved in a field or another' while urging the organisation to 'capitalise' on 10 years experience.[74]

This perspective met some of the scepticism reflected in the anthropological literature which contrasts the outspoken desire to establish health sovereignty with the inertia

[69]The complaint against this devolution of responsibility is old standing and can be found in Harrell Bond as far back as 1985, Barbara Harrell-Bond,. 'Humanitarianism in a Straitjacket.' *African Affairs* 1985, 84, 3-13; also see Michael Barnett, 'Humanitarianism Transformed', *Perspectives on Politics*, 2005, 3, 723-740.

[70]AMHC MSF, Guillaume Jouquet, 12.12.2016, 'Strategic objectives', in Mission Dashboard,

[71]Archives MSF, Cambodia MSF/ 011Mission Management/ Country profile 2008, p.3.

[72]Archives MSF, Cambodia MSF/ 011, Mission Management/ Country Profile, The Missions, 2009, p. 13.

[73]Archives MSF, Cambodia MSF, Cambodia/ 011/ Mission Management/ Country Profile, Fiche Projet, 2010 + amendements en cours d'année, 2010,

[74]Archives MSF, Cambodia MSF, Cambodia /011, Mission Archives/ 110, 11 HepC project/, Country profile, Fiche Projet Cambodge, 2011, validée Dirop [operational directorated approved], 2011, p. 2

and dependency binds arising from decades of foreign assistance.[75] By 2011 only the French branch of MSF, the one with the longest continuous presence in the country, continued to operate independently in Cambodia. Its general purpose 'to improve the diagnosis and comprehensive health care of tuberculosis, HIV/TB co-infected DR-TB and TB infected children' was loosely framed and open-ended. Over the years the TB programme ran on a slowly increasing budget of c. 1.4 to 1.5 Million euros.[76] By 2014, MSF was working with the National TB programme (CENAT) and managed one of the three referent hospitals of the programme – other NGOs and international actors included the Global Fund from 2006,[77] TBCare, US CDC and WHO.[78] Despite ongoing issues with monitoring and follow-up or infection control, the French NGO and its staff developed access to diagnostic tools and stepped in when other funders withdrew suddenly.

This history of intense and prolonged collaboration between a financially independent INGO and the Cambodian state matters because it casts a light on the open-ended and opportunistic nature of humanitarian relief work. Especially when this collaboration is with a state growing in confidence, resources, and desire to exert its sovereignty. The Global Fund for AIDS, Tuberculosis and Malaria played an important role in funding the Cambodian Ministry of Economy and financing resourcing of health programmes. The objective of the return to sovereignty was not merely a by-product of increasing wealth due to inward investments, and international development aid (notably Japanese and American) which enabled the state to expand its remit. It was also echoing a political shift by the regime of Hun Sen in power since 1986, and since 1992 Prime minister of the restored monarchy. The government primarily manifested its sovereignty by means of controls and restrictions rather than through health policies.[79] In fact, by 2014 the 'personalist' regime of Hun Sen, to use Morgenbesser's phrase, constituted through the accretion of clientelist networks and take-over of party and state,[80]was resuming its systematic repression of any opposition and increasingly focused on silencing human rights observers and foreign NGOs.[81]

In line with the expressed policy of the Royal Cambodian government to bring key services under direct control, MSF began to disinvest from supporting the Tuberculosis programme while 'gathering evidence about hepatitis C.'[82] The following year the transition from TB to hepatitis C, from one vertical programme about a known problem to another,

[75]P. Lavigne Delville, 'Pour une Socio-anthropologie de l'Action Publique dans les Pays 'Sous Régime d'Aide', *Anthropologie & Développement*, 2017, 45, 33-64; Romilly Greenhill, *The Age of Choice: Cambodia in the New Aid Landscape* (London: ODI, 2013).

[76]Archives MSF, Cambodia MSF / 011/ Mission Management/Country Profile, Fiche Projet Cambodge, 2011, validée Dirop, 2011, p. 4.

[77]Jamie Bridge, et al., 'The Global Fund to Fight AIDS, Tuberculosis and Malaria's investments in harm reduction through the rounds-based funding model (2002–2014).' *International Journal of Drug Policy* 2016, 27, 132-137.

[78]Archives MSF, Cambodia MSF / 011, Mission Management/ Country Profile, Country file Cambodia, 2014, p. 4.

[79]Lee Morgenbesser, 'Cambodia's Transition to Hegemonic Authoritarianism', *Journal of Democracy* 2019, 30, 158-171.

[80]Lee Morgenbesser, 'Misclassification on the Mekong: The Origins of Hun Sen's Personalist Dictatorship', *Democratization,* 2018, 25,191-208. See p. 202 for a detailed chronology of this process.

[81]Jonathan Sutton, 'Hun Sen's Consolidation of Personal Rule and the Closure of Political Space in Cambodia', *Contemporary Southeast Asia* 2018, 40, 173-195. M. Curley, 'Governing Civil Society in Cambodia: Implications of the NGO Law for the 'Rule of Law', *Asian Studies Review*, 2018, 42, 247-267; A. Heiss, *Amicable Contempt: The Strategic Balance between Dictators and International NGOs* (Doctoral dissertation, Duke University, 2017); See for instance the reporting in 2017. https://www.nytimes.com/2017/08/23/world/asia/cambodia-us-ngo-hun-sen-nonprofit-crackdown.html (accessed 22.03.23)

[82]Archive MSF, Cambodia/Mission archives 2001-2016/110, HOM back up/ 011, Country Profile briefings, KHFP final, 2015, p. 3.

considerably less well known, had been decided. This shift was not entirely based on a hunch – as we have seen there was some evidence for a genuinely widespread epidemic. However, there was not yet the data needed to evaluate the scale of the issue. In 2016 the internal reports stated 'the hepatitis C situation is still not completely known. There is a lack of information on the general population prevalence.'[83]

In medical terms the 'mission' thus built on a history of collaboration and presence, personnel and technological potentiality around new rapid diagnostic tools, so-called near point of care diagnostic tools, such as Cepheid's GeneXpert' cartridge-based nucleic acid amplification test (CBNAAT) - a small and relatively cheap PCR test commercialised since 2010.[84] The TB work MSF had conducted in Cambodia had made relatively modest use of the machines. MSF had dealt with small numbers of actual patients but had participated in a significantly positive evolution of one of the worst endemic manifestations of tuberculosis in the world (after South Africa).[85] What a shift to hepatitis C seemed to offer was the possibility for an NGO to define the scale of the crisis, measure prevalence, adapt treatment and offer diagnostic tools tailored to the capability of the local ministry of health while engaging simultaneously with patients and policy.

This presented a great, if supply-led, opportunity to develop a project using new drugs, and new diagnostic tools to deal with a slow-killing epidemy for which there was no local initiative, as the initial reports admitted:

> HCV is not a priority and there is no budget allocated for a dedicated HCV program but the National Centre for HIV and AIDS (NCHADS) has expressed strong willingness to have Hepatitis C treatment available for the HIV co-infected patients. HCV is a curable disease, with potential shorter-term treatments using the new DAAs (Direct Active Antivirals). New EALS/AASDL HCV guidelines bring more perspectives for testing and treating & strategies. The Cambodian Ministry of Health and NCHADS supports the strategy of a National Program development for Hepatitis C in the central hospitals in Phnom Penh first for co-infection [with HIV Aids] and mono-infection, before decentralization and scaling up in all provinces.[86]

The original aims of the mission were thus focusing on priorities arising from available data which presumed: that the population affected was adult, but not a specific age group; that HIV co-infection would be significant (and the presumption in 2016 was that this would be particularly the case for drug users), and that, once treatment had been devised in Phnom Penh, one could expand and extend the programme to provinces while transferring this vertical programme to the ministry of health by making it 'horizontal' and integrating it to routine health services and not as part of a 'risk based strategy'.[87] This

[83]Archive MSF, Cambodia/Mission archives 2001-2016/110, HOM back up/ 011, Country Profile briefing, 2016 p 1.

[84]The cost of a cartridge to the producer is estimated at around 3$. A recent campaign for the industrialist to reduce the retail price brought the price to 5$ when a HCV test still is most often priced at 16 to 20$. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.treatmentactiongroup.org/wp-content/uploads/2020/04/fair_pricing_webinar_slides_final.pdf accessed (17.04.2024).

[85]R. Wood, et al. 'Tuberculosis Control Has Failed in South Africa - time to Reappraise Strategy' *South African Medical Journal*, 2011, 101, 111-114.

[86]Archive MSF, Cambodia 110 Archives, HOM back up, 011, Country Profile briefings, KHFP, 2016, p. 2.

[87]Archive MSF, Cambodia, 014, Maps, Tonia Strategy approach, 'Arguments for addressing HCV as a public health problem with a simple screen and treat rather than risk based approach.' p 2. 03/-1/2019.

joint venture between a Ministry of health resource and a large humanitarian NGO with access to cheap drugs is illustrative of a mode of functioning that would no longer bypass states, as critiques long argued for humanitarian work in the 1990s, but which nevertheless remained supply-led.[88] From 2011 the Royal Government of Cambodia set mandatory annual narrative and financial reports to the Ministry of Economy and Finance, the Cambodia Development Council, and Foreign Affairs, and made these reports conditional to MoU renewals. The importation of DAA depended on letters from these branches of government but MSF nevertheless maintained a parallel management for the storage, supply and deliveries to the HCV sites. Nevertheless, the mission was to provide an answer to a national problem that had not yet been identified as a priority. Cambodian Ministry of Health priorities responded to external funding and focused on HIV, TB, Malaria and, increasingly, non-communicable diseases.

The 'Experimental Dimensions' of a Mission

Arguably, the ability to deliver diagnosis, cheap drugs and treatment for a known but barely understood health hazard gave MSF exceptional latitude, resembling perhaps the power that the Rockefeller Foundation had had in flighting yellow fever during the interwar era around the world.[89] Like the Rockefeller, MSF could bring together an experienced team that drew on an operating model used for TB and HIV in previous years. Though there was no denying the appeal of what MSF supplied, its proposition nevertheless entailed new processes and knowledge being devised in situ for the identification and treatment of patients.[90]

The original approach was to provide a medical solution – the combined Gilead's sofosbuvir and BMS' Daclatasvir (in its generic form) – while working on how it might be delivered at a lesser cost. From the earlier days of the programme the medical NGO sought to adapt known protocols to make them gradually cheaper and simpler to administer.[91] Though this was not the stated intention at the onset (nurses were originally meant to only take over the follow-up in health centres),[92] one of the outcomes of the project from 2019 was indeed to make the treatment of HCV deliverable by nursing staff alone.[93] High-level compliance and the over 90 per cent efficacy of the DAA meant that many of the initial check-ups, fibro scans, psychological follow up to ensure compliance

[88]Vinh-Kim Nguyen, *The Republic of Therapy: Triage and Sovereignty in West Africa's Time of AIDS*, (Durham: Duke University Press, 2010).

[89]Paul Weindling, 'Philanthropy and World Health: the Rockefeller Foundation and the League of Nations Health Organisation', *Minerva* (1997): 269-281; Maurits Bastiaan Meerwijk, "Phantom menace: dengue and yellow fever in Asia." *Bulletin of the History of Medicine* 94.2 (2020): 215-243.

[90]M.Zhang, et al. 'Decentralised Hepatitis C testing and Treatment in Rural Cambodia: Evaluation of a Simplified Service Model Integrated in an Existing Public Health System', *The Lancet Gastroenterology & Hepatology*, 2021, 6, 371-380.

[91]The main protocols in place where the EASL (European association for the study of the Liver) hepatology protocols. See https://easl.eu/easl/ (accessed 23.02.23)

[92]Archive MSF, Cambodia/ 71 KH Field Autonomy/ 1 Copil 28 February 2018, revised roadmap, 19.01.2018 Cambodia country sheet.

[93]This process was interrupted by Covid in 2020 and then resumed until the end of the project. MSF archive Cambodia/ Activity Annual Report 2021, p. 26; Archives MSF, Cambodia/10 Medical/18 Operational research/ 7 Care model Nurse initiation rural HC, 2019-2020.

and clinical examination appeared superfluous over the duration of the project. High-tech drugs with negligible side effects effectively de-medicalised the treatment of HCV despite local staff expressing doubts about the staffing levels of local health centres and local fears of discrimination,[94]'. Yet these reservations could be overcome as Samnang the nurse coordinator of Maung Russey argued: 'people are scared of screening in the community… they recognize the health centre and it is important to build on them to get trust… we conducted training of health centre staff.'[95]

The original purpose of the mission was thus to develop a treatment protocol and to make a public demonstration of its efficacy. The initial location for the intervention was one of the best second-tier hospitals of the capital city, Phnom Penh, Preah Kossamak Hospital. The local partnership agreement exploited the hospital management's desire to develop centres of excellence. As Jenna Grant shows, this convergence of interest around investments and innovation, what she calls a 'technological assemblage', fuelled a local competitive environment fostered by their interaction with NGOs and gift-bearing foreign companies.[96] The humanitarian intervention in Preah Kossamak Hospital gave it a competitive advantage and a free cutting-edge service, but it also set the public hospital and NGO alliance as a disrupter of a lucrative niche market. Hitherto, a small group of entrepreneurial medical practitioners allied with local pharmacies controlled the private market for the treatment of hepatitis C and delivered DAA treatment at a very high cost.[97] During the period of the collaboration between MSF and the hospital, hepatologists maintained their hospital practice while seeing their rich clients in private clinics. Nevertheless, the new services (Hepatitis C clinic) of the Gastro-Entero department jointly provided by the hospital and humanitarian NGO challenged these local monopolies while also affecting transnational routes, making medical trips to Vietnam, Singapore or Thailand unnecessary. The original treatment protocol in place in Phnom Penh entailed 10 visits and tests. Each visit multiplied the cost to the patient and limited access to health to patients living far from the capital city.[98] It involved diagnostic tools and machinery, nursing and counselling, a laboratory, and a range of services assembled around a central hepatitis C clinic. A triage desk stood in the middle, registration, fibroscan assessing fibrosis, counselling, rapid testing and virology services shaped a journey through the treatment protocol of HCV. These appointments were initially inspired by HIV antiretroviral treatment centres MSF ran elsewhere.[99] By 2019 many of these services had disappeared for most patients in the Preah Kossamak hospital and the treatment follow up had all but vanished beyond a final check up.

[94]Interview with Dr San, 29 November 2019. Battambang, MSF archive, Cambodia, Oral History

[95]Interview with Samnang, 9 December 2019, Maung Russey, MSF archive, Cambodia, Oral History

[96]Originally built for monks Preah Kossamak had a reputation nationally for being accessible. Grant, 'How to Rename a Hospital', 606-7

[97]Interview with Medical director January 2019. The medical coordinator argued that some cost recovery would have enabled a more sustainable set up in Phnom Penh. MSF archive, Cambodia/ Oral History

[98]See Archive MSF, Cambodia,10 Medical/21 conferences presentations/WHS Sao Paulo, 'Identifying the Optimal Care Model for HCV care in Cambodia and overcoming barriers to decentralization and Scale up: Médecins sans Frontières Pilot Program, Poster 49a,' Reported to World Hep C Summit in Sao Paulo 1-3 November 2017.

[99]Field notes, February 2018. This arrangement was modified from one visit to the next as processes became simplified and more linear.

In scientific terms, the medical team sought to simplify insofar as possible and to develop an iterative process through which protocols could be pared down.[100] This entailed assessing the efficiency of the treatment on the one hand, cutting down on unnecessary follow-up consultations, and narrowing the number and range of tests required before treatment. The early realisation that there were but a few genotypes which did not affect results made testing for their identification a purely scientific exercise. MSF delivered evidence that the AAD and diagnostic tools were effective for Genotype 6 and, combined with another trial in Africa, that the combined therapy had pan-genotype application.[101] This approach was later integrated with WHO guidelines, but in 2016-7 it remained a reasonably experimental take on cost-cutting in an austere environment, 'effective in resource-limited settings without jeopardizing patient outcomes'.[102] Similarly some of the counselling traditionally expected to support greater compliance to the treatment among drug users in the West and in humanitarian HIV and TB projects[103] was regarded as surplus to requirement when it became clear that compliance to the treatment was the norm and that the drugs were well tolerated over the twelve weeks of average treatment.[104] The whole apparatus of patient support associated with chronic illness became redundant and was abandoned.

Of course, this constant paring down of a hospital process was not uncontroversial and was going against the ethos of a highly technical centre of excellence reliant on providing advanced diagnostics. The high-tech hepatology department the hospital desired, the revenues ensuing from advanced diagnostic equipment and gear procured through the NGO were threatened when MSF turned its goals towards a community care approach to HCV. It nevertheless never went completely in the direction of what João Guilherme calls pharmaceuticalization. The market forces of hepatitis C remained biased by the introduction of free MSF treatment and did not play a part in making treatment more widely available. The simplification of treatment remained firmly bound to the Ministry of Health rural structures and second-tier hospitals and, finally, the hepatitis C campaign did not undermine any kind of preventative public health as Biehl noted for Brazil for HIV.[105]

[100]See M. Zhang, et al. 'High sustained viral response rate in patients with hepatitis C using generic sofosbuvir and daclatasvir in Phnom Penh, Cambodia', *Journal of Viral Hepatology,* 2020, 27, 886– 895. https://doi.org/10.1111/jvh.13311, p. 888 for a detailed graph of the patient cohort treatment flow in Kossomak hospital.

[101]In 2016 the WHO had not validated the treatment across all known genotypes. The evidence from Cambodia and also South Africa was delivered in 2017. Archives MSF, Cambodia/10 Medical/ 18 Operational research/ 1 Molecular biology HCV/ 2, Genexpert efficacy on GT6.

[102]World Health Organization, 2018. Guidelines for the care and treatment of persons diagnosed with chronic hepatitis C virus infection. https://apps.who.int/iris/bitstream/handle/10665/273174/9789241550345-eng.pdf (accessed 22.02.23)

[103]E.g. Sigurður Ólafsson, et al. 'Treatment as Prevention for Hepatitis C (TraP Hep C)–a nationwide elimination programme in Iceland using direct - acting antiviral agents', *Journal of Internal Medicine,* 2018, 283, 500-507.

[104]The initial protocols of early 2017 were based on HIV and involved a lot of counselling and monthly meetings with doctors. By the time of Taithe's visit in November 2017 the counselling had been reduced dramatically, counselling was replaced by a poster and an educational film. Interview with coordinator, 7 January 2019.

[105]João Guilherme Biehl, "Pharmaceuticalization: AIDS treatment and global health politics." *Anthropological Quarterly* 80.4 (2007): 1083-1126; p. 1085.

This initial and long unspoken mostly constructive misunderstanding between an INGO focusing on delivering accessible and 'sustainable' services and Preah Kossamak intent on using these services to raise its national profile, ended with the withdrawal of MSF at the expense of the transfer of the more hi-tech facilities and GeneXpert machines with a stock of diagnostic cartridges. MSF withdrew from the 'centre of excellence' to relocate to one of four municipal referral hospital to carry on paring down medical protocols – leaving Kossamak hepatologists to treat cirrhotic patients and claim national specialist status in June 2019.[106]

From the perspective of MSF, the choice of a central hospital in Phnom Penh had produced paradoxical results. From the perspective of assessing genuine need – and not simply providing blind a treatment to an endless and often very large intake of patients from every part of the country –Phnom Penh proved a choice by default which could only serve the process of simplification but not deliver epidemiological data on prevalence. In the same way rich private clients had once made their way to the expensive clinics in Phnom Penh or abroad, patients now came to Phnom Penh (Kossamak) for treatment of an already diagnosed condition.[107] The news spread fast that this new service would appear and would be free. From January 2017 the screening and treatment of new patients had to be closed for six months as the services reached full capacity.[108]

As a humanitarian intervention these were paradoxical results. The NGO team found rapidly that treatment was extremely efficacious but it could not actually assess the prevalence of HCV in the capital or in the country.[109] Furthermore access to one of the presumed main categories of patients, such as co-morbid patients presenting HIV and HCV, as would be the norm in the West failed to materialise.[110] The normal pool of patients with these pathologies would have been street drugs injectors but they were mostly out of reach. Since 2012, in application of the law on the control of drugs, all identified street drug users had been criminalised and facilities supporting them had been closed. By 2017 the anti-drugs campaigns were toughening further this repressive regime.[111] During a period of increasing political repression, access to prisons and rehabilitation centres proved difficult too. In an interview of January 2019, the project coordinator revealed 'a sense of failure'.[112] The little information that was eventually gathered in relation to these groups – the primary patient groups in the global north[113] – showed that, counter intuitively, co-morbidity HIV-HCV was rare. Among the broader population the younger age groups were less affected than the historical cohorts of their elders.[114]

[106]MSF Archive, Cambodia/00 mission management/012/ MSF OCP Annual report, 2019.
[107]Interview with project coordinator, 2017- 7January 2019, MSF archive, Cambodia/ Oral History
[108]Interview with programme director, MSF archive, Cambodia/ Oral History
[109]Zhang, 'High sustained viral response rate', 886-895.
[110]A grant towards this work had been made available through an agreement with UNITAID.MSF Archives, Cambodia/ Workplace/60 Donors/UNITAID/2017,
[111]J. Hasselgård-Rowe, 'Detaining People Who Use Drugs in Cambodia: a Dual-Track system', *International Journal of Drug Policy*. 2021, Jul 1;93:102911.
[112]Interview with MSF Coordinator. 12 January 2019. By early December 2019, staff working with drug users were afraid of being arrested. Field notes, 2 December 2019. Archive MSF /Oral History
[113]C.W. Shepard, L. Finelli, and M.J. Alter, 2005. 'Global Epidemiology of Hepatitis C Virus Infection', *The Lancet infectious diseases*, 2005*,* 9, 558-567.
[114]n The rare instances of younger patients became evidence of 'hot spots' which were reported to the Cambodian CDC. Archive MSF, Cambodia/ Mission Hepc/111 Archives PC HCV Battambang/10 Medical/ Hotspot/, annual HCV Hotspot Activity report 2020.

The epidemiological knowledge of the disease could not be developed in an urban setting where flows of patients would forever mobilise all the resources an NGO could devote to a programme and, in consultation with a team of epidemiologists from an in-house epidemiologist research group, Epicentre,[115] the mission leadership decided to change its focus and devote much of its resources to conduct prevalence studies in rural areas two years in the project.[116] Moving to the Battambang province in March 2018, in particular through a campaign of active screening in 178 villages of the rural district of Maung Russey,[117] was not the orderly transition envisaged originally but a crucial deployment of resources. The decentralisation of the project was well understood to entail a move to the countryside on the one hand and taking the treatment to patients unlikely to make the journey to the capital city on the other. These northern western province was an interesting choice on the part of the government, for historical reasons as well as for epidemiological ones.[118] The rural districts of Battambang province located on the main road to the North West border of Cambodia had long been contested during the wars of the 1970s and 1980s. Battambang was the native province of Khmer Rouge comrade no 2 Nuon Chea, while Moung Ruessei had also been one of the earliest supporting the Khmer Rouge, with very local variations, as Kubota shows.[119] Battambang province was also one in which refugees from the border camps were repatriated to in the early 1990s – mixing thus two populations. By 2009, at the time of the first census registering them, 7.4 per cent of Battambang city had been refugees according to Han and Lim.[120] While many inhabitants of Battambang migrate to Thailand for work, it remained an area profoundly affected by civil wars from 1969 until 1998, mostly rural and whose people represented Khmer Rouge supporters and refugees – all likely to have been affected by different types of Hep C.

The purpose of moving into the countryside was to enable a scaled-up survey of the prevalence of the disease by testing members of rural communities aged 18 to 44 and 45 and above in the first instance.[121] The initial test was conducted in Moung Ruessei and involved 3,616 households and 5,098 individuals. This initial active case finding campaign required a considerable logistical set up which employed 15 teams of surveyors and nurses driven from one randomly sampled village to another – using local health

[115]Since 1986 MSF Paris has used and resourced an in-house epidemiological team who act as consultants and help assess epidemiological situations when operational groups require it. Claudine Vidal, and Jaques Pinel, 'MSF 'Satellites' in C.Vidal and J-H. Bradol (eds) *Medical Innovations in Humanitarian Situations*, (New York: MSF, 2011), 22-38.

[116]Emily Lynch, et al. 'Hepatitis C Viraemic and Seroprevalence and Risk factors for Positivity in Northwest Cambodia: a Household Cross-sectional Serosurvey', *BMC Infectious Diseases*, 2021, 21, 1-9.

[117]Su Myat Han, et al. 'Costing Analysis of Field Implementation of Hepatitis C Case Detection in Rural Maung Russey Operational district, Cambodia.' *Western Pacific Surveillance and Response Journal: WPSAR*, 2021, 12, 17-24. Field Notes December 2019.

[118]M. Zhang, et al., 'Decentralised Hepatitis C Testing and Treatment in Rural Cambodia: Evaluation of a Simplified Service Model Integrated in an Existing Public Health System', *The Lancet Gastroenterology & Hepatology*, 2021, *6*, 371-380.

[119]Yuichi Kubota, 'Territorial Control and Recruitment in the Cambodian Civil War, 1970–75: Case Studies in Battambang Province.' *Asian Security* 2011, 7,1-26.

[120]Sun Sheng Han and Ymeng Lim, 'Battambang City, Cambodia: From a small colonial settlement to an emerging regional centre.' *Cities,* 2019, 87, 205-220.

[121]M. Iwamoto et al. 'Identifying Optimal Care for Hepatitis C and Overcoming Barriers to Scale-up: MSF Pilot Programme', *F1000Research*, 2018, *7*, 928.

centres as a hub for communicating around Hepatitis C and village chiefs to solicit fingerpick blood samples for rapid tests and aim to screen 80 per cent of people over 45.[122] The initial results showed the prevalence to be highest in groups over the age of 45. The curve showed the dramatic incidence of historic contaminations: 6 per cent to 7 per cent of people over 45 were ill with HCV. While two thirds of the people had never heard of the illness, nearly half of the sick knew of its existence.

Fundamentally this dimension of the project was to establish retrospectively a scientific baseline for the mission, showing well how humanitarian projects define their rationale iteratively.[123] The sampling campaign was conducted at great pace – exhausting nurses and surveyors and in a climate of concern over safety.[124] A couple of incidents alarmed staff. One involved a drunk from a family experiencing social decline who threatened a team with a knife which, in oral interviews, became described as machete or a Japanese katana.[125] Another referred to rumours on social media that the MSF team was a cover for a Vietnamese campaign of hepatitis C injections. Voice messages in late November 2018 declared that 'this group is a terrorist group and they will inject you with deadly viruses contained in their needles', by December an American Vietnamese became the logistician of the team and her national dual identity fuelled a local rumour mill rooted in ancient xenophobic politics; 'a group of Vietnamese come to test blood to find viruses to make sure that we have AIDS or other diseases'.[126] These anxieties around vaccination and health policies echoed the mass iatrogenic contamination of Roka four years earlier a few miles away and combined with xenophobic politics inherited from the Khmer Rouge.[127] These rumours were encountered again on a wider scale, with xenophobia redirected towards the Chinese and Westerners,[128]when, towards the end of the mission, COVID-19 interrupted its proceedings from April 2021.[129]

While the baseline aims of establishing a case for a humanitarian intervention were met two years into the intervention itself – the broader intent of demonstrating how the disease might be eliminated belonged to another subsequent phase of the project and completed its narrative arch.

[122]Archive MSF, Cambodia/ Mission Hepc/111 Archives PC HCV Battambang/10 Medical/Jennifer docs/ACF/ Active case finding, 2018.

[123]Lynch et al. 'Hepatitis C viraemic and seroprevalence', 1-9.

[124]Field notes Moung Ruessi, Battambang Province 10-11 January 2019.

[125]Interview with nurses Moung Ruessi, 10 January 2019, the nurses complained of the lack of communication strategy which led to local clashes and a complex organisation over three sites.

[126]Field Notes from Maung Ruessey and translated messages provided by Jennifer; Archive MSF, Cambodia/ Mission Hepc/111 Archives PC HCV Battambang/10 Medical/Jennifer docs/, Voice messages transcription 30th November 2018- 8th January 2019.

[127]Xenophobia was the last expression of Khmer rouge politics in the 1990s: Timothy Williams, and Rhiannon Neilsen. "They will Rot the Society, Rot the Party, and Rot the Army'*: Toxification as an Ideology and Motivation for Perpetrating Violence in the Khmer Rouge Genocide?', *Terrorism and Political Violence,* 2019, 31, 494-515.

[128]Carl Grundy-Warr and Shaun Lin, 'COVID-19 Geopolitics: Silence and Erasure in Cambodia and Myanmar in times of pandemic', *Eurasian Geography and Economics,* 2020, 61, 493-510.

[129]The Cambodian response to COVID went from silencing and underreporting in 2020 to some of the harshest measures in 2021 which led to food shortages and considerable hardship until their repeal in November 2021. Megan Tatum, 'Cambodia ends controversial COVID-19 restrictions', *The Lancet* 2021, 397,10289.

Deploying a 'vertical' programme and rethinking the role of humanitarian medical interventions

From the earliest interviews conducted in Phnom Penh and Moung Ruessei it was clear that the aim of demonstrating elimination was always an optimistic aspiration 'It is the challenge to see how far we can go.'[130] Most presented it as a second intention, coming low among priorities and after lowering the cost of treatment and establishing the scale of needs, in that order. The move to Battambang was seeking to implement the decentralisation of HCV care following the iterative process in Preah Kossamak hospital. The survey results would bring ways to strategize how to get the best yield of HCV infected with minimum use of rapid serology test. Through the screening in Maung Russey MSF sought to measure how far it could approach the 90 per cent target required to approach elimination through passive and active case finding. The actual cost of each newly identified case stood at $362 for active case finding patients against $106 for passive case finding. This enormous difference meant that only passive case finding could possibly be regarded sustainable as argued by the Deputy Director of the Cambodian National Institute of Public Health in a report produced for MSF.[131]Though it mostly focused on demonstrating the efficacy of simplification, it managed to treat close to 60 per cent of the patients needing DAA and stopped short of delivering elimination. The purpose of the operation was to show that elimination was possible and actionable rather than effectively deliver it. The elimination objective was then taken on by the ministry of health itself through its national strategic plan for Viral hepatitis B and C and the accompanying guidelines of clinical management issues issued in 2019 on the basis of humanitarian preliminary work as argued by Dr Samley Keo of the secretariat of Hepatitis at the CDC and MoH of Cambodia.[132]

The delivery of a vertical programme (from the laboratory to the bedside focusing on a single ailment) has long been central to the history of humanitarian medicine – and arguably – finds its origins in the great campaigns against 'grandes endémies' of the interwar.[133] Founders of MSF like Xavier Emmanuelli found in colonial pioneers of the treatment of sleeping sickness a genealogy they claimed for humanitarians of the 1980s.[134] A campaign centred around field epidemiology, a magic bullet cure, the deployment of rapid testing near the field and a simplified medical treatment thus met all the golden standards of vertical programmes.

[130]The medical director made a clear point that this elimination aim was part of his thinking in an interview of 03 December 2019. archive MSF/ Oral History

[131]Archive MSF, Cambodia/10 Medical/ 15 Medical report and proposal/ CEA, Ir Por, Deputy Director National Institute of Public Health, 'Cost Effectiveness Analysis of Hepatitis C case detection in Maung Russey Operational District, 7 May 2019, p. 24.

[132]MSF Archive, Cambodia/ 10 Medical/ 21 Conferences'/ Cambodia HCV Elimination Strategy', Mekong Hepatitis Symposium, 2020.

[133]Jean-Paul Bado, *Médecine Coloniale et Grandes Endémies en Afrique 1900-1960: Lèpre, Trypanosomiase Humaine et Onchocercose* (Paris: Karthala, 1996); Jean-Paul Bado, *Eugène Jamot, 1879-1937: le Médecin de la Maladie du Sommeil ou Trypanosomiase* (Paris: Karthala Editions, 2011); Guillaume Lachenal, 'Médecine, Comparaisons et Échanges Inter-impériaux dans le Mandat Camerounais: une Histoire Croisée Franco-allemande de la Mission Jamot.' *Canadian Bulletin of Medical History* 2013, 30, 23-45.

[134]Max Likin, 'Médecins sans Frontières et l'Apparition d'un Consensus Humanitaire.' *Matériaux pour l'Histoire de notre Temps,* 2009, 3, 25-29; Nicolas Monteillet, 'De la Méthode Jamot à la Médecine de Rue', *Politique Africaine,* 2006, 3, 127-142; Bertrand Taithe, 'Humanitarian Masculinity: Desire, Character and Heroics, 1876–2018.' in Esther Möller, Johannes Paulmann, Katharina Stornig eds, *Gendering Global Humanitarianism in the Twentieth Century* (London: Palgrave, 2020), 35-59.

At the difference of the 1930s, and in contrast to the extreme technophilic initiatives of the late colonial era, vertical programmes have been subject to constant and sustained criticism in terms of their efficacy and sustainability.[135] At an ethical level the favouring of one pathology over a range of perhaps equally life-threatening diseases raises the spectre of mis-applied resources. Supply-led humanitarian programmes and the top-down processes they entail have been severely critiqued in a variety of context.[136] The larger foundations, from the Rockefeller's historical and contemporary programmes[137] to the Bill and Melinda Gates foundation, have been especially the butt of sustained critiques, including from MSF.[138] Vertical programme tensions in relation to pandemics like AIDS and more recently Ebola have sustained fundamental criticisms which highlighted their disruptive nature,[139] their high-handed assuming of sovereignty over the patient populations[140] or their prioritising of public health objectives over 'patient-centred' medical care.[141]

To take this path for a disease like HCV – a slow burning epidemic which reached predominantly the elders of a young society – was therefore not a simple gamble even if it was identified and socially constructed as an emerging disease of the 1990s.[142] Yet the archives we constituted show that the broader vertical programming perspective did not dominate the plans even at the onset. The dominant perspective came from a Cambodian old hand, the medical director of the programme, whose own concerns were less focused on humanitarian emergencies but rather more on non-communicable diseases and the role of primary health care integrating in routine services different disease screening activities.[143] For him the role of MSF was to engage with these development issues rather than imagine itself the provider of magic bullets.

[135]Anne-Emanuelle Birn, 'The Stages of International (Global) Health: Histories of Success or Successes of History?' *Global Public Health* 4.1 (2009): 50-68.

[136]Louise Potvin et al. 'Integrating Social Theory into Public Health Practice', *American Journal of Public Health* 2005, 95, 591-595; Julia Smith, 'A Critique of the Response by Global Health Initiatives to HIV/AIDS in Africa: Implications for Countries Emerging from Conflict', *International Peacekeeping* 2013, 20, 536-550.

[137]Richard E. Brown, 'Public Health in Imperialism: Early Rockefeller Programs at Home and Abroad', *American Journal of Public Health,* 1976, 66, 897-903; A.E. Birn, 'Backstage: the Relationship Between the Rockefeller Foundation and the World Health Organization, part I: 1940s–1960s', *Public Health* 2014, 128, 129-140; Darwin H. Stapleton, 'Lessons of History? Anti-Malaria Strategies of the International Health Board and the Rockefeller Foundation from the 1920s to the era of DDT.' *Public Health Reports,* 2004, 119, 206-15; Claudio Schuftan and Jean Pierre Unger 'The Rockefeller Foundation's "Public Stewardship of Private Providers in Mixed Health Systems": a Point-by-point Critique', *Social Medicine,* 2011, 6, 128-136.

[138]David McCoy et al. 'The Bill & Melinda Gates Foundation's Grant-making Programme for Global Health', *The Lancet*, 2009, 373.9675, 1645-1653; David McCoy and Linsey McGoey, 'Global Health and the Gates Foundation—in Perspective', in Simon Rushton and Owain David Williams eds, *Partnerships and Foundations in Global Health Governance,* (London: Palgrave Macmillan, 2011), 143-163; Jeremy Youde, 'The Rockefeller and Gates Foundations in Global Health Governance', *Global Society* 2013, 27, 139-158; Sophie Harman, 'The Bill and Melinda Gates Foundation and Legitimacy in Global Health Governance', *Global Governance,* 2016, 349-368..

[139]E.g. Natalie Roberts, 'MSF and Ebola in Nord Kivu: Positioning, Politics and Pertinence.' *Journal of Humanitarian Affairs,* 2021, 3, 14-24.

[140]Nguyen, *The republic of therapy*.

[141]Michiel Hofman and Sokhieng Au, eds, *The Politics of Fear: Médecins sans Frontières and the West African Ebola epidemic* (Oxford, Oxford University Press, 2017).

[142]Lawrence D Mass, 'Hepatitis C and the News Media/Lessons from AIDS' in Randall M Packard, Peter J Brown, Ruth L Berkelman, Howard Frumkin eds. Emerging Illnesses and Society, Negotiating the Public Health Agenda, (Baltimore: Johns Hopkins University press, 2004), 388-404.

[143]Interview with medical director Jean-Philippe Dausset, January 2018, MSF archives Oral History

One of the fundamental problems a country like Cambodia faces being the scarcity of specialised medical staff in hepatology, especially in the countryside, his objective was to de-medicalise the diagnostic and treatment of most patients as quickly as possible and confer greater legitimacy to nursing care. This objective met broader medical objectives arising not from a genealogy of colonial medicine[144] but from one most strongly expressed at the WHO conference of Alma Ata in 1978 which drew its inspiration from rights based and socialist developmental approaches.[145] While the decades following Alma Ata had priced out developing countries from supporting many of its loftier objectives,[146] the rise of non-transmissible ailments and the long-term impact of slow pandemics such as Hepatitis C brought back to the forefront the cost of neglected primary healthcare approach.[147]

Hepatitis C seats as a relatively modestly communicable disease with long term consequences including a high morbidity burden for rural communities. To approach it as a pathology that could be dealt locally with nursing staff but with some transfer of expertise,[148] was not unique to MSF in the small world of hepatitis C campaigns but the MSF Cambodian mission featured among the pioneers.[149] To understand what made this position possible, one has to conclude with a reflection on three specific dimensions of contemporary humanitarian medicine.

Conclusion: The changing nature of humanitarian medicine?

The first paradox of contemporary humanitarian medicine has been its relationship with biotechnological developments. The role of technology and mobile diagnostic tools since 2010 has been crucial. Simplified medical testing machinery like GeneXpert was readily embraced by a notoriously technophilic humanitarian sector for a range of reasons.[150]

[144]Jamie Cross and Hayley Nan MacGregor, 'Knowledge, Legitimacy and Economic Practice in Informal Markets for Medicine: a Critical Review of Research', *Social Science & Medicine,* 2010, 71, 1593-1600, 1595.

[145]Anne-Emanuelle Birn and Nikolai Krementsov, "Socialising' Primary Care? The Soviet Union, WHO and the 1978 Alma-Ata Conference', *BMJ Global Health* 2018, 3, Suppl 3, e000992; Susan B. Rifkin, 'Alma Ata after 40 years: Primary Health Care and Health for All—from Consensus to Complexity.' *BMJ Global Health* 2018, 3.Suppl 3, e001188; Marcos Cueto, Theodore M. Brown, and Elizabeth Fee. *The World Health Organization: A History* (Cambridge: Cambridge University Press, 2019). Gorsky, Martin, and Christopher Sirrs. "From «planning» to «systems analysis»: Health services strengthening at the World Health Organisation, 1952-1975." *Dynamis (Granada, Spain)* 39.1 (2019): 205.

[146]Elizabeth Fee and Theodore M. Brown, 'A Return to the Social Justice Spirit of Alma-Ata', *American Journal of Public Health*, 2015, 105, 1096-1097; Gorsky, Martin, and John Manton. "The Political Economy of 'Strengthening Health Services': The View from WHO AFRO, 1951-c. 1985." *Social Science & Medicine* 319 (2023): 115412.

[147]Alexander Ruby et al., 'The Effectiveness of Interventions for Non-communicable Diseases in Humanitarian Crises: a Systematic Review', *PloS one,* 2015, 10.9, e0138303; Sigiriya Aebischer Perone et al. 'Non-communicable Diseases in Humanitarian Settings: Ten Essential Questions', *Conflict and Health,* 2017, 11, 1-11.

[148]J.G. Walker et al. 'Cost and Cost‐Effectiveness of a Simplified Treatment Model with Direct‐acting Antivirals for chronic hepatitis C in Cambodia, *Liver International*, 2020, 40, 2356-2366.

[149]C.E. Boeke, 'Initial Success from a Public Health Approach to Hepatitis C Testing, Treatment and Cure in Seven Countries: the Road to Elimination', *BMJ Global Health*, 2020, *5*, p.e003767; World Health Organization, *Progress Report on Access to Hepatitis C Treatment: Focus on Overcoming Barriers in Low-and Middle-income Countries* (No. WHO/CDS/HIV/18.4) World Health Organization, 2018; G. Khwairakpam, and J. Burry, 'Strategies for Access to Affordable Hepatitis C Testing and Treatment in Asia', *Current Opinion in HIV and AIDS*, 2019, 14, 1-6.

[150]Tom Scott-Smith, 'Humanitarian Neophilia: The 'Innovation Turn' and its Implications.' *Third World Quarterly* 2016, 37,2229-2251; Anna Skeels, 'From Black Hole to North Star: A Response to the Journal of Humanitarian Affairs Special Issue on Innovation in Humanitarian Action', *Journal of Humanitarian Affairs* 2020, 2, 69-74.

The first was that it solved intractable logistical issues and stopped human samples from having to travel great distances at great cost – it brought the laboratory closer to the field; but the second was that it also enabled a speedier response in line with humanitarian timeframes.[151] Heralded as a 'game changer' from 2011,[152] the technology combined humanitarian aspirations with developmentalist ones of more widely distributed high tech. The cost of cartridges and that of their destruction in high temperature incinerators – unavailable in Cambodia for much the MSF project period – and the low throughput were only afterthoughts.[153] While the latter issue could be solved, the resourcing of cost of the machine ($17,000 in 2013) and tests ($16.39 in Cambodia, $20 worldwide) remained a new drain on resources and a matter of national prioritising.[154]

The second apparent paradox arose from the role of pharmaceutical giants BMS and Gilead whose treatment Sofosbuvir and Daclastavir proved to be the 'magic bullet' (authorized in the USA in 2013) needed for any prospect of elimination of hepatitis C.[155] Gilead lowered its selling price from its initial high value of 84,000$ in the United States to 85$ or less in 160 developing nations as part of an aggressive commercial strategy to control the market, including in Cambodia, while BMS allowed generic production of Daclastavir undercutting any competing drug development.[156] Thus the pharmaceutical industrialists owed some of their most significant "field" successes to the humanitarians who most criticized their greed.[157] MSF tested 130,327 patients (through active and passive case finding) and healed 18,873 of them using these tools and these drugs. In doing so it did not fundamentally challenge the systemic inequalities of health care delivery long denounced by Kim, Farmer and Porter.[158]

The third paradox for a humanitarian organisation which has historically been construed as responding to systemic failure of global health systems, was its continued

[151]M. Iwamoto, et al. 'Field evaluation of GeneXpert®(Cepheid) HCV performance for RNA quantification in a genotype 1 and 6 predominant patient population in Cambodia', *Journal of viral hepatitis*, 2019, *26,* 38-47.

[152]Carlton A. Evans 'GeneXpert—A Game-Changer for Tuberculosis Control?' *PLoS* Med, 2011, 8, 7, e1001064. https://doi.org/10.1371/journal.pmed.1001064

[153]This issue was resolved in 2020 after different attempts. Field Notes, staff meeting 2/12/29.

[154]Amy S. Piatek et al. 'GeneXpert for TB Diagnosis: Planned and Purposeful Implementation', *Global Health: Science and Practice,* 2013, 1,18-23; *Cambodia experience Developing a Hepatitis C Financing Strategy*, Wold Hepatitis Alliance, October 2020, p. 13.

[155]Andrew Hill, et al. 'Rapid Reductions in Prices for Generic Sofosbuvir and Daclatasvir to Treat Hepatitis C', *Journal of Virus Eradication,* 2016, 2, 28-40.

[156]http://doctorsoftheworld.org/wp-content/uploads/2013/07/Gileads-HCV-drug-sofosbuvir-approved-but-accessible-for-how-many-09DEC2013.pdf (accessed 10.1/2023). The AMHC MSF, Commodities Costs comparison, 2023 shows a treatment can be available at around $30 in 2023.

[157]L.K Marquez, et al. 'Cost and Cost-effectiveness of a Real-world HCV Treatment Program Among HIV-infected Individuals in Myanmar', *BMJ Global Health*, 2021, *6,* 2, p.e004181; S. Blach, et al. 'Global Change in Hepatitis C Virus Prevalence and Cascade of Care between 2015 and 2020: a Modelling Study', *The Lancet Gastroenterology & Hepatology, 2022*, 7, 396-415; Geoffrey Dusheiko, Ivana Carey, 'Global Elimination of Hepatitis C: a Warning from the Data', *The Lancet Gastroenterology & Hepatology*, 2022, 7, 380-1. Elin Hoffmann Dahl et al., 'Leaving no one behind: Towards equitable global elimination of hepatitis C', Journal of Global Health, 2020, 10, (1), doi: 10.7189/jogh.10.010308.

[158]Jim Yong Kim, Paul Farmer, and Michael E. Porter. "Redefining global health-care delivery." *The Lancet* 382, no. 9897 (2013): 1060-1069.

engagement in policy writing, shaping Cambodia as an early supporter of WHO objectives for 2030. The WHO grand aims to '…end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water‐borne diseases and other communicable diseases…"[159] To embrace this ideal implied a set of national priorities and policy statements. Hepatitis C was not a priority for Cambodia as recently as 2016. The development of a national policy and its championing was reliant on evidence provided by a third-party NGO which played a key role in shaping the wording of the policy itself. When MSF withdrew in 2021, the Cambodian government committed to resourcing their new national policy while it inherited the MSF resources. At the time of writing this commitment represented only a fraction of what would be required for universal treatments to become available by the ministry's own calculations. However modest, this investment bought Cambodia membership of a new medical diplomatic platform – the Hepatitis C alliance and the 'HepC coalition' in which it could play a leading role regionally.[160]

As a coda to this article, and at the time of revising this paper in the fall 2024, MSF has embarked in the delivery of hepatitis C treatments in the Rohingya refugee camps of Bengladesh from April 2025 in collaboration with all major health providers in the camps.[161] Bengladesh is a country where Sofosbuvir remains expensive due to a tariff on generic drugs produced abroad, but which has given MSF licence to treat what is probably the largest live epidemic of hepatitis C today using products and protocols used in Cambodia. At different stages of drafting this article, the story of hepatitis C in Cambodia has been a small part of the social construction of a humanitarian emergency for an actor able to improve the health care delivery. It involved the dialogue of historians and epidemiologists in public debates and staff training, the shaping of archives and the realisation of the historical significance of humanitarian action.[162]

For humanitarian medical organisations more broadly, the history of hepatitis C campaigns begs a range of existential questions as to their role in a medical horizon of restrictive health sovereignty and of prioritizing the treatment of non-communicable diseases, cancer and palliative care. Whether these roles develop as supplementary missions to emergency driven medical responses, or whether they fully become the public health emergencies that humanitarians will seek to address remains to be seen.

Acknowledgements

This article explores the history of this humanitarian intervention through sources collected since 2016 as part of an embedded historical project sponsored by the Centre de

[159]Andrea Lombardi, 'Hepatitis C: is Eradication Possible?', *Liver International,* 2019, 39, 416-26. 1

[160]https://www.worldhepatitisalliance.org/our-members/ (Accessed 02/02/22). AMHC MSF,HepC coalition, 'Have a heart, save my liver', 2021; https://www.hepcoalition.org/en/ (accessed 10.01.2025)

[161]Samarasekera, Udani. "Hepatitis C epidemic among Rohingya refugees in Cox's Bazar: a public health emergency." *The Lancet Gastroenterology & Hepatology* 9, no. 9 (2024): 789.

[162]In particular this historical narrative has been part of the MSF Field Oriented Operational Training (FOOT) since May 2023 through a joint workshop run by MSF epidemiologist Suna Balkan and historian Bertrand Taithe. See MSF Archive/Presentation FOOT, May 8 2023, April 24 2024, November 29, 2024.

Réflexion sur l'Action et les Savoirs Humanitaires (CRASH), the think tank of MSF France and conducted in co-production by a historian of humanitarian aid, Bertrand Taithe and the head of mission in Phnom Penh, Mickaël le Paih for MSF. Special thanks to Laure Humbert and Michael Neuman for their support and feedback, to Suna Balkan for the many joint discussions we had as part of the FOOT trainings twice a year over the past 5 years and many thanks to all who have heard this paper, especially Nicolas Dodier and colleagues of HCRI in Manchester. Part of this project relates to the Wellcome Discovery Award, Developing Humanitarian Medicine at the Humanitarian and Conflict Response Institute, University of Manchester, grant: 226515/Z/22/Z and with support from the Fondation Brocher in Hermance.