EDUCATION

Harvard T.H. Chan School of Public Health

PhD, Population Health Science, Health Systems

- Dissertation title: Medicines, Markets, and the State
- Teaching experience: Public Health Law (2020-21), The Political Economy of Global Health (2018-20), Health Sector Reform: A Worldwide Perspective (2019), Is Globalization Good or Bad for World Health (2019).

Cambridge University

MPHIL, DEVELOPMENT STUDIES Pass with Distinction (UK highest honors). Full scholarship as Paul Williams Fellow.

Harvard College

Cambridge, UK | 2013 - 2014

Cambridge, USA | 2009 - 2013

Sep 2022 - current

A.B. SOCIAL STUDIES

Magna cum laude, Phi Beta Kappa, Harvard Institute of Global Health Fellowship, Weissman Fellowship, Weatherhead Center for International Affairs Undergraduate Associate, After Harvard Prize.

EXPERIENCE

POSTDOCTORAL FELLOW | YALE SCHOOL OF MEDICINE, YALE LAW SCHOOL, AND YALE COLLABORATION FOR REGULATORY RIGOR, INTEGRITY, AND TRANSPARENCY (CRRIT) New Haven, USA | Sep 2023 - current

INDEPENDENT | RESEARCHER AND CONSULTANT

Selected projects with public health impact include:

- Developed a method for estimating the cost of production of medicines and expanded it across new molecules and formulations, including: all solid oral dosage formulation and injectable medicines on the WHO EML (commissioned for 2017 Fair Pricing Forum); recombinant human insulin and synthetic insulin analogues (commissioned by HAI and ACCISS, 2023 update by MSF); antihypertesives (MSF and Resolve to Save Lives), cancer medicines, rifabutin, molnupiravir, nirmatrelvir/ritonavir, baricitinib, ARVs and treatments for opportunistic infections, and hepatitis DAAs. This work has been used to inform price negotiations and has served as evidence in antitrust cases.
- Expert witness (remuneration waived) on medicine pricing and markets in a national competition authority investigation.
- Research identifying highlighting potential anti-competitive medicine markets (phenytoin sodium in the UK and a range of cancer medicines in the EU).
- Drug price monitoring (HIV, HCV, TB) in partnership with the International Treatment Preparedness Coalition (ITPC), a global network of people living with HIV and their allies.
- House of Lords submission on public health concerns associated with the pending US-UK trade deal.
- Supported journalists in drug pricing investigations, including from Reuters, ProPublica, Bloomberg, the BBC, Channel 4 (UK), The Times, El Periódico, Süddeutsche Zeitung, Radiotelevisione Italiana, Corriere della Sera, and others.
- Led civil society campaign and open letter on challenges in medical R&D. The letter and responses by all 6 WHO director general candidates on their respective visions for reform were published as a series in Lancet Global Health.

MÉDECINS SANS FRONTIÈRES | CONSULTANT

- Commissioned to estimate the cost of production for diabetes therapeutics (GLP1, SGLT2, insulins) and devices. Results under review.
- Commissioned to estimate clinical trial costs for TB-PRACTECAL and develop a 'best practice toolkit' for clinical trial cost data collection and reporting.

Boston, USA | 2017 - 2023

WORLD HEALTH ORGANIZATION | CONSULTANT

• Researched and wrote <u>Access to NCD Medicines: Emergent Issues During the COVID-19 Pandemic and Key Structural</u> <u>Factors</u>. The report examined the effect of the COVID-19 pandemic on access to NCD medicines, as well as the policies and strategies implemented by countries and health systems to anticipate and mitigate stresses across the NCD medicines supply chain.

MÉDECINS SANS FRONTIÈRES | CONSULTANT

• Commissioned to estimate the cost of production for antihypertensive medicines. Results published as part of <u>Under Pressure: Strategies to improve access to medicines to treat high blood pressure in low- and middle-income countries</u> <u>report</u>, published by MSF and Resolve to Save Lives.

WORLD BANK | CONSULTANT

• Researched and drafted a case study on pharmaceutical pollution and the environment, which was published as part of *Pulling Together to Beat Superbugs: Knowledge and Implementation Gaps in Addressing Antimicrobial Resistance.*

CLINTON HEALTH ACCESS INITIATIVE | DRUG ACCESS FELLOW

- Supported the Affordable Medicines Directorate at the South Africa National Department of Health on medicine pricing and supply security projects.
- Forecast costs and demand for updated diagnostic and treatment algorithms.
- Researched regulatory and operational barriers to a South African Development Community pooled procurement system.
- Supported the development of a dashboard for routine reporting of supplier stocks and deliveries to prevent stockouts.
- Interviewed clinicians, key opinion leaders, and policymakers and wrote a report on challenges to new medicine and regimen introduction and implementation for TB Alliance.

GLOBAL FUND | CONSULTANT, OFFICE OF THE EXECUTIVE DIRECTOR Geneva, Switzerland | Jul 2015 - Oct 2015

- Researched and wrote report on barriers and enablers to transitioning Global Fund financed programs for key populations and human rights related interventions to domestic financing in middle-income countries.
- Conducted cost analysis and projections for treatment scale-up of new MDR-TB medicines.
- Wrote report assessing barriers to methadone and other controlled substances, with proposal for regional pooled procurement mechanism.

GLOBAL FUND | INTERN, ACCESS TO FUNDING

- Managed data collection and analysis for surveys evaluating Global Fund grant-making processes and programs. Reformed evaluation methodology to better reach and represent key affected and most-at-risk populations, resulting in an increase of response rate from <3% to 18%.
- Developed a dashboard to systematize technical decisions and feedback from the Technical Review Panel (TRP) on program design.
- Supported the communications team in the development of external presentations and Secretariat reports.

MÉDECINS SANS FRONTIÈRES | HIV/TB ACCESS POLICY INTERN

- Researched HIV and TB drug pipelines, best diagnostic and treatment practices, new research models, global health actors, and intellectual property and other barriers to access to medicines.
- Maintained and updated TB and HIV literature reviews.
- Created a reference dashboard for pipeline Ebola vaccines and treatments.
- Drafted letters to civil society organizations, policymakers, and global health actors.
- Ghostwrote op-ed on new HIV treatment targets.
- Supported Access Campaign advisors for meetings with US legislators and policymakers by drafting talking points and conducting background research on actors and access issues.

LANCET YOUTH COMMISSION ON ESSENTIAL MEDICINES POLICIES | COMMISSIONER Mar 15 - Nov 16

• Supported by the Lancet Commission on Essential Medicines Policies to research and write a parallel independent report reviewing essential medicines policy and proposing reforms needed to achieve universal healthcare by 2030.

Dec 2021 – Jan 2022

May 2018 – August 2018

Pretoria, SA | Oct 2015 – Sept 2016

Geneva, Switzerland | Jan 2015 - Jul 2015

NYC, USA | Sept 2014 - Dec 2014

• Wrote and presented statement to 20th Expert Committee on the Selection and Use of Essential Medicines in support of inclusion of HCV, MDR-TB, and cancer medicines.

UNIVERSITIES ALLIED FOR ESSENTIAL MEDICINES | STUDENT ORGANIZER

• Organized the successful "Say Yes to Drugs" campaign that led Harvard to sign the Statement of Principles and Strategies for the Equitable Dissemination of Medical Technologies, enabling university research to be more accessible to low- and middle-income countries.

Oct 2009 - Aug 2014

Nairobi, Kenya | May 2011 - Aug 2011

- Wrote policy proposals, published editorials, and met with policymakers and members of Congress to advocate against cuts to PEPFAR in the wake of the financial crisis.
- Organized a campaign to encourage Merck to enter negotiations with the Medicines Patent Pool.

HEALTH GLOBAL ACCESS PROJECT (HEALTH GAP) | INTERN

- Compiled data documenting and itemizing Kenyan national health spending 2008-2011 (this data was not
 previously available or published).
- Wrote policy briefs detailing rapidly changing government budgets and health policy during the Constitutional crisis, and supported civil society health organizations such as the National Empowerment Network of People Living with HIV/AIDS in Kenya (NEPHAK) and other AIDS activist groups on a campaign for constitutional commitments to increased health spending.

SKILLS

Languages: Advanced English and Spanish; intermediate French; elementary German, Latin, Swahili Software: R, SPSS, Stata, TreeAge, MySQL, Python, Nvivo, ArcGIS, Zotero, Mendeley, Endnote, Photoshop, HTML, &TEX

ACADEMIC PUBLICATIONS

- Barber M, Gotham D. Paxlovid: how much profit is enough in a pandemic? [Accepted in Health Affairs Forefront.]
- Barber M. <u>A strategy that gives half of the world a discount on COVID-19 antivirals, but keeps a firm grip on power.</u> PLOS Global Public Health. 2022.
- Barber MJ, Sarpatwari A, Cepuch C. <u>COVID-19 antivirals must not affect HIV drug supply</u>. The Lancet HIV. 2021 Jan 1;9(1).
- Barber MJ, Gotham D, Khwairakpam G, Hill A. <u>Price of a hepatitis C cure: Cost of production and current prices</u> for direct-acting antivirals in 50 countries. Journal of Virus Eradication. 2020 Sep 1;6(3):100001.
- Gotham D, Barber M, Hill A. <u>How a US-UK trade agreement could affect NHS drug prices.</u> BMJ, 369, 1332. 2020 Jan 6.
- Gotham D, Barber M, Hill A. <u>Estimation of cost-based prices for injectable medicines in the WHO</u> <u>Essential Medicines List.BMJ Open. 2019 September 30. 9(9): e027780.</u>
- Rockwood N, Cerrone M, Barber M, Hill AM, Pozniak AL. <u>Global access of rifabutin for the treatment of tuberculosis-why should we prioritize this?</u> Journal of the International AIDS Society. 2019 Jul;22(7):e25333.
- 't Hoen E, Meyer S, Durisch P, Bannenberg W, Perehudoff K, Reed T, Barber MJ. <u>Improving affordability</u> of new essential cancer medicines. Lancet Oncology. 2019;20(8):1052-4.
- Gotham D, Barber M, Hill A. <u>Production costs and potential prices for biosimilars of human insulin and insulin</u> <u>analogues.</u> BMJ Global Health 2018;3:e000850
- Hill AM, Barber MJ, Gotham D. <u>Estimated costs of production and potential prices for the WHO Essential</u> <u>Medicines List.</u> BMJ Global Health. 2018 Jan 1;3(1):e000571.
- Barber M, Gotham D, Muntanya J, Balasubramian T. Open letter to the candidates for Director-General of the World Health Organization: <u>Will you support an R&D agreement that puts patient needs at the centre of R&D?</u> The Lancet Global Health. 2016 Dec 9.

- Youth Commission on Essential Medicines Policies. Adamjee R, Aykea R, Barber M, Browne J, Cubahiro N, Jarvis J, Lander F, Li S, Mishra S, Akhoondinasab M, Nurkhametova D, Omobo O, Onarheim K, Ramachandran R, Rasmussen R, Sharma A, Walker A. Mishra SR, Li SW, Onarheim KH, Lander F, Barber MJ, Sharma A, Browne J, Jarvis JD. Youth demand action on the shared global challenge of access to medicines. The Lancet. 2016 Nov 7.
- Gotham D, Onarheim KH, Barber MJ. <u>How the MDGs gave up on measuring access to medicines.</u> The Lancet Global Health. 2016 May 31;4(5):e296-7.

REPORTS

- WHO: Access to NCD Medicines: Emergent Issues During the COVID-19 Pandemic and Key Structural Factors 2023.
- MSF and Resolve to Save Lives: <u>Under Pressure: Strategies to improve access to medicines to treat high blood pressure in</u> <u>low- and middle-income countries report</u> 2022. (Contributing the underlying costing and market analysis.)
- The World Bank: <u>Pulling Together to Beat Superbugs: Knowledge and Implementation Gaps in Addressing Antimicrobial</u> <u>Resistance</u>. 2019. (Drafted case study on pharmaceutical pollution and the environment).
- The Lancet Youth Commission on Essential Medicines Policies. Adamjee R, Aykea R, Barber M, Browne J, Cubahiro N, Jarvis J, Lander F, Li S, Mishra S, Akhoondinasab M, Nurkhametova D, Omobo O, Onarheim K, Ramachandran R, Rasmussen R, Sharma A, Walker A. *Towards Realising Access to Essential Medicines for All: A Vision for 2035*.

SELECT CONFERENCE PRESENTATIONS

- Barber M. Evidence of Excessive Pricing of Pharmaceutical Ingredients for Medicines Speculatively Repurposed as COVID-19 Therapeutics. The American Society of Health Economists. St Louis, 2023.
 - Program Chair Award in Prescription Drugs
- Barber M. Evidence of Excessive Pricing of Pharmaceutical Ingredients for Medicines Speculatively Repurposed as COVID-19 Therapeutics. International Health Economics Association. Cape Town, 2023.
- Barber M, Gotham D. Estimated cost-based generic prices for key ARVs and effect of COVID-19 on manufacturing costs. 11th IAS Conference on HIV Science. Virtual, 2021.
- Barber M, Gotham D, Hill A. Cost-based estimated prices for key HIV, HCV, and MDR-TB medicines. 23rd International AIDS Conference. Virtual, 2020.
- Heath K, Levi J, Barber M, Gotham D, Hill A. Reaching UNAIDS 95-95-95 targets worldwide: predicted benefits and minimum costs of treatment. 23rd International AIDS Conference. Virtual, 2020.
- Hill A, Barber M, Khwairakpam G, Gotham D. The road to elimination of hepatitis C: Costs per cure fall to us \$32 per person. Poster presentation at The Liver Meeting. Boston, 2019.
- Barber M, Gotham D, Hill A. Estimated cost-based generic prices for treatments of opportunistic infections. 22nd International AIDS Conference. Amsterdam, 2018.
- Hill A, Gotham D, Barber M. Analysis of current prices for anti-infectives in the World Health Organization Essential Medicines List in the UK, South Africa, and India, compared to cost of production. 27th European Congress of Clinical Microbiology and Infectious Diseases. Vienna, 2017.
- Hill A, Barber M, Gotham D, Fortunak J, Pozniak A. Generic treatments for HIV, HBV, HCV, TB could be mass produced for <\$90 per patient. 9th IAS Conference on HIV Science. Paris, 2017.
- Hill A, Barber M. Unexplained rises in UK cancer drug prices between 2011 and 2016. Oral presentation at the European Cancer Congress. Amsterdam, 2017.
- Barber M, Gotham D, Hill A. Potential price reductions for cancer medicines on the WHO Essential Medicines List. European Cancer Congress. Amsterdam, 2017.
- Hill A, Barber M, Gotham D, Fortunak J, Pozniak A. Generic treatments for HIV, HBV, HCV, TB could be mass produced for <\$90 per patient. International Liver Congress. Amsterdam, 2017.

- Hill A, Gotham D, Barber M. Analysis of current prices for anti-infectives in the World Health Organization Essential Medicines List in the UK, South Africa, and India, compared to cost of production. Poster presented at the European Congress of Clinical Microbiology and Infectious Diseases. Vienna, 2017.
- Gotham D, Barber M, Fortunak J, Pozniak A, Hill A. Rapidly falling costs for new hepatitis C direct-acting antivirals (DAAs): potential for universal access. Poster presented at the 21st International AIDS conference. Durban, 2016.
- Hill A, Gotham D, Barber M, Pozniak A, Fortunak J. Hepatitis C could now be cured for under US \$100 per person: analysis of mass generic production of Direct Acting Antivirals. The Liver Meeting. Boston, 2016.
- Hill A, Gotham D, Barber M, Pozniak A, Fortunak J. Hepatitis C can be cured for less than \$100 per person analysis of drug exports from India. International Congress on Drug Therapy in HIV Infection. Glasgow, 2016.

INVITED TALKS AND WORKSHOPS

- To patent the sun: how intellectual property shapes access to health technologies. Guest lecture for course taught by Dr Madhukar Pai, Canada Research Chair in Translational Epidemiology & Global Health at McGill Univerity, 2022.
- "A catastrophic moral failure": COVID-19 and the political economy of access to medical technologies. Guest lecture for Harvard School of Public Health course The Political Economy of Global Health. Boston, MA, 2021.
- Fair or excessive? Estimating confidential pharmaceutical manufacturing costs and applications in law. Intellectual Property Law Discussion Group (IPDG). Oxford University, 2020.
- Countering information asymmetry in price negotiations: estimating the costs of production of medicines. Fifth Global Congress on Intellectual Property and the Public Interest. Washington DC, 2018.
- Are prices of medicines influenced by production costs? Production costs for the medicines on the WHO Essential Medicines List [Keynote]. Pharmaceutical Pricing and Reimbursement Information (PPRI) Network Meeting. Stockholm, 2017.
- How to calculate fair prices of antimicrobials methodological and practical issues. European Congress of Clinical Microbiology and Infectious Diseases. Vienna, 2017.
- ¿Cuál es el costo para producir un medicamento? Congreso internacional sobre acceso a medicamentos, tecnologías médicas y derechos humanos. Buenos Aires, 2016.
- Declaration on patent protection: regulatory sovereignty under the TRIPS Agreement, The Max Planck Institute for Innovation and Competition and the University of South Africa College of Law. Pretoria, 2016