Chantal M Morel, PhD

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Profile: Health economist specializing in economic issues related to antimicrobial resistance

- Cost of illness / Cost of resistance
- Cost-effectiveness analysis of new technologies and new approaches to preventing + controlling transmission of disease and resistance
- Incentives for R&D of new treatments, diagnostics and vaccines
- Intra-health systems incentives to support stewardship (ABS) and improved infection prevention and control (IPC)
- Reimbursement of new technologies
- Economic evaluation of interventions to prevent infections and transmission of resistance across One Health settings

Education

London School of Economics & Political Science – PhD in Health economics 2014
London School of Economics & Political Science (Graduate Merit Award) – MSc in Health policy 2003
McGill University – Post bac in basic medical sciences 2001
New York University – BA in political science with economics (Honours) 1999
Institut d'Etudes Politiques de Paris – Diplôme du Programme International 1997

Research posts

KPM Center for Public Management, University of Bern -- 2022 to present (part-time)
Research focusses on exploring optimal health and innovation policies to secure novel antibiotics; finding alternatives to antibiotics in agriculture, and the expected economic effects of using such alternatives at farm and regional levels.

University Hospital Bonn, Institute for Public Health & Hygiene 2021 to present (part-time)
Research focusses on costing AMR in two sub-Saharan settings taking a One Health approach; estimating the cost-effectiveness of new methods in farm biosecurity and early identification of infection amongst livestock

University of Geneva -- 2014 through 2021
Geneva Hospitals and Medical Faculty: Research on health system and industry-related incentives to support the sustainable use of antibiotics and minimize the growth of antimicrobial resistance in hospital settings. Geneva Transformative Governance Lab: Project on trade fragilities and medicine access during infectious disease crises (i.e. like the Covid-19 pandemic).

London School of Economics & Political Science – 2008 to 2017
Research on prevailing dynamics within prevention and treatment technology markets in the area of bacterial infection, technology pricing trends and their determinants, financial and regulatory incentives driving R&D - with particular emphasis on how they impact overall innovation across the market, interact with broader public health goals, and impact patient access.

London School of Hygiene & Tropical Medicine – 2003 to 2008
Developed health economic models to guide cost-of-illness and cost-effectiveness studies, for the purposes of improving selection amongst diagnosis and treatment options for malaria in sub-Saharan Africa and South-east Asia, utilizing field-based data collection to inform clinic and/or health system-focussed quantitative disease models.

Membership in panels and expert groups, other roles (selection from last decade only)

- Technical support to the Quadripartite work on the Economics of AMR (present)
- Member of the Scientific Advisory Board of the Joint Programming Initiative on AMR (present)
- Member of SEFASI (Selecting Efficient Farm-Level Antimicrobial Stewardship Interventions from a One Health Perspective – in Senegal, England and Denmark) Knowledge Hub (present)
- Member of the B2B2B Network for diagnostics in AMR (present)
- Co-lead for working group on Innovative Financial Models, Swiss Antibiotics Round Table (present)
- Member of the WHO Collaborating Network on Anti-microbial Resistance – AMRCC (present)
- Member of Surveillance and Epidemiology of Drug-Resistant Infections Consortium - SEDRIC (present)
- Member of British Society for Antimicrobial Chemotherapy (present)
- Member of Expert Group for WHO Global Research Agenda for AMR in WHO bacterial priority pathogens, WHO fungal priority pathogens, and resistant TB (2023)
- Observer, European Centre for Disease Control, supported by the European Society for Clinical Microbiology and Infectious Diseases (2022)
- Member of the Medical Research Council's Steering Group on 'New perspectives on Antibiotic Resistance' to inform the JPIAMR Strategic Research and Innovation Agenda (2022).
- Member of the Roundtable for diagnostics in AMR, London (2022)
- Innovation Teams, Team leader and lecturer on Market Access for new technologies, Campus Biotech (present) See LinkedIn: https://www.linkedin.com/posts/campus-biotech_campusbiotech-biotech-biotechnology-activity-6910533895654387712-GeL9?utm_source=linkedin_share&utm_medium=member_desktop_web
- Reviewer ECCMID submissions, grants 2021, 2022, 2023
- Member of the WHO Technical consultation on use of economics in Insecticide Resistance Management for malaria vector control (2021)
- Innovation Academy judge, Infection Prevention and Control biannual conference (2019, 2017, 2015)
- United Kingdom, Department of Health Expert advisory group on the reimbursement of antimicrobials (2017-18)
- Member of European Cost Action Network 15105 on Medicine Shortages (2018-2021)
- Lecturer and Member of Advisory panel for PhD admission within Uppsala Antibiotic Centre (2017-2018)
- Advisor to the WHO EML on Cost-effectiveness of newer medications for blood glucose control (2017)
- Chatham House Project on New Business Models for Antibiotics (2014-2015)
- Reviewer panel for Karolinska Institute Advanced Course in Health Systems and Policy (2013)

Languages

English (mother tongue), French (father tongue), Italian (speak/read), Spanish (speak/read), Swedish (beginner)

Publications (articles)

Clausin M, Rieckhoff A, Tediosi F, Morel CM, Kaspiarovich Y, Levrat N, Wernli D. Multisystemic resilience to shocks: a temporal analysis of health, fundamental rights and freedoms, and economic resilience during the first wave of the COVID-19 pandemic in 22 European countries. BMJ Open. 2023 Jul 7;13(7):e065445. doi: 10.1136/bmjopen-2022-065445. PMID: 37419631; PMCID: PMC10335565. https://pubmed.ncbi.nlm.nih.gov/37419631/

Wernli D, Tediosi F, Blanchet K, Lee K, Morel C, Pittet D, Levrat N, Young O. A Complexity Lens on the COVID-19 Pandemic. Int J Health Policy Manag 2022, 11(11), 2769–2772PMID: 34124870; PMCID: PMC9818100. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9818100/pdf/ijhpm-11-2769.pdf

Colson A, Morton A, Årdal C, Chalkidou K, Davies SC, Garrison LP, Jit M, Laxminarayan R, Megiddo I, Morel CM, Nonvignon J, Outterson K, Rex JH, Sarker AR, Sculpher M, Woods B. Antimicrobial Resistance: Is Health Technology Assessment Part of the Solution or Part of the Problem? *Value in Health* Dec 2021.24(12), 1828-1834. https://www.sciencedirect.com/science/article/pii/S1098301521015904

Wernli D, Clausin M, Antulov-Fantulin N, Berezowski J, Biller N, Blanchet K, Böttcher L, Burton-Jeangros C, Escher G, Flahault A, Fukuda K, Helbing D, Jaffé PD, Søgaard Jørgensen P, Kaspiarovich Y, Krishnakumar J, Lawrence RJ, Lee K,

Léger A, Levrat N, Martischang R, Morel CM, Pittet D, Stauffer M, Tediosi F, Vanackere F, Vassalli J-D, Wolff G, Young O. Building a multisystemic understanding of societal resilience to the COVID-19 pandemic. BMJ Global Health 2021;6:e006794. doi:10.1136/bmjgh-2021-006794 https://gh.bmj.com/content/bmjgh/6/7/e006794.full.pdf

Morel CM, de Kraker M, Harbarth S, Gastmeier P, Heuer O, Hopkins K, Park BJ, Patel J, Plachouras D, Srinivasan J, Stelling J, Tacconelli E. Surveillance of resistance to new antibiotics in an era of limited treatment options. *Frontiers in Medicine* 2021 https://www.frontiersin.org/articles/10.3389/fmed.2021.652638/full

Rahman S, Lindahl O, Morel CM, Hollis A. Market concentration of new antibiotic sales. *The Journal of Antibiotics* 2021. https://doi.org/10.1038/s41429-021-00414-5

Wernli D, Antulov-Fantulin N, Berezowski J, Biller-Andorno N, Blanchet K, Böttcher K., Burton-Jeangros C, Clausin M, Escher G, Flahault A, Fukuda K, Helbing D, Jaffé PD, Jorgensen P, Kaspiarovich Y, Krishnakumar J, Lawrence RJ, Lee K, Leger A, Levrat N, Martischang R, Morel C, Pittet D, Stauffer M, Tediosi F, Vanackere F, Vassalli J-D, Wolff G, Young O. 2021 Governance in the age of complexity: building resilience to COVID-19 and future pandemics. https://www.researchgate.net/profile/Didier-Wernli/publication/349570939_Governance_in_the_age_of_complexity_building_resilience_to_COVID-19_and_future_pandemics/links/605996d4299bf1736760ab49/Governance-in-the-age-of-complexity-building-resilience-to-COVID-19-and-future-pandemics.pdf

Morel CM, Alm RA, Ardal C, Bandera A, Bruno GM, Carrara E, Colombo GL, de Kraker MEA, Essack S, Frost I, Gonzalez-Zorn B, Goossens H, Guardabassi L, Harbarth S, Jørgensen PS, Kanj SS, Kostyanev T, Laxminarayan R, Leonard F, Levy Hara G, Mendelson M, Mikulska M, Mutters N, Outterson K, Rodriguez Baňo J, Tacconelli E, Scudeller L. A One Health framework to estimate the cost of antimicrobial resistance. *Antimicrobial Resistance & Infection Control* 9, 187. 2020. https://doi.org/10.1186/s13756-020-00822-6.

Morel CM, Lindahl O, Ozenci V. The roles of the state and the market in providing timely testing for COVID-19. *Journal of Global Health* 2020;10:020330. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7561275/

Morel CM, Lindahl O, Harbarth S, de Kraker M, Edwards S, Hollis A. Industry incentives and antibiotic resistance: an introduction to the antibiotic susceptibility bonus. *Journal of Antibiotics* Feb 2020. https://www.nature.com/articles/s41429-020-0300-y.pdf?proof=true1

Edwards SE & Morel CM Learning from our mistakes: using key opportunities to remove the perverse incentives that help drive antibiotic resistance, *Expert Review of Pharmacoeconomics & Outcomes Research* 19:6, 685-692, 2019. https://www.tandfonline.com/doi/full/10.1080/14737167.2019.1702523

Morel CM. Transmission of antimicrobial resistance from livestock agriculture to humans and from humans to animals, *OECD Food, Agriculture and Fisheries Papers*, No. 133, OECD Publishing, Paris 2019 https://doi.org/10.1787/fcf77850-en

Edwards SE, Morel CM, Busse R, Harbarth S. Combatting antibiotic resistance together: How can we enlist the help of industry? *Antibiotics* 7(4)111 2018. https://www.mdpi.com/2079-6382/7/4/111

Abbas M, Pires D, Peters A, Morel CM, Hurst S, Holmes A, Saito H, Allegranzi B, Lucet JC, Zingg W, Harbarth S, Pittet D. Conflicts of interest in infection prevention and control research: no smoke without fire. A narrative review. *Intensive Care Med* 2018. https://link.springer.com/article/10.1007%2Fs00134-018-5361-z

Morel CM & Edwards SE. Encouraging Sustainable Use of Antibiotics: A Commentary on the DRIVE-AB Recommended Innovation Incentives. *The Journal of Law, Medicine & Ethics* 46 S1. 2018 https://journals.sagepub.com/doi/pdf/10.1177/1073110518782918

Morel CM, Edwards SE, Harbarth S. Preserving the 'commons': Addressing the optimal use of antibiotics through an economic lens. *Clinical Microbiology & Infection* September 2017. https://www.ncbi.nlm.nih.gov/pubmed/28811243 10.1016/j.cmi.2017.08.002.

Pulcini C, Morel CM, Tacconelli E, Beovic B, de With K, Goossens H, Harbarth S, Holmes A, Howard P, Morris AM, Nathwani D, Sharland M, Schouten J, Thursky K, Laxminarayan R, Mendelson M. Human resources estimates and funding for antibiotic stewardship teams are urgently needed. *Clinical Microbiology & Infection* August 2017. https://www.ncbi.nlm.nih.gov/pubmed/28778544

Wernli D, Jørgensen PS, Morel CM, Carroll S, Harbarth S, Levrat N, Pittet D. Mapping global policy discourse on antimicrobial resistance. *BMJ Global Health*, July 2017. http://gh.bmj.com/content/2/2/e000378

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Outterson K, Gopinathan U, Clift C, So A, Morel CM, Røttingen JA. Delinking investment in antibiotic R&D from sales revenues: The challenges of transforming a promising idea into reality. *PloS Medicine* 24 June 2016. http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002043

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Årdal C, Outterson K, Hoffman SJ, Ghafur A, Sharland M, Ranganathan N, Smith R, Zorzet A, Cohn J, Pittet D, Daulaire N, Morel CM, Rizvi Z, Balasegaram M, Dar OA, Heymann DL, Holmes A, Moore LSP, Laxminarayan R, Mendelson M, Røttingen JA. International cooperation to improve access to and sustain effectiveness of antimicrobials. *Lancet* Volume 387, No. 10015, p296–307, 16 January 2016. http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)00470-5/abstract

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Morel CM, Thang ND, Erhart A, Xa NX, Peeters Grietens K, et al. Cost-Effectiveness of Long-Lasting Insecticide-Treated Hammocks in Preventing Malaria in South-Central Vietnam. *PLoS ONE* 2013 8(3). http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0058205

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Livermore D, Wise R, Blaser M, Cars O, Cassell G, Fishman N, Guidos R, Levy S, Powers J, Norrby R, Tillotson G, Davies R, Projan S, Dawson M, Monnet D, Keogh-Brown M, Hand K, Garner S, Findlay D, Morel CM, Bax R, Burke F, Chopra I, Czaplewski L, Finch R, Piddock LJV, White T. (Working Group of the British Society of Antimicrobial Chemotherapy) Discovery research: the scientific challenge of finding new antibiotics. *Journal of Antimicrobial Chemotherapy* 2011; 66: 1941–1944. https://www.ncbi.nlm.nih.gov/pubmed/21700627

Morel CM & Mossialos E. Stoking the antibiotic pipeline. *British Medical Journal* 2010; 340:1115-1118. http://www.bmj.com/bmj/section-pdf/186569?path=/bmj/340/7756/Analysis.full.pdf

Reidpath D, Morel CM, Mecaskey J, Allotey P. The Millennium Development Goals fail poor children: the case for equity-adjusted measures. *PLoS Medicine* 2009 ;6(4). http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000062

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Worrall E, Morel CM, Yeung S, Borghi J, Webster J, Hill J, Wiseman V, Mills A. The economics of malaria in pregnancy—a review of the evidence and research priorities, *Lancet Infectious Diseases* 2007; 7:156-168. http://www.thelancet.com/journals/laninf/article/PIIS1473-3099(07)70027-0/abstract

Morel CM, Lauer J, Evans D. Cost-effectiveness analysis for the MDGs for health: a reassessment of current strategies in malaria control, *British Medical Journal* 2005; 331(7528):1299. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1298848/

Coleman PC, Morel CM, Shillcutt S, Goodman C, Mill AJ. A threshold analysis of the cost-effectiveness of artemisinin-based combination therapies in sub-Saharan Africa, *American Journal of Tropical Medicine & Hygiene*, *2004*; 71 (2 Suppl):196-204. https://www.ncbi.nlm.nih.gov/books/NBK3770/

Publications (books)

Morel CM, McClure L, Edwards SE, Goodfellow V, Sandberg D, Mossialos E. Ensuring innovation in diagnostics for bacterial infection: Implications for policy. Book published by European Observatory on Health Systems and Policies 2016. https://pubmed.ncbi.nlm.nih.gov/28806042/

Mossialos E, Morel CM, Edwards SE, Berensen J, Gemmill-Toyama M, Brogen D. Policies and Incentives for promoting innovation in antibiotic research. Book published by the European Observatory on Health Systems and Policies 2010. https://www.euro.who.int/__data/assets/pdf_file/0011/120143/E94241.pdf

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Saving Lives, Buying Time, chapter in book (contribution as part of the Committee on the Economics of Antimalarial Drugs) Arrow K, Panosian C, and Gelband H *(Eds)* Institute of Medicine of the National Academies 2004.

Publications (briefs)

Morel CM, Prioritizing vaccines using Multi-Criteria Decision Analysis. Brief for World Health Organization's Initiative for Vaccine Research. October 2017.

Morel CM & Edwards S. Addressing the urgent need for antibiotics in Europe. Policy Summary for World Health Organization European Office. 2014.

Morel CM. Exploring responses to the need for new antibiotics: How do different incentives compare? Background document for ReAct seminar "Collaboration for Innovation – The Urgent Need for New Antibiotics" 2011.

Podcasts and Television (recent only)

Uppsala Antibiotics Center, AMR Studio 2019 https://uac.uu.se/the-amr-studio/episode9/

Swiss National Television network (RTS) 'Toutes Taxes Comprises', televised 14 September 2020 https://www.rts.ch/play/tv/emission/t-t-c--toutes-taxes-comprises?id=14235

ResearchPod 2022 https://researchpod.org/health-medicine/industry-incentives-and-antibiotic-resistance