Institution: University of York		
Unit of Assessment: 16 - Economics and Econometrics		
Title of case study: Influencing Waiting times in the Health Sector via Policy Engagement Internationally		
Period when the underpinning research was undertaken: 2003-2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s): Luigi Siciliani	**Role(s) (e.g. job title):** Professor	**Period(s) employed by submitting HEI:** 2003-present
Period when the claimed impact occurred: 2013-2020		
Is this case study continued from a case study submitted in 2014? No		

1. Summary of the impact (indicative maximum 100 words)

Waiting times for elective (non-emergency) care in the health sector are a key policy concern nationally and internationally. Research undertaken at the University of York has identified best practice, based on new and existing evidence, in order to manage and reduce waiting times for elective care across the Organisation for Economic Co-operation and Development (OECD), resolving methodological issues that previously prevented measurement and international comparison. Impact has been achieved in two ways. Firstly, new definitions of waiting times were implemented within the OECD Health Statistics. This has allowed OECD countries to benchmark their own waiting times against other reference groups. Secondly, best practice has been disseminated to policymakers, specifically within countries where the issue is high on the political agenda.

2. Underpinning research (indicative maximum 500 words)

Waiting times postpone patients' health benefit, prolong suffering, introduce uncertainty and can further deteriorate patient health. Work undertaken by Professor Luigi Siciliani (LS) in the Department of Economics and Related Studies at the University of York - in conjunction with the OECD, where LS was a health policy analyst (2001-2003) - reviewed policies to reduce waiting times in the health sector in 12 countries. Results showed that countries had made little progress in identifying policies to reduce waiting times despite significant investment. Motivated by the 2007/08 financial crisis, the OECD decided in 2010 to develop a second project - given that public budgets allocated to the health sector were likely to be squeezed, and waiting times were predicted to rise **[A]**.

A senior analyst at the OECD contacted LS in 2010 concerning this project - an international study that would review policies across OECD countries and inform policymakers on best practice on how to manage waiting times in the health sector. In March 2011, drawing on LS's extensive academic network, an expert group meeting was organised to bring together 40 academics and policymakers from 13 countries. Each academic drafted an evidence-synthesis chapter, which assessed waiting-time policies in their own country (2000-2010), and identified best practice. Senior analysts from Health Ministries acted as discussants. In May 2012, LS presented key findings at the OECD Health Committee meeting, and received feedback. The meeting involved 50 participants comprised of senior analysts in Health Ministries. In 2013 the full study 'Waiting Time Policies in the Health Sector. What Works?' **[A]** was published by the OECD. Acknowledging his leadership, LS appears as the first of three editors. He designed the study to contain 16 chapters including a framework (chapter 1), waiting-time measures (chapter 2), key policy developments and lessons learned (chapter 3) and 13 country case studies (chapters 4-16). LS co-authored the first three chapters, which were heavily influenced by his previous research (see below). He designed the template and provided feedback to country chapters, in addition to identifying and selecting authors.

Within **[A]**, research conducted by LS on the effect of waiting times on the demand for and the supply of health care **[B]** was used to identify and develop a conceptual economic framework to classify and analyse policy interventions and assess the available evidence. Similarly, microeconomic research on provider incentives in the context of waiting times was instrumental in contextualising how providers respond in the presence of excess demand, including in relation to specific policies such as hospital competition **[C]**, maximum waiting-time targets, and patient prioritisation **[D]**.

A second objective of **[A]** was to compare waiting times internationally and update the one-off data collection of the 2001-2003 OECD waiting time project, which only included data for a few countries (from 2000), and was thus out-of-date as a policy tool. Data in the new report allowed countries to benchmark themselves. LS suggested a new definition for an international comparable waiting time data collection, which was heavily informed by his published research **[E]**. This study uses duration analysis to link two common waiting-time measures, the wait of the patients on the list at a point in time (while the patient is still waiting), and the wait of the patients until they have been treated (a retrospective measure for those who received treatment in a given period). The methods and results of the new data collection were provided in **[F]**, one of the most downloaded articles in Health Policy.

3. References to the research (indicative maximum of 6 references)

[A] L Siciliani, M Borowitz, V Moran (Editors), 2013, Waiting Time Policies in the Health Sector. What works?, OECD Health Policy Studies, OECD Publishing, France; p.1-323. http://dx.doi.org/10.1787/9789264179080-en

[B] H Gravelle, **L Siciliani**, 2008. Ramsey waits: Allocating public health service resources when there is rationing by waiting, Journal of Health Economics, 27,1143-1154. https://doi.org/10.1016/j.jhealeco.2008.03.004

[C] K Brekke, **L Siciliani**, Odd Rune Straume, 2008. Competition and waiting times in health care markets, Journal of Public Economics, 92, 1607-1628. https://doi.org/10.1016/j.jpubeco.2008.02.003

[D] H Gravelle, **L Siciliani**, 2008. Is waiting-time prioritisation welfare improving?, Health Economics, 17, 167-184. https://doi.org/10.1002/hec.1262

[E] H Dixon, **L Siciliani**, 2009, Waiting-time targets in the healthcare sector. How long are we waiting?, Journal of Health Economics, 28, 1081-1098. https://doi.org/10.1016/j.jhealeco.2009.09.003

[F] L Siciliani, V Moran, M Borowitz, 2014. Measuring and Comparing Health Care Waiting Times in OECD Countries, Health Policy,118, p.292-303. https://doi.org/10.1016/j.healthpol.2014.08.011 [most downloaded article in Health Policy, 19/05/2015; 7th most downloaded article in last 90 days in Jan. 2019.]

References **[B][C][D][E]** are peer-reviewed publications. **[D]** was awarded the prize Best Paper published in the journal Health Economics in 2008-09. **[B]** and **[C]** were submitted in REF 2014.

4. Details of the impact (indicative maximum 750 words)

OECD countries that experience long waiting times require the best available evidence on the relative effectiveness of different policies. Impacts are claimed via two policy engagement mechanisms: (i) **benchmarking**, and (ii) **dissemination of best practice**.

The first impact relates to **benchmarking** international waiting times across countries, a key dimension of access. LS developed an international definition of waiting times for common surgical procedures, then used in 2014 OECD Health Statistics for the regular annual data collection. The collected data were included in the biannual publication 'OECD Health at a Glance (2015)' **[1a]**, comparing waiting times for 16 countries across high-volume surgeries; and subsequently 'Health at a Glance: Europe (2016)' **[1b]**. More countries provided data over time, up to 20, for inclusion in OECD Health Statistics (2018) **[1c]**.

The data are regularly used by policymakers, e.g. in the European Commission (EC) publication 'The State of Health in the EU' (2019), which provides country profiles and discusses challenges health systems are facing, and how to address them. Several country profiles compare waiting times based on OECD health data, e.g. Denmark, Finland, Ireland, Italy, and Norway **[1d]**. **[A]** and **[F]** were also cited in the 2015 EC Report 'Evaluative study on the cross-border healthcare Directive' **[1e]**. A senior economist at the OECD confirmed *"The 2013 report also led to the institutionalisation of a regular OECD data collection on waiting times for elective surgery,.. published in the OECD flagship publication 'Health at a Glance' to regularly monitor whether OECD countries are achieving progress in reducing waiting times. This indicator on waiting times has been downloaded 26780 times from 'Health at a Glance' since 2013"* **[1f]**. In 2018 LS was contacted by the OECD to provide an update, with an expanded focus beyond elective treatment, *"senior officials from Health Ministries welcomed the results from this new work during*

the OECD Health Committee meeting held in December 2019, noting that this provided them with timely policy advice to address waiting time issues for a broader range of health services than the earlier work" that included primary, mental health, and cancer care **[1f]**. The results were presented by LS at the OECD Health Committee as a Fast-track paper on 'Waiting times policies for health services' (12 December 2019, Paris), attended by country representatives. The final publication became publicly available in May 2020 (Lafortune, Siciliani et al. (2020) 'Waiting Times Policies for Health Services. Next in Line' OECD Health Policy Studies, pp1-72).

The second impact relates to **dissemination of best practice** to policymakers in the reduction and management waiting times in the health sector (identified internationally in **[A]**) so that they can design policy interventions that fit their national context. **[A]** has become a key reference for any policymaker who wishes to develop policies on waiting times, as it contains best practice and the best available evidence on the relative effectiveness of policy options to manage or reduce waiting times. These include targets, maximum waiting-time guarantees, development of prioritisation tools, patients' choice and competition, among others. A key finding is that supply policies on their own are unlikely to reduce waiting times unless they are combined with demand-side policies and maximum waiting time targets or guarantees. During the current impact period, LS has been regularly asked to give input into country dialogues and policy developments on waiting times.

Northern Ireland. On 26 February 2014, LS was a Research witness at the Committee for Health, Social Services and Public Safety, Northern Ireland Assembly, in Belfast, which had identified waiting times for elective care as a strategic priority for 2013/14 with a term of reference to *"…identify effective approaches to reducing waiting times … used in other countries/regions which could be applied in Northern Ireland"*. LS provided an overview of policy options, and answered questions from the MPs in the committee that related to waiting time measures and their interface with policies, such as maximum waiting time guarantees, patient choice and private sector involvement. **[2a]** Two authors of case studies in **[A]** from Portugal and Ireland were also invited and drew on material in **[A]**. These fed into the final Committee report on the 'Review of Waiting Times Report' in September 2014 **[2b]**, which made recommendations for the Northern Ireland Department of Health, including measuring the full referral-to-treatment (RTT) waiting times, combined with targets, in line with key findings of **[A]**. Following this recommendation, in 2015 the Department of Health agreed that RTT was a better approach to measure the complete patient journey. But it recognised that whether it could be introduced in practice depended on sufficient funds and capacity to enable them, and the ability to measure in practice the complete pathway. The Department of Health concluded that existing financial pressures at the time did not put them in the position to realistically take such action **[2c]**. In 2020 the RTT recommendation was recognised in the 'New Decade, New Approach' report released by the British and Irish Governments, which mentions that: *"The Executive will consider the scope for changing how waiting times are measured, to reflect the entire patient journey, from referral to treatment, with appropriate targets"*. Although the Department of Health still does not consider it currently possible to add up the RTT pathway for technical reasons, the new regional Encompass programme, which aims at introducing an integrated digital record, would capture the vast majority of the patient journey. In relation to using RTT as targets, the Department of Health recently advised that good progress has been made in strengthening the accountability of providers under a new Performance Management Framework **[2d]**.

Ireland. On 19 January 2017, LS was a keynote speaker at the National Treatment Purchase Fund (NTPF) Symposium in Dublin, Ireland, attended by over 300 delegates. The NTPF is an independent statutory body established by the Ministry for Health. LS discussed policy options in relation to involvement of private providers for publicly-funded patients. The Minister outlined the Waiting List Plan for 2017, which included dedicated NTPF funding to utilise private providers to reduce waiting for public patients. Data from December 2018 suggested that the NTPF has contributed to reduction in waiting times for public patients **[3a]**. The NTPF Process Innovation Director said *"We… welcome his most respected and valued input into national waiting list management policy in Ireland."* **[3b]**. **[A]** and **[B]** were also referred to in the spending review 2018 document by the Department of Public Expenditure and Reform: *"In line with international*

experience, supply side solutions to… long waiting lists have not resulted in any sustained effect" **[3c]**. **[A]** was referred to in the Sinn Fein (2017) 'Tackling the Waiting List' document, which proposed a new Integrated Hospital Waiting List Management System: "*we would introduce a version of the integrated IT system used in the Portuguese National Health Service…"* **[3d]**.

Slovenia. On 1 October 2019, LS was invited by the World Health Organisation (WHO) European Observatory to visit the Ministry of Health in Ljubljana to discuss the extent of the waiting time problem in Slovenia and possible solutions based on international experience, a meeting which was attended by the Health Secretary and senior officials. A second visit on the 25th November 2019 involved a workshop with the Ministry, where specific options to measure waiting times and to improve current measures in the Slovenian context were discussed. The Director of the WHO European Observatory noted the value of **[A]** "*in providing an assessment of the current situation in Slovenia… The two visits also included meetings with all major health actors…. The advice and support of Professor Siciliani has allowed the Ministry of Health to address issues related to the design and reporting of their national data collections on waiting times for common treatments; it supported the analysis of the causes of excessive waiting times for elective treatment in Slovenia; and it provided a framework to support the development of policy strategies to reduce them"* **[4a]**. A senior official in the Directorate of Public Health, Ministry of Health added: *"…Professor Siciliani's international expertise helped us to assess the current situation, gave us ideas of possible policy solutions that could be developed within our health system, and suggestions on how to improve the collection and reporting of waiting time data. Moreover, his evidence, support and advice is very instrumental in the development of the new policy in waiting times in Slovenia"* **[4b]**.

Italy. On 13-14 November 2014, LS was invited to the policy dialogue on 'Reducing waiting times and managing waiting lists: exploring options and implementation strategies' held in Venice. The event was organised by the Veneto region (facilitated by the European Observatory) that at the time was discussing a new draft law to reduce waiting times for hospital treatment. Following the event, the general director of a large hospital in this region said: *"…today I have seen many experiences Italian and international ones, in which I identified the same [waiting time] problem but also different solutions …"* **[5a]**. **[A]** is cited in the latest Italian Manual on Homogenous Waiting Times Groups to improve the waiting time prioritisation agreement between GPs and specialists on clinical urgency **[5b]** in July 2020.

Colombia. On 18 November 2013, LS was invited by the Inter-American Development Bank (IDB) to present at the Workshop on waiting list management in Colombia organised by the Colombian Ministry of Health – in particular to provide advice on Ministry proposals to define maximum waiting time guarantees, and their applicability in the Colombian context. After the workshop one of the organisers said to LS "*We would like to thank your important contribution to the workshop yesterday. Everyone was impressed with the great overview you gave us on the many options that exist around waiting time management. We all felt that we would have liked to spend the whole day learning from you"* **[6a]**. The findings of **[A]** were also the basis of a policy brief published in 2016 by the IDB **[6b]** in Spanish to inform Latin American countries, and used as a framework to discuss 'Timeliness in Access to Care' in the World Bank report on universal health coverage **[6c]**.

Canada. The director of Director Health Systems Analysis & Emerging Issues of the Canadian Institute for Health Information (CIHI), a government-owned organisation, wrote: *"CIHI has been publicly reporting wait times for priority surgeries and procedures in Canada for more than 10 years, and is a trusted source of comparable wait time information for Canadian policy-makers. CIHI's annual wait time reports, Wait Times for Priority Procedures in Canada, have been cited in provincial wait time reduction strategies and budgets. By enabling provincial wait time comparisons, CIHI's reports have spurred health system transformation: new initiatives, funding, and surgical targets have sought to reduce wait times for Canadian patients. An important reference source for CIHI's work, is* **[A].** *The report… is a valuable reference for sharing what has or has not worked to reduce wait times in other countries. CIHI also referenced this report in*

media interviews, to demonstrate successful wait time reduction strategies implemented internationally. The 2013 OECD report has been a valuable and unique resource for CIHI" **[7a]**. In November 2020, LS gave two webinars at CIHI at the National Wait Time Community of Practice meeting (17 November) and Policy Rounds (27 November) to further disseminate the latest 2020 OECD report 'Waiting times for health services, next in line'. In addition, **[A]** was mentioned in the opening statement of the plaintiffs in a 2016 high-profile case of the Supreme Court of British Columbia, *Cambie Surgeries Corporation v. British Columbia*, which challenged the constitutionality of the Medicare Protection Act from limiting access to private services. *"The scientific literature confirms the common sense proposition that 'Maximum waiting time guarantees are most successful when linked to targets with sanctions'"* **[7b]**. On 10 September 2020 this long trial concluded that *"impugned provisions do not deprive the right to life or liberty of the patient plaintiffs or similarly situated individuals"* therefore confirming the legitimacy of limiting access to private services **[7c]**.

LS's work has had significant impact within a number of jurisdictions, with updates to **[A]** continuing to inform waiting time policies globally. As the Chief Economist at the Global Fund, previously at the OECD, writes *"Professor Siciliani's work has an important impact on policies across the world. Whilst…at the OECD, I was often asked for policy advice to address long waiting times, after our seminal OECD review on what works in waiting time policies. I did a lot of broad health financing policy work in the Scandinavian countries particularly Norway, Sweden, and Finland,… In general, these countries had used short-term funding bursts… They learned from our review… to move towards harder legal guarantees,… introduced initially in Finland and then spread throughout the region. We also had a big influence on the approach of New Zealand and Canada to both modernize their data collection … using standardized approaches, but also to introduce stronger waiting time targets. There is no doubt that the corpus of Professor Siciliani's work has had a huge impact on waiting time policies throughout the OECD…and is the world's expert on waiting times in health care"* **[8]**.

5. Sources to corroborate the impact (indicative maximum of 10 references)

[1] Benchmarking international waiting times: **(a)** OECD Health Statistics (2014); **(b)** 'OECD Health at a Glance (2015/2016) – pub. 2017/18'; **(c)** OECD Health Statistics (2018); **(d)** European Commission (EC) publication 'The State of Health in the EU' (2019); **(e)** EC Report on 'Evaluative study on the cross-border healthcare Directive (2011/24/EU)' (2015); **(f)** Testimonial: Senior economist, OECD (30 October 2020);
[2] Northern Ireland: **(a)** Committee for Health, Social Services and Public Safety, Northern Ireland Assembly (terms of reference); **(b)** Committee 'Review of Waiting Times Report' (2014); **(c)**; Waiting Lists and Waiting Times for Elective Care in Northern Ireland: Taking Stock (2020, pp.17-18]; **(d)** 'The New Decade, New Approach Deal' (2020) (pp.57-59);
[3] Ireland: **(a)** NTPF Press release "NTPF exceeds treatment targets for 2018" (11 January 2019); **(b)** Testimonial from Process Innovation Director, NFTP (25 September 2020); **(c)** Spending Review 2018, Hospital inputs and outputs p.2]; **(d)** Sinn Fein (2017) 'Tackling the Waiting List' (p.7);
[4] Slovenia: **(a)** Testimonial: Director, WHO European Observatory (1 November 2020); **(b)** Testimonial: Senior official, Directorate of Public Health, Slovenian Ministry of Health (5 November 2020);
[5] Italy: **(a)** short video interview, following policy dialogue (4 December 2015, on YouTube). **(b)** Manual from RAO (Homogenous waiting times groups);
[6] Colombia: **(a)** Testimonial, IDB consultant (20 November 2013); (**b**) Inter-American Development Bank Policy Brief (2016); **(c)** World Bank Towards universal health coverage and equity in Latin America and the Caribbean (2015);
[7] Canada: **(a)** Testimonial: Director of Health Systems Analysis & Emerging Issues, Canadian Institute for Health Information (CIHI) (13 November 2020); **(b)** Opening statement of the plaintiffs, September 6, 2016 p.166; **(c)** Cambie Surgeries Corporation v. British Columbia (Attorney General), 2020 BCSC 1310, Summary of Judgment;
[8] OECD: Testimonial: Chief Economist, Global Fund (9 November 2020).