## ELECTIVE (SSC5a) OBJECTIVES

Please write out your submitted objectives below

| **OBJECTIVES SET BY SCHOOL (Objectives set by you when you submitted your application to the school)** |
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| 1) Obtain extensive first-hand clinical insights into the US public healthcare system at NYU-affiliated hospitals. |
| 2) Trans-national policy and research collaborations with leading researchers at NYU |
| 3 I hope to increase my understanding of the interactions between infectious disease, specifically HIV and TB, poverty and incarceration in the US. |
| **4 )** To improve my Spanish language skills in order to fluently communicate with Spanish-speaking patients in New York. |

## ELECTIVE (SSC5a) REPORT

*A report that addresses the above four objectives should be written below. Your Elective supervisor will assess this.*

My elective in population health and infectious disease at NYU/Bellevue has been a fantastic, varied opportunity to learn a great deal of clinical medicine, gain first-hand experience of the structures and management of a very different healthcare system, and engage with a first-rate multidisciplinary research team.

My first and third objectives were the focus of the first part of my time in New York. I joined the Infectious Diseases ward service at Bellevue Hospital for two weeks, undertaking patient rounds with the Attending, Fellow, pharmacist and others, and working to help patients in settings from the emergency department to the ICU to the Riker's jail hospital wards. The range of pathologies seen by the ID service was more varied than I've seen previously in my career, from Kaposi's sarcoma and many other opportunistic infections associated with HIV, to malaria. I also spent time in the emergency department, in HIV and general ID clinics, and with the Chest service for their ward rounds and clinics focused on tuberculosis.

Overall, I drew three key insights about the New York public health system. Firstly, I was struck by the similarities in clinical working style to the NHS. In this large, reasonably well-resourced flagship public hospital, it felt that doctors made decisions based on similar metrics as in the UK, without thinking first about funding arrangements.

However, the health need that came through the door was notably different. The patients I saw tended to be younger, more economically vulnerable (especially with regard to unstable housing), and much sicker in an acute sense (for instance, untreated AIDS, bone-threatening osteomyelitis and infective endocarditis seemed more common than the Royal London, the Royal Free, or other similar major hospitals). However, we saw less chronic illness, e.g. fewer exacerbations of COPD even on the Chest service. I concluded that the siloed health funding system (with public, private, and VA hospitals all in the same three blocks in this area) serves to silo patients from the outset. This could have some benefits, with expertise tailored to a particular patient population. For example, Bellevue were in the process of establishing a health equity consult service looking at treating causes of poor health as well as the health issue itself. Once patients get to a hospital that can serve them, my anecdotal experience was that they received truly excellent care here in each type of hospital. However, there are also significant risks of patients falling through the gaps, as in the case I heard about of newly diagnosed HIV patients being discharged from the nearby private hospital without being started on ART, because they were uninsured. These patients were simply sent to Bellevue, which was left to 'pick up the pieces' whilst patients risked disease progression in the meantime. Thirdly, a major positive that I observed whilst at Bellevue was significantly better patient access and flow

through hospital services. Whilst in the emergency department, I was astonished to see no patients at all in the majors waiting area. The clinics I joined were busy, but inpatients could be booked in for a clinic appointment in two weeks time. On discussion with one of the triage nurses in the ED (who had previously worked at Epping Hospital in Essex), she felt that their particular efficiency was explained by: a) an open-flow system that meant sick patients would wait *in* the ED bays rather than in a waiting room, b) having four ED teams on service at once rather than one team managing all patients (like the Royal London, but unlike any other NHS hospital I've seen), c) the fact that there are so many hospitals providing for one local area, dispersing the load, and d) the existence of urgent care centres to receive minor injuries separately. She, and I, also noted one shared challenge between Bellevue and the NHS – difficulty in discharging patients to a safe, supported environment (with appropriate social care as needed) is often the key cause of in-patient delays (and thus upstream challenges). New York City has an extensive homeless shelter system which seemed to be the destination for a number of our patients, but these shelters carry their own and so patients often 'bounce back'. Both settings depend on out-of-hospital care to allow hospitals to provide the best and most efficient care.

My second objective, 'trans-national policy and research collaborations with leading researchers at NYU', was the focus of the subsequent month of my time in New York. I joined the Dept of Population Health, working with Prof Maria Khan and Prof Scott Braithwaite with the Comparative Effectiveness and Decision Science (CES) division. Drawing on my health economics training, I have undertaken a new analysis of the relationship between different poverty indicators and subsequent incarceration amongst black sexual minority men and black transgender women in the USA. This seeks to build on existing work by the group relating incarceration to risk of HIV and STI transmission through disruption of social networks. We have obtained preliminary results, through multivariate regression (a method which I am familiar), and also latent class analysis (a newer method which I have developed my understanding of through collaboration with this great team). We hope to develop these preliminary findings into a paper for publication. This research also informs my third objective, which I believe I have met through both clinical and research insights.

I have also been able to bring my own experience analysing cycles of poverty and disease to inform this analysis. In particular, I presented my previous published work on the causal link from COVID-19 infection to subsequent poverty at the CEDS divisional seminar (undertaken as part of my SSC4), which allowed for further idea-sharing. In addition, I attended a range of talks and small group discussions with visiting research and policy leaders including Allison Arwady (Public Health Commissioner for Chicago), Gina Suh (Mayo Clinic Infectious Diseases), and Francesca Dominici (Harvard Population Health), and arranged to meet with Ruanne Barnabas, a South African epidemiologist and the Chief of the Division of Infectious Diseases at Massachusetts General Hospital. Lastly, I had a number of wonderful mentoring conversations with Prof Mark Schwartz and Prof Jo Ivey Boufford, who first introduced me to the NYU Department of Population Health and to whom I am hugely grateful for this opportunity – and for their advice and insights going forward. I hope to continue these collaborations and supportive professional relationships, most notably with the fantastic team at NYU who have welcomed me in, and also with the broader ID and population health research community as I begin my Specialised Foundation Programme in infectious disease at Guy's and St Thomas' Hospital.

Finally, I aimed 'to improve my Spanish language skills in order to fluently communicate with Spanish-speaking patients in New York'. I previously spoke reasonable working Spanish, having worked in Mexico as a health economist prior to medical school. However, before my elective I sought to supplement this by taking medical Spanish zoom classes with a Colombian medical student. Upon arrival, I have spoken Spanish every day – mostly with Spanish-speaking patients who I could form a connection with through common language. Whenever a translator was used in acute situations, for instance, in ED, I would listen closely to the specific way questions or instructions were worded, and I also took medical histories in Spanish accompanied by another Spanish speaker to ensure a) no miscommunication and b) any additional vocabulary could be pointed out. I now feel able to undertake medical consults in Spanish on my own, and am motivated to continue to learn more as I return to an area of London with significant numbers of Spanish and Portuguese speakers.