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Covid-19 Testing Practices: Why They Matter. And Why They Don't

"We have to be in a position to catch it as quickly as possible if there is to be an increase ... Our intention is to have the sampling, testing and results back to patients in a real time basis." (Tony Holohan, Chief Medical Officer, Irish Department of Health, and Chair of the National Public Health Emergency Team, 17th of April 2020) [Source: Reuters]

1. INTRODUCTION

Since publication of a short research note 'Irish Covid-19 Testing Practices: Claims and Evidence' three weeks ago, there have been serious and sustained attempts by the vast majority of countries and territories across the world to "ramp up" testing capacity, improve efficiency and accuracy in testing, and test more widely and rapidly than heretofore. These efforts continue and are essential to efforts to relax 'lockdown' restrictions in the days, weeks and months ahead. This is so that new transmissions of Covid-19 that will inevitably arise from the relaxation of these restrictions, even under tight and well-regulated social distancing protocols, can be identified quickly and contained locally through prompt isolation of those confirmed as newly infected alongside those suspected of having been infected by a confirmed case.

In the light of this, it seemed fitting and timely to provide an update on the Irish performance on testing, described in that research note three weeks ago as "decidedly middling" and "nothing to be proud of, much less boast about"—the latter being the common practice of prominent figures within the Irish response to the Covid-19 pandemic. This short occasional paper provides an analysis of the most recent data on testing

practices in Ireland in a European and global context and is designed to assess claims about Covid-19 testing while clarifying the significance of testing as an indicator of government response to the pandemic and a component of strategies for dealing with it. The paper is intended as an intervention in, and contribution to, public discourse on Covid-19 testing and debates that have arisen around it, many of which seem to me to miss the point about why it matters. Or why it doesn't matter all that much, as the case may be.

2. "RAMPING UP"

Based on most recent published global data, it can now be said that the Irish testing regime has improved both on its own terms and in comparison to other countries and territories across the world and, most relevantly, within Europe.¹ Thus Table 1 below 'Covid-19 Testing in the Republic of Ireland: Total Tests' shows the scale of this improvement by revealing that four times as many tests have been conducted to completion (from referral to swab to lab to results to report) over the course of the past three weeks than were conducted in the preceding three months. By any standard, that is a considerable improvement in capacity and efficiency on the part of the Irish testing system.

Table 1: Covid-19 Testing in the Republic of Ireland: Total Tests

| Date and Time of Data | Cumulative No of Tests | Global Ranking | European Ranking |
|-----------------------|------------------------|-----------------|------------------|
| 6/4/20 (at 13:00GMT) | 30,213 | 40 (out of 126) | 20 (out of 46) |
| 30/4/20 (at 13:00GMT) | 153,954 | 42 (out of 174) | 18 (out of 46) |

¹ See '[Irish Covid-19 Testing Practices](#)' for a description of the sources used, the rationale for same, and the caveats that come with them. The chosen data source, [worldometers.info](#), has in recent weeks expanded its description of its methods for collating sources, validating them, its designation of geographic territories, and its use of sources from sub-state regions (where available) to cross-check and/or correct central government official sources. See: <https://www.worldometers.info/coronavirus/about/> (accessed 30th of April 2020).

Table 1 also shows, however, that in terms of total tests conducted, the Irish performance when measured against the rest of the world is largely unchanged. This, however, is mostly a function of population size—more populous countries will conduct more tests as a matter of course—and hence this is not a measure of any value when considered on its own. What is much more important is the number of tests per capita and this is where the Irish improvements are most obvious and significant. Thus Table 2 ‘Covid-19 Testing in the Republic of Ireland: Tests Per Capita’ shows that from a situation where the Irish per capita testing was ranked 37 out of 126 countries and territories across the world, today it is ranked 22 out of 174 countries/territories reporting testing figures. In the more relevant comparison with its European neighbours, the Irish figures show a jump of 10 places from 24th out of 46 countries/territories to 14th, and from 18th to 10th when European micro-states and territories (ten in all) are removed from the equation. This shows that the rate with which the Irish system has “ramped up” capacity over the past three weeks or so has been higher than that of a good number of its European neighbours.

Table 2: Covid-19 Testing in the Republic of Ireland: Tests Per Capita

| Date and Time of Data | Tests Per Million of Population | Global Ranking | European Ranking | Europe Without Micro-States |
|-----------------------|---------------------------------|-----------------|------------------|-----------------------------|
| 6/4/20 (at 13:00GMT) | 6,119 | 37 (out of 126) | 24 (out of 46) | 18 (out of 36) |
| 30/4/20 (at 13:00GMT) | 31,179 | 22 (out of 174) | 14 (out of 46) | 10 (out of 36) |

So, credit where credit is due: this is a significant turnaround and shows a seriousness of purpose on the matter of testing and its strategic purpose that appeared out of kilter

with stated aspirations less than a month ago. That said, there are a number of caveats that should be borne in mind before any kind of self-praise is warranted.

3. CAVEATS

Firstly, while the Irish figures for testing show a marked improvement in absolute and relative terms, the figures for deaths (so far) per capita are amongst the worst in the world.² At 241 per million they are the 12th worst of 211 countries and territories and more than eight times higher than the global average. In the European context they are the 11th worst, and if we remove micro-territories from this, they are the 8th worst in Europe. This itself should caution against reading too much into testing figures—testing practices are but one (essential) component of a coherent strategy in response to the pandemic.

A case in point is that of New Zealand, often held up as the model to look to in recent media coverage in Ireland, yet only ranked 31st in the world in terms of its testing. Of comparable population size to the Republic of Ireland, it has to date recorded less than 20 deaths to Covid-19 whereas Ireland has almost 1,200. This shows that the relationship between testing and mortality is far from being a direct one and that testing on its own cannot be considered a reliable indicator to assess overall government responses

² I recognise that measuring so-called “death rates” is a problematic enterprise for a multitude of reasons: recording of deaths, determining cause of death, reporting of deaths, the fact that the final death tolls are still years away, and so on. Yet it does not follow that imperfections in the available data invalidate urgent exercises such as these, aimed at highlighting broad contrasts that are unlikely to be severely altered by more refined data.

to the Covid-19 pandemic.³ Indeed testing has little to do with reducing mortality—at least directly and in the immediate term—but is instead a tool for viral surveillance in order to map the movements of the virus, either with a view to controlling its spread or suppressing it entirely. (See '4. CONCLUSION: WHY TESTING MATTERS. AND WHY IT DOESN'T' below)

Secondly, given the reality of the island of Ireland as an epidemiological unit, and given the open border between the Republic of Ireland and Northern Ireland, the radically different testing practices in the UK are a matter of serious concern. Thus while the UK is, like all other countries, boosting its testing capacity, its global rankings are poor for a rich Western country. Though the UK ranks 9th out of 174 countries/territories in the world in terms of the total number of tests conducted to date, it is 58th out of 174 in terms of per capita testing. Within Europe it is 31st out of 46, and 24th out of 36 when micro-states are excluded from consideration. Alternatively, and perhaps more tellingly, if the UK were a state or territory of the United States, it would be 45th out of all of the states of the Union, with only the Carolinas, Ohio, Texas, Virginia, Arizona and Kansas with lower figures.

In relation to Ireland, the UK's per capita figure of 12,058 per million is less than 40% that of the Republic of Ireland—a drop from 47% to 39% some three weeks ago that sharpens the pre-existing divergence between the practices north and south of the Irish

³ Testing can, however, be treated as a very strong indicator of just how seriously—in practice as opposed to public avowals—a government takes the goal of controlling the virus. This is because intensive testing is a device for acquiring knowledge of the virus and hence a requirement for controlling it through that knowledge. It is more than coincidence that the Netherlands, the UK and Sweden—the more 'liberal' polities with a record of flirting with 'herd immunity' doctrines—are ranked 31, 32 and 33 (out of 46) in Europe in terms of per capita testing, with very little to separate them in terms of numbers (12,824, 12,058, and 11,833 per million respectively).

border. Furthermore, the UK has to date the 4th highest per capita death rate to Covid-19 in the world—behind only Belgium, Spain and Italy (when the micro-states of Andorra and San Marino are excluded). And even that is when taking UK figures at face value when there is no shortage of evidence indicating that these figures are significantly understated as well as being carefully managed to produce the lowest figures the government can get away with without too much criticism.⁴ In short, while testing in the Republic of Ireland may be getting closer to the “top tier” status previously claimed for it, and which, if sustained and organised efficiently and intelligently, may lead to Ireland’s unfortunate comparative deaths per capita ranking falling over the course of time, the existence of a porous border between the Republic of Ireland and another Covid-19 regulatory regime that is low on testing, high on deaths, and following a strategy that may charitably be called “confused”, threatens the Republic’s recent achievements on testing as well as its future plans for deploying an enhanced testing capacity.

Thirdly, while the past three weeks show significant improvements in terms of Ireland’s rank and relative position in global and European terms, it is still behind the leading performers when it comes to testing. Thus Iceland’s per capita testing is almost five times that of Ireland; Malta and Luxembourg’s is more than twice as high, and Lithuania’s some 50% higher. That said, Ireland has caught up with and overtaken Switzerland, Slovenia, Estonia, Austria, all of which had per capita testing figures twice as high as Ireland’s three weeks ago. Furthermore, the Irish figures are now pretty much on a par with those of Norway and Italy, and now higher than those of Germany, which is often held up as the European model in terms of testing. So while not quite “top tier” in Europe, there has clearly been significant catch-up. And if this continued “ramping up” is

⁴ See ‘[The Inside Story of the UK’s Covid-19 Crisis](#)’, *The Guardian*, 29th of April 2020.

sustained, and if the system of knowledge obtained through testing is precise and refined, then the prospects of a successful exit from ‘lockdown’ that will not require another blanket imposition of such restrictions is certainly improved—notwithstanding caveats over the high numbers of deaths to date and the challenges of close proximity to a contrasting regulatory regime that is less invested in viral surveillance and more relaxed about its freedom to spread.

4. CONCLUSION: WHY TESTING MATTERS. AND WHY IT DOESN'T.

In Ireland, as in many other countries—including Germany—there has been widespread dissatisfaction with how governments have been performing on the matter of Covid-19 testing. And yet the obvious question to ask is: Why? Why does it matter? Because it is not at all obvious what the value of testing for the presence of the Sars-CoV-2 virus is in the first place. After all, it's not as if there is any medical benefit to the individual to know if the symptoms they have indicate the presence of the virus—there is (as yet) no medical treatment for it.⁵ And neither is this knowledge beneficial to a medical practitioner faced with such an individual—all they can do is recommend the individual ride it out in conditions of self-isolation unless symptoms become severe enough to merit hospitalisation so that the patient can avail of the monitoring, supports, and auxiliary interventions hospitals can provide to assist the patient in their individual struggle with the virus. In other words, whatever the importance of testing might be, it has little to

⁵ I am leaving aside here the medical effects of *belief* on the course of an illness or ailment, whether in terms of the potential beneficial effects of receiving a treatment believed to be effective (the so-called ‘placebo effect’) or the potential adverse effects of believing one has a condition different to, or more serious than, that which one actually has (a version of ‘hypochondria’). Neither of these is negligible. I am also leaving aside the medical value of *negative* test results that exclude Covid-19 from the reckoning and thus may aid identification of other known viruses that *do* have a recognised and effective course of treatment, such as influenza or (viral) pneumonia.

do with individual health: Covid-19 testing is not medical testing as commonly understood.

Testing for the virus is instead about knowledge, and crucially, about surveillance. Tests are conducted to gather knowledge on the location of a virus in a human body at a given time in order to place the virus under surveillance through the control of bodies via social regulations that can be reinforced by laws. And this is why testing matters and why measures of testing practices—numbers of tests conducted; per capita test figures; testing rates over time (daily or weekly numbers, either absolute or per capita); testing capacities; testing turnarounds (length of time from initiating of testing procedure to production/receipt of (reliable) results); testing materials stockpiles (kits, reagent); testing costs/prices; testing sensitivity and reliability; and so on—matter too.

And yet how much they matter depends entirely on what the knowledge produced by tests is for and how it is subsequently used. That in turn depends on what the strategy and policy—in theory or in practice—of a given government and its health authorities might be. Only then can meaningful judgements and claims be made about good/bad/indifferent performances of governments with respect to their testing practices. For what may be good enough for one strategy or policy may be an abject failure for another.

er.⁶ And so it is pointless to compare and evaluate different countries performances as “top tier” or “decidedly middling” (or “downright bad”) without reference to its policy/strategy in respect of the Covid-19 outbreak. Without clarity about this, whether on the part of the actors involved or those observing, what remains is little more than an irrational belief in testing as “a good thing”—an obscure article of faith every right-thinking person is to subscribe to.

Yet testing in itself is neither good nor bad—its value and worth is relative to the goals it is being used for. In the broadest terms, **testing is about gathering knowledge**—knowledge of where the virus is. The questions that testing answers are the following: In which human bodies has the virus taken up residence? In which bodies is it actively replicating? In which bodies is it seeking to reproduce through transmission to other human bodies? And where are those bodies located? Positive tests results answer these questions by identifying bodies hosting the virus.

What happens after that depends on how these results are collated, organised, analysed and put to use and what the purpose of that knowledge is in the first place.⁷

⁶ More liberal attitudes to viral spread—whether rationalised with notions of ‘herd immunity’ (see note 3 above) or justified by denial, dismissal, or diminution of its seriousness—have no reason to invest in testing as a device for viral surveillance. It may be tactically important for measuring its potential impact on health systems, but the testing capacity required for this modest task of managing health systems is orders of magnitude below that required for effective surveillance of the microbe in the society at large. For example, while South America is still in the very early stages of viral spread, Brazil has a per capita testing rate less than 10% that of Venezuela and a per capita death rate 65 times higher. Brazil, of course, under Bolsonaro’s leadership, represents one of the most extreme cases of denial such that it is not even clear if Bolsonaro, unlike Europe’s ‘liberals’, understand the tactical value of testing simply to prevent collapse of the health system.

⁷ This strongly suggests the need for, and value of, additional expertise in the construction, analysis and interpretation of the knowledge obtained through testing, and specifically an increased role for social scientists in scientific advisory boards chiefly comprised of medics and epidemiologists.

Thus, if the goal is to stop the virus in its tracks, that knowledge would take the form of knowing precisely where each and every body hosting the virus is and acting decisively upon each of these bodies to prevent onwards transmission—by rigorous quarantine. However at this moment in time, given that the virus has already spread far and wide, aiming for such omniscience would require mass testing of the population on a scale so large, and with a rapidity so fast, that it would be impossible for any state to organise and accomplish.⁸

So the question then is: What is this testing for? What are its goals? Why is so much effort being put into “ramping up” testing capacity and improving efficiency and accuracy in testing? Because with the possible exception of South Korea, testing is no longer about stopping the virus in its tracks by having it expire in every host body without any onwards transmission—if indeed that was ever a goal. And so it is only when there is a clear answer to this question—about what the knowledge obtained through testing is for and how it will be put to use—that the different testing practices of states can be evaluated as good or bad (or better or worse) in any meaningful way. Because the value and worth of all testing is relative to goals that the knowledge it produces is meant to serve. And that will be markedly different for a strategy of ‘containment’ than one aimed at ‘suppression’, which in turn will be different to a strategy of ‘mitigation’. Or indeed for one of ‘herd immunity’. Or even one of ‘let it rip’.

⁸ It may indeed be logistically and/or logically impossible even if all the necessary resources were in place. That is, the actions involved in such testing would likely disturb the viral equilibrium it is meant to measure, thus generating a version of the kind of paradox in which the act of observation (or measurement) destroys what it is meant to observe (measure), and sometimes invoked in popular culture by reference to ‘Schrödinger’s Cat’, even if the latter had at best a tangential relationship to problems of measurement effects on that which is to be measured.

In the Irish case it is increasingly clear that leading health officials aspire to an extensive, comprehensive and sophisticated system of testing with the goal of rapid and ‘live’ interventions on infected bodies, that is, **a strategy of suppression**. Thus on April 17th, the Irish Chief Medical Officer, Tony Holohan, stated this goal clearly and claimed the need for an operational testing capacity of 100,000 tests per week, to be sustained initially over a period of six months, to be in place for this to be practicable.⁹ Given that this would involve a set-up capable of conducting and completing within the space of a week that which previously took more than three months to accomplish, this is no small task. Additionally, such a regime would result in just over half of the population of the Republic of Ireland being tested during those six months, and implies that such an intensive testing regime would remain in place until such time as mass vaccination of the population was accomplished or ‘herd immunity’ accomplished by ‘natural means’.

Laudable though this may be—certainly when compared with more ‘liberal’ alternatives—the societal implications of this are clear, though rarely made explicit. **Social distancing protocols (hereafter SDPs) are here to stay**—not for eternity, but for quite some time. They will be revised, adjusted, amended and extended as more is learnt about the virus through work in laboratories and equally—if not more importantly—as more is learnt about it through the data gathered through testing.¹⁰ What that means of course is that not only will people’s lives be regulated by evolving SDPs for the foreseeable future but that those lives will be marked by regular, and random ‘localised lockdowns’, where individuals and their associates will be required to self-isolate for peri-

⁹ “We have to be in a position to catch it as quickly as possible if there is to be an increase ... Our intention is to have the sampling, testing and results back to patients in a real time basis.” [Source: Reuters]

¹⁰ This is one of the reasons why social scientists are potentially invaluable in this enterprise. See also note 7 above.

ods of time once identified as testing positive for the Sars-CoV-2 virus. Whether these requirements will be reinforced by law and/or receive social and financial supports to disincentivize non-compliance remain to be seen. And the precise combination of ‘carrot and stick’ will no doubt depend on how necessary and urgent compliance is as a collective matter, as well, of course, upon the political proclivities of governments.

Form the point of view of the re-constituted social networks that will emerge under the new regime of evolving SDPs, new intensive testing protocols, and the enforcement of quarantined ‘clusters’, it is likely that these will remain **both more attenuated** than heretofore, **and also more fragile**—certainly when it comes to the matter of their importance to organisations and the vulnerabilities/resilience of same. Thus people we know will regularly, frequently and suddenly (though temporarily) ‘socially disappear’—sometimes dragging us with them into temporary isolation/quarantine on account of our association with them. In terms of organisations—from football clubs to manufacturing plants, from supermarkets to schools and colleges, from departments of government to construction sites—all will experience regular, frequent and random ‘outages’ as players, workers, shop assistants, teachers, officials, builders are suddenly required to remove themselves from their various occupational settings to go into isolation/quarantine for a couple of weeks. In many respects it will resemble a system of organisational leave-taking (e.g. for Summer holidays) conducted via lottery, making planning precarious and operations lumpy and slow, which SDPs themselves will contribute to significantly of their own accord.

These ‘disappearances’ and ‘outages’ will be frequent and widespread and entirely unlike the small number of instances that took place before the introduction of a gener-

alised lockdown. And they will be recurrent features of all activities for a year or more if viral transmission is to be contained at an ‘acceptable’ level such that its course can be managed without requiring imposition of another general lockdown. The better the testing, the better the data gathered through that testing, and the more refined, sophisticated and detailed is the knowledge constructed from that data, the more successful this new regulatory regime will be in terms of public health processes and outcomes and the re-establishment—in heavily modified form—of societal activities.

The wider ramifications and implications of this new regulatory regime—regulating viruses, bodies, and lives—are endless, and many simply unknowable at this point in time. They spill over, into, and across all swathes of our lives and relationships and our cares and concerns. And yet it is, pending mass vaccination or some ‘miracle treatment’, the sole alternative to repeated generalised lockdowns—with all the inconveniences that *they* bring with them. And this why testing—as viral surveillance and social control rather than a biomedical intervention—is essential to reconstituting our immediate future lives. And it is also why it matters a great deal, so long as those lives matter to us.¹¹

¹¹ Natural anxieties over imagined futures have often focussed on issues such as obligatory wearing of facemarks in public for the foreseeable future, the potential for state surveillance of movements via tracking of mobile phones, a new division of ‘clean’ vs ‘unclean’ through “immunity passports” for those who have come through Covid-19 and presumed immune from re-infection, the construction of a carceral regime for the elderly, and more besides. These are all vitally important issues but in most cases they fail to give full consideration to the fundamental structures in which all of these potential initiatives may occur. It is the latter—the focus on newly structured societal relationships—that this paper sought to outline through delineation of the significance and implication of testing in the wake of generalised ‘lockdowns’.

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