

Key issues: Dr Angharad Shaw

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1 Case numbers

We are at a place now where, I think, we have it in our power to send cases on a downward trend, that will be sustained. For the last few months we've apparently been working on a policy of containment, whereby we have been trying to keep numbers low enough that the health service is not overwhelmed. This is not a strategy that has been followed by most of our European neighbours, who have aimed to keep cases as low as possible (even though the Delta wave hit all of them). Regardless of the morality or practicality of the measures they have kept to (many of which we had in the past but have given up on), ultimately immunity has to be our way out of this. Immunity by infection will create a lot of suffering, and is unnecessary.

2 Children

Vaccinating children 12+ is the right thing to do, though I fear the government has yielded to pressure in making it not just voluntary, but very obviously optional. Whilst compulsion would be wrong, strong encouragement (e.g. sending vaccinating teams into schools, whilst allowing an opt-out) would have been more effective. We know that children are very significant spreaders, as well as suffering themselves (albeit to a lesser extent). And right now (as I write, 23rd September), cases are falling in all age groups apart from school age children. What this basically means is that it is now the children who are driving the pandemic on, in Wales.

3 The stages of Delta

There are a number of clearly distinct stages to the Delta wave, and there is a lesson in each of them for us. Together, I believe, they point the way forward.

1. End May to late July. Cases accelerating as Delta took over from Alpha as the dominant variant. Given the R_0 value of Delta is much higher than that of Alpha (roughly 7 to 4), there was little we could do to stop it initially, without doing the politically unthinkable and locking down again. But during this time we should not have relaxed restrictions (except I believe outdoor activities, which are far safer), yet we did. The rise was almost inevitable, but we were onto the vaccine programme, and it was going well. We were still over a month away from fully vaccinating down to 50 though. We needed to buy ourselves a bit more time, to slow the spread, but we failed to do that. In the second week of July, with cases still rising, the Welsh government announced masks would not be required in schools after the summer break. This was not sensible, and would come back to bite them, in September.

Lesson learnt: It was a bad idea to ease restrictions whilst case numbers were rising, and whilst the vaccination rollout still had a fair way to go.

2. Second half of July. As schools wound down, and people went off on holiday, there was a noticeable fall in cases. Once again (as we had seen in the data during the firebreak lockdown) we had strong evidence that schools affect the overall case numbers.

Lesson learnt: Schools contribute significantly to the spread.

3. The month of August. Cases rose throughout the month, very steeply at times. It became fairly clear that what we were seeing was people coming back from holiday bringing it to their home communities. We'd seen in the summer of 2020 that tourism *into* Wales had far less effect on cases than some had feared, but we hadn't seen the effect of such large scale tourism going *out* of the country, and subsequently bringing it back home with them. Whether this was because many were travelling to places with high Covid cases, picking it up during transit (airports or flights), or were simply letting their guard down too much, is difficult to say. But the noticeably even distribution of case growth across Wales (the problems in the northeast excepted) shows that this was not an incoming tourism issue, rather an outgoing one. The vast majority of cases were in the younger age groups, many of whom had not been fully vaccinated at that stage, and some who were reluctant to do so.

Lesson learnt: Outbound tourism is a significant driver of cases, especially amongst unvaccinated young people.

4. First 10 days of September. At this point, cases started to fall. There were fewer young people returning from holiday, so the main driver of cases in August was removed. Schools returned, and for a few days cases continued downwards. The length of the downward trend was unexpected (indeed, Tim Spector of the Zoe app commented on that this week).

Lesson learnt: This reinforces the lesson from (3); removing the drivers reversed the rise.

5. The reversal of the brief downward trend was entirely predicted, as cases started to explode amongst school age children. In retrospect we see the reason for the longer downward trend was simply mathematical: cases rose in school age children from the date of return, but also fell in younger adults - as they got vaccinated and/or were not returning from holidays. Eventually the rise in cases in schools became so steep it negated the decline in other groups.

Lesson learnt: This confirms what we learnt in (2); schools have been a significant driver of the pandemic. It was also confirmed that saying masks would not be required so far in advance was not sensible.

4 Now

And right now, that is where we are. We have seen how, as the vaccination programme has rolled out from older to younger, case numbers in the corresponding groups have fallen. I believe that, as we continue the rollout to 12-17 year olds, we will see cases fall in that group too. There is evidence to suggest that vaccination could be of benefit down to 9 or 10 (possibly slightly lower), and if that were ever approved then that would also help ease the pressures driving the pandemic.

5 Our goal

Whatever the previous goals, I think we are within a fairly small distance from being on top of Delta. With cases falling now in all age groups apart from school age (except see §6), once we can reverse that with vaccination, we are nearly there. We should then see a sustained fall in cases. That's the point at which we have reached Herd Immunity, and done so the right way — by vaccination, not (primarily) by infection.

6 The elderly

There is a small rise happening right now in the very elderly. Whether this is because of waning immunity from vaccination (this is normal and expected), or because of hospital onset (frail

people more likely to be in hospital, hospitals becoming overstretched during the latest wave) is difficult to say. I suspect it's both. Whichever, this highlights the (now fairly urgent) need for boosters for those who received their vaccinations first, some of whom are around 9 months past vaccination now. And those who were first vaccinated with AstraZeneca will have less immunity than those vaccinated with Pfizer. I also note that deaths have been rising disproportionately in the last few weeks, and that is likely due to the same factors.

7 Vaccine passports

Evidence right now suggests strongly that we can beat Covid. But we need a high vaccine uptake, and to that end the Welsh government is right in introducing the "NHS Covid Pass". In fact, they might as well have called it a vaccine passport, because that is what it will get called I'm sure. Such a pass not only protects others at the venues being attended, but also encourages vaccination. I think the pass is a little weak (people will lie about a lateral flow result, regardless of the legality of doing so). The government needs to be bold on this, and remember that they have the backing of the Welsh people - at least, in comparison to those in England. Ultimately, to release all restrictions, we probably need around 85% immunity. That probably needs some cajolment for those who still, despite everything, think it won't affect them. And any politician who wants to placate the anti-vaxxers is on a dangerous slope.

8 Our global responsibilities

We are suffering Delta because this new variant emerged, from India. We suffered Alpha because that variant emerged from Kent. In Britain as a whole, we have more cases per head than anywhere else in Europe. And by putting vaccinated people up against a dangerous virus, we run the risk of being the source of yet another variant; maybe one with greater vaccine escape. We can take the chance that it won't happen, but we have a responsibility not just to ourselves but to the international community to make sure we are not the source of the next worldwide wave of Covid. If for no other reason, that should be enough to say that a policy of keeping cases just under the level the NHS can cope with is morally wrong.

9 Long Covid

Data from the Zoe app suggest that although the vaccine reduces the chance of Long Covid developing in an infected person, it only does so by around 50%. That means that we can expect to see many more cases of Long Covid emerging from the Delta wave. For context, we've had around 125,000 cases since the start of June. From that we are looking at many thousands of cases of Long Covid. And there is very little help available in Wales for sufferers.

10 Ongoing

Defeating Covid in the long term means maintaining a high enough immunity amongst the population that cases brought in from elsewhere will not spread. A strategy needs to be developed. This is likely to involve boosters, as vaccine immunity will wane.

A virus that kills people is not a clever virus. Killing your host is never a good idea. Ultimately, the strain that wins out is the one that produces mild symptoms and keeps the host alive. There are other coronaviruses that simply cause a cold. In the end, maybe we will get lucky, and such a mutation will emerge in Covid.