Ed Humpherson, Director General for Regulation

Mark Svenson
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NHS England and Improvement
(by email)

1 April 2021

Dear Mark

Review of statistics on COVID-19 vaccinations published by NHS England

In January 2021, I wrote to statistics producers in all administrations of the UK, commending the speed of work on obtaining initial vaccination statistics and asking for more detailed data.

There is significant public interest in data on the vaccination programme and I welcome the improvements made since my previous letter. We have now performed a review of the statistics on COVID-19 vaccinations published by NHS England and Improvement (NHS E&I). This letter notes our findings and outlines our recommendations for further improvement. More-detailed findings and recommendations are included in the annex to this letter.

Coverage

There has clearly been a huge amount of work to generate the range of statistics that are now being published on a weekly and monthly basis. I welcome the collaboration between different bodies which has made this possible. Publication of these data help the public to understand progress with the vaccination programme and hold government to account.

It is good to see data published at a more granular level, for example down to Middle Layer Super Output Area (MSOA). Data are now available for all nine Joint Committee on Vaccination and Immunisation (JCVI) priority groups, albeit at varying levels of geographic breakdown. More of the published tables now include the percentage uptake figures alongside vaccinations. This makes it much easier to see the different take up rates for different groups.

Presentation

While we acknowledge the immense pressure teams are under to produce these volumes of data in a timely manner, there are several areas where we would like to see improvements in the presentation and explanation of data to support its use - for example, by enhancing the commentary and metadata that accompany the statistics, improving coherence with other data sources and ensuring that the data remain accessible and easy to use.

A broader overview of vaccinations, including different socio-economic groups

Whether in the NHS E&I publication or elsewhere, it would now be helpful to see more on socio-economic characteristics, such as more granular data on ethnicity or data by deprivation. The Office for National Statistics publication on vaccination rates by socio-demographic characteristics provides helpful insight into these issues, but this is not a regular release. It would also be helpful to see more information on age categories below 50 to understand how many vaccines have been delivered in the lower age bands.

We recognise that the focus of the NHS E&I statistics is the effectiveness of the operational delivery of the vaccination programme. More broadly it will be important to answer other questions that users have, for example the effectiveness of the vaccines, the number of vaccinations declined, and appointments not attended.

Producers of health statistics in England should continue to work together to make sure the existing operational data are complemented by a broader range of information. I have copied this letter to Lucy Vickers, Head of Profession for Statistics, Department of Health and Social Care; Clare Griffiths, Head of Profession for Statistics, Public Health England; and Iain Bell, Deputy National Statistician and Director General for Population and Public Policy, Office for National Statistics.

I am grateful for the work you are doing to provide these important statistics and your consideration of the areas highlighted in this letter. My Health and Social Care team will continue to liaise with you and please do not hesitate to get in touch with me if you would like to discuss any aspects of this letter further.

Yours sincerely

Ed Humpherson

Director General for Regulation

Annex: OSR review findings and recommendations

	Findings	Recommendations
Quality	The landing page for the publication notes "All data presented in these statistics include vaccinations administered in Hospital Hubs, Local Vaccination Service sites (e.g. GP practices) and Vaccination Centres". This is helpful but provides no sense of whether the data captures all settings where vaccination might occur.	NHS E&I should provide information about whether data are collected from every source or whether there are gaps in coverage.
	The daily output notes "These are provisional data providing timely daily updates. The data may be updated as it is refreshed and subject to further validation prior to inclusion in the weekly release". Any further information about the data (metadata) remains quite sparse and so it is difficult for users to understand the data collection process, measures of quality, the quality control applied and any impacts on the quality and timeliness of the data presented.	NHS E&I should provide more detail on the quality assurance processes and quality metrics for the data.
	In the weekly pdf output, there is a section on data. It notes that "figures may be updated in future weeks as further information flows from local point of care systems".	NHS E&I should indicate how timely the data are from collection to being published and how long it takes to get 100% of the data to the statistics.
	The metadata provides some explanation of the strengths and limitations of the data, using the National Immunisation Management Service (NIMS). "NIMS denominators may provide an overcount if individuals are no longer resident in England, but may also be subject to some undercounting as they currently do not include individuals without an NHS number. Coverage can be viewed as being 'at least' the figures presented using the NIMS denominator".	NHS E&I should publish more-detailed explanations about the strengths and weaknesses of the denominators.

	Separate denominators have been chosen to calculate the percentages for hospital workers, or residents of care homes. There is a risk of double counting if additions are made between various different settings and the general data tables detailing vaccinations by age or region, for example.	NHS E&I should make clear if the data have been de-duplicated and whether or not the different tables should be added or compared.
Value	The range of data published by NHS E&I are of significant public interest and are highly valued. Daily vaccination data are also available by country in the gov.uk daily dashboard, and the daily total for England on the dashboard matches the NHSE daily total for England. However, there is a notable inconsistency in the information on percentage of population vaccinated. Uptake figures on the dashboard for the UK are based on percentage of the population aged 18 and over, while the NHSE&I weekly pdf highlights percentage of population 16 and over. It is not clear why 16 and over has been used.	NHS E&I should consider how to improve coherence with other available sources of information about vaccinations. Where figures do not match, the reason for this should be clearly explained.
	Some of the excel tables in the weekly release include a calculation of percentage of vaccinations by eligible population for that setting or geographical area. The metadata notes "The ONS estimates are the most recent and best available total population estimates and are used to approximate vaccine uptake by national, regional, Integrated Care System (ICS) / Sustainability Transformation Partnership (STP) and Clinical Commissioning Group (CCG) geographies." Other topics whose percentages are presented include gender & age group, care home residents & staff, social care staff, Trust staff and Clinically Extremely Vulnerable people.	
	While the increased volume of data is welcome, the presentation of the data in the spreadsheet can make it hard to interpret. It is likely the publication will become increasingly	NHS E&I should consider how to develop the accessibility of the data.

	unwieldy as more breakdowns and combinations of breakdowns are added in future. Consideration should be given to how the data can be presented in a more accessible way. For example, this could include making more of the data available via the gov.uk daily dashboard or considering how to make more use of the accompanying pdf to support users in understanding what the data are showing.	
	The weekly pdf output is very short, but the commentary does give the reader a sense of how the vaccination programme is progressing. Inclusion of the deadlines and commentary on progress in the narrative for each of the Joint Committee on Vaccination and Immunisation (JCVI) priority groups would be helpful. Whilst the published statistics detail the number of first and second doses given, additional value could be provided by noting the difference between the number of individuals vaccinated and the number of vaccinations given.

The publication would be enhanced by providing information on its purpose so that users can understand what information it should expect to see here and where they may need to look elsewhere. It would also be supported by publication of plans for developing the statistics. | NHS E&I should ensure that users are aware of important contextual information, such as the policy background and progress against key ambitions. |
| | The vaccinations are presented by geographic area of residence and go down to detailed level of geography. Given the amount of scrutiny these data are getting in Parliament it is helpful that they are presented for Parliamentary Constituency area.

The metadata notes "For smaller geographies (Middle Layer Super Output Area, Lower Tier Local Authority and constituency), ONS population estimates are less robust. Therefore, NIMS denominators are also provided at these more granular levels. They should be used when calculating | NHS E&I should take steps to publish vaccination percentages by ethnicity, and the smaller geographies, using the best available estimate of denominator. |

	vaccine coverage for public health purposes." Crucially, users may be confused about how to calculate the percentage of vaccinations by ethnicity or Parliamentary Constituency.	
Trustworthiness	The outputs are appropriately marked as management information, subject to revision. This is also noted in each tab of the workbook "the figures presented may be revised and as such it is likely that figures for the most recent weeks are subject to change. Any changes to historic figures will be reflected in the most recent data publication."	