National Immunisation Advisory Committee

UPDATED RECOMMENDATIONS:
PRIORITY GROUPS FOR COVID-19 VACCINATION

NIAC | 22.02.2021

National Immunisation Advisory Committee
Interim Recommendations
Priority groups for COVID-19 vaccines, February 2021

NOTE: This guidance will be subject to ongoing review as more evidence becomes available about COVID-19 vaccines, their safety, efficacy, effectiveness, impact on virus transmission and population immunity and as new vaccines are authorised by the European Medicines Agency (EMA) and become available in Ireland. Different weighting may need to be given to different values and priority of ranking as more evidence emerges.

BACKGROUND

The National Immunisation Advisory Committee (NIAC) has continued to keep the priority group listing for COVID-19 vaccine under review, according to current and evolving understanding of the clinical, microbiological and epidemiological profile of COVID-19 internationally and in Ireland, with a focus on those at greatest risk from COVID-19.

Most of the population are still at risk of COVID-19. However, certain groups are at increased risk of infection and disease and the highest proportion of hospitalisations and case fatality rates continue to be those aged 65 and older.

Since the publication of Provisional Vaccine Allocation Groups on 8 December 2020, three COVID-19 vaccines have been authorised in Ireland (Comirnaty®, Pfizer/ BioNTech, COVID-19 Vaccine Moderna® and COVID-19 Vaccine AstraZeneca®). All three vaccines are currently being administered to complete vaccination of the first groups, those aged 65 and older living in long term care facilities and their staff and frontline healthcare workers.

NIAC recently issued guidance for the vaccination of the next priority group, those aged 70 and older, which commenced this week.

In January 2021, the NIAC commenced this rolling review of priority group listing which examines the next four priority groups:

- Other healthcare workers not in direct patient contact
- Those aged 65-69 - prioritise those with medical conditions which put them at high risk of severe disease
- Key workers essential to the vaccination programme
- Those aged 18-64 years with medical conditions that put them at high risk of severe disease

Vaccination Programme Aims

The aims of the vaccination programme are to ensure equitable access to safe and effective vaccines with the goals of limiting severe disease and death from COVID-19, protecting healthcare capacity and enabling social and economic activity.

The general approach taken by NIAC for prioritisation to help with planning for vaccine implementation is based on:

- disease burden and severity in risk groups
- impact on society
- vaccine specific information
- moral equality of the person, minimising harm, fairness, and reciprocity

PRIORITISATION REVIEW METHODOLOGY

The NIAC deliberations on the review of the priority groups have been wide ranging, considering the risks of disease and the benefits afforded by the vaccines and assessing national and international evidence.

The NIAC undertook a comprehensive review of the epidemiology of COVID-19 disease (hospitalisations, ICU admission, death) in Ireland, literature reviews of national and international evidence and bioethical consultation. Each of the HSE National Clinical Programme Leads was invited to define and provide evidence to identify groups at high risk of severe disease. In addition, the Committee considered over one hundred unsolicited submissions from clinical and patient advocacy groups, Oireachtas members and individuals.

PRIORITISATION REVISION

NIAC previously identified a number of medical conditions associated with an increased risk of serious disease and death as outlined in the current priority list. There is now further national and international evidence to include additional conditions to this list.

These at-risk medical conditions can be further subdivided into those at high and very high risk for severe COVID-19 disease. International systematic reviews show that those with specific medical conditions are at similar very high risk of severe COVID-19 disease and death as those aged 70-74 years. As the vaccination of those aged 70 and older is already underway, those aged 16-69 at very high-risk should be next to be vaccinated.

By age, the next cohort to be vaccinated are those 65-69. As previously stated, those at high risk should be vaccinated first (see Table 1).

We recognise that the majority of frontline healthcare workers (HCW) have been vaccinated. NIAC suggests that all other HCW and those providing services essential to the vaccination programme should be vaccinated in parallel with those aged 65-69 (see prioritisation table below).

This list is not exhaustive. It may also include other people who have been classed as at very high risk, based on clinical judgement and an assessment of their needs. Pregnant women with any of these high-risk conditions should not be excluded from timely vaccination.

Table 1

Very high-risk and high-risk medical condition stratification for those aged 16-69 years

Medical condition	Very high risk of severe COVID-19 disease	High risk of severe COVID-19 disease
Cancer	All cancer patients actively receiving (and/or within 6 weeks of receiving) systemic therapy with cytotoxic chemotherapy, targeted therapy, monoclonal antibodies or immunotherapies and radical surgery or radiotherapy for lung or head and neck cancer All patients with advanced/metastatic cancers	Haematological - within 1 year Haematological - within 1 - 5 years Non-haematological - within 1 year All other cancers on non-hormonal treatment
Chronic heart (and vascular) disease		Chronic heart disease e.g. heart failure, hypertensive cardiac disease
Chronic kidney disease	Chronic kidney disease, on dialysis, or eGFR <15 ml/min	Chronic kidney disease with eGFR <30ml/min
Chronic liver disease		Chronic liver disease e.g. cirrhosis or fibrosis
Chronic neurological disease or condition	Chronic neurological disease or condition with evolving ventilatory failure (requiring non-invasive ventilation) e.g. motor neurone disease, spinal muscular atrophy	Chronic neurological disease or condition significantly compromising respiratory function and/or the ability to clear secretions e.g. Parkinson's disease, cerebral palsy
Chronic respiratory disease	Chronic severe respiratory disease e.g. severe cystic fibrosis, severe COPD, severe pulmonary fibrosis	Other chronic respiratory disease e.g. stable cystic fibrosis, severe asthma (continuous or repeated use of

		systemic corticosteroids), moderate COPD
Diabetes	Diabetes and HbA1C ≥58mmol/mol	All other diabetes (Type 1 and 2)
Immunocompromise	Severe immunocompromise due to disease or treatment e.g. Transplantation: - Listed for solid organ or haematopoietic stem cell transplant (HSCT) - Post solid organ transplant at any time - Post HSCT within 12 months Genetic diseases: - APECED** - Inborn errors in the interferon pathway Treatment: - included but not limited to Cyclophosphamide, Rituximab, Alemtuzumab, Cladribine or Ocrelizumab in the last 6 months	Immunocompromise due to disease or treatment e.g. high dose systemic steroids (as defined in Immunisation Guidelines for Ireland Chapter 3), persons living with HIV
Inherited metabolic diseases*	Disorders of intermediary metabolism/at risk of acute decompensation e.g. Maple Syrup Urine Disease	Disorders of intermediary metabolism not fulfilling criteria for very high risk
Intellectual disability*	Down Syndrome	Intellectual disability*** excluding Down Syndrome
Obesity	BMI >40 Kg/m^2	BMI >35 Kg/m^2
Severe mental illness*		Severe mental illness e.g. schizophrenia, bipolar disorder, severe depression
Sickle cell disease*	Sickle cell disease	

*additional or updated medical conditions

** APECED - autoimmune polyendocrinopathy candidiasis ecto-dermal dystrophy

*** WHO definition of intellectual disability as "impairments in adaptive, social, and intellectual functioning (IQ<70), requiring daily support, with onset in the developmental phase (<18 years)"

VACCINE SELECTION

All high-risk groups include some specific conditions which may be associated with a suboptimal response to vaccines, e.g., chronic kidney disease or immunocompromise (see highlighted cells in Table 1). Results from efficacy studies suggest that the mRNA vaccines might induce protective immunity more reliably than COVID-19 Vaccine AstraZeneca®. Use of these vaccines might therefore be preferable for patients who are immunocompromised. **However, if preferential selection of an mRNA vaccine will result in delayed vaccination for more than 3 weeks, any benefit of using a higher efficacy vaccine may be lost.**

PRIORITISATION FOR VACCINATION

NOTE: The order of further groups/individuals may change as more information becomes available. The timeframe of vaccination will depend on several factors, e.g., availability of vaccine and vaccine characteristics.

Prioritisation has been determined based on risk of severe COVID-19 disease and mortality risk, maintaining the healthcare service and protecting patients (see Table 2).

The ongoing review process will continue to look at the other priority groups yet to be vaccinated, along with the competing needs of those working or living in high-risk situations, carers who deliver essential services to highly dependent individuals in the home setting and those who are socially vulnerable/disadvantaged.

Table 2

Priority groups for COVID-19 vaccination

Priority Group	Rationale
Aged 16-69 years with medical conditions which put them at very high risk of severe disease	At similar very high risk of hospitalisation and death as those aged 70-74 years
Aged 65-69 years with medical conditions which put them at high risk of severe disease	At high risk of hospitalisation and death
In parallel: **All others aged 65-69 years**	At high risk of hospitalisation and death
Other HCW not in direct patient contact	Provide essential health services, protect patients
Workers key to the vaccination programme	Provide services essential to the vaccination programme
Aged 16-64 years with medical conditions which put them at high risk of severe disease	At high risk of hospitalisation and death

References

Medical condition	References
General	Bhaskaran K, Bacon SCJ, Evans SJW, et al, Factors associated with deaths due to COVID-19 versus other causes: population-based cohort analysis of UK primary care data and linked national death registrations within the Open SAFELY platform. medRxiv preprint doi: https://doi.org/10.1101/2021.01.15.21249756; this version posted January 22, 2021.
	Bubar KM, Reinholt K, Lipsitch M, et al. Model-informed COVID-19 vaccine prioritization strategies by age and serostatus. Science 10.1126/science.abe6959 (2021)
	Dandachi D, Geiger G, Montgomery MW et al. Characteristics, Comorbidities, and Outcomes in a Multicenter Registry of Patients With Human Immunodeficiency Virus and Coronavirus Disease 2019. *Clinical Infectious Diseases*, ciaa1339, https://doi.org/10.1093/cid/ciaa1339
	DOCHERTY, A. B., HARRISON, E. M., GREEN, C. A., et al. 2020. Features of 20 133 UK patients in hospital with covid-19 using the ISARIC WHO Clinical Characterisation Protocol: prospective observational cohort study. Bmj, 369, m1985.
	GRASSELLI, G., ZANGRILLO, A., ZANELLA, A., et al. 2020. Baseline Characteristics and Outcomes of 1591 Patients Infected With SARS-CoV-2 Admitted to ICUs of the Lombardy Region, Italy. Jama, 323, 1574-1581.
	Matrajt L, Eaton J, Leung T et al. Vaccine optimization for COVID-19: who to vaccinate first? Sci Adv 2021 Feb 3;7(6):eabf1374. doi: 10.1126/sciadv.abf1374
	HPSC. Underlying conditions in confirmed cases of COVID-10 in Ireland. Report prepared by HPSC on 14.12.2020. www.hpsc.ie

	HIQA. Advice to the National Public Health Emergency Team: What is the evidence underpinning the categorisation of 'extremely medically vulnerable' groups, who may be at risk of severe illness from COVID-19?https://www.hiqa.ie/sites/default/files/2020-12/Categorisation-of-extremely-medically-vulnerable-to-COVID-19_Advice-to-NPHET.pdf
	LI, X., XU, S., YU, M., et al. 2020. Risk factors for severity and mortality in adult COVID-19 inpatients in Wuhan. The Journal of allergy and clinical immunology, 146, 110-118.
	Ng, W.H., Tipih, T., Makoah, N.A., et al. 2021. Comorbidities in SARS-CoV-2 patients: a systematic review and meta-analysis. mBio 12:e03647-20. https://doi .org/10.1128/mBio.03647-20.
	PETRILLI, C. M., JONES, S. A., YANG, J., et al. 2020. Factors associated with hospital admission and critical illness among 5279 people with coronavirus disease 2019 in New York City: prospective cohort study. BMJ, 369, m1966.
	Roe M, Wall P, Mallon P, Horgan M. Risk of adverse outcomes with COVID-19 in the Republic of Ireland. medRxiv preprint doi: https://doi.org/10.1101/2020.12.09.20246363; this version posted December 11, 2020.
	Satué-Gracia, EM. , Vila-Córcoles, A., de Diego-Cabanes, C., et al. Susceptibility and risk of suffering SARS-COV-2 infection by demographic characteristics and pre-existing medical conditions among middle-aged and older adults in Tarragona, Spain: results from the *COVID19 TARRACO* Cohort Study, March-June 2020. medRxiv preprint doi: https://doi.org/10.1101/2021.02.09.21251398; this version posted February 10, 2021
	SULEYMAN, G., FADEL, R. A., MALETTE, K. M., et al. 2020. Clinical Characteristics and Morbidity Associated With Coronavirus Disease 2019 in a Series of Patients in Metropolitan Detroit. JAMA Netw Open, 3, e2012270.

	Williamson EJ, Walker AJ, Bhaskaran K et al. Factors associated with COVID-19-related death using Open SAFELY. Nature 2020;584: 430https://doi.org/10.1038/s41586-020-2521-4
	ZHANG, J. J., DONG, X., CAO, Y. Y., et al 2020a. Clinical characteristics of 140 patients infected with SARS-CoV-2 in Wuhan, China. Allergy, 75, 1730-1741.
	ZHOU, F., YU, T., DU, R., et al 2020. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. Lancet, 395, 1054-1062.
Cancer	DAI, M., LIU, D., LIU, M., et al. 2020. Patients with Cancer Appear More Vulnerable to SARS-CoV-2: A Multicenter Study during the COVID-19 Outbreak. Cancer Discov, 10, 783-791.
	Li H, Baldwin E, Zhang X, et al COVID-10 increases age- and sex-controlled 21 day fatality ratees for patient with melanoma, hematologic malignancies, uterine cancer, or kidney cancer. medRxiv preprint doi: https://doi.org/10.1101/2021.02.06.21251099; this version posted February 8, 2021.
	ZHANG, L., ZHU, F., XIE, L., et al. 2020b. Clinical characteristics of COVID-19-infected cancer patients: a retrospective case study in three hospitals within Wuhan, China. Ann Oncol, 31, 894-901.
Chronic heart (and vascular) disease	GRASSELLI, G., ZANGRILLO, A., ZANELLA, A., et al. 2020. Baseline Characteristics and Outcomes of 1591 Patients Infected With SARS-CoV-2 Admitted to ICUs of the Lombardy Region, Italy. Jama, 323, 1574-1581.
Chronic kidney disease	Windpessi M, Bruchfeld A, Anders H-J et al. COVID-19 vaccines and kidney disease Nature Reviews | Nephrology. https://doi.org/10.1038/s41581-021-00406-6
Chronic liver disease	DOCHERTY, A. B., HARRISON, E. M., GREEN, C. A., et al. 2020. Features of 20 133 UK patients in hospital with covid-19 using the ISARIC WHO Clinical Characterisation Protocol: prospective observational cohort study. BMJ, 369, m1985.

Chronic neurological disease	Simpson- Yap S, De Brouwer E, Kalincik T, et al. Associations of DMT therapies with COVID-19 severity in multiple sclerosis medRxiv preprint doi: https://doi.org/10.1101/2021.02.08.21251316; this version posted February 10, 2021
Chronic respiratory disease	Schultze A, Walker AJ, MacKenna B, et al. Risk of COVID-19-related death among patients with chronic obstructive pulmonary disease or asthma prescribed inhaled corticosteroids: an observational cohort study using the OpenSAFELY platform. OpenSAFELY Collaborative.Lancet Respir Med. 2020 Nov;8(11):1106-1120. doi: 10.1016/S2213-2600(20)30415-X. Epub 2020
	Yang, X., Yu, Y., Xu, J., et al. 2020. Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study. Lancet Respir Med, 8, 475-481.
Diabetes	Erener, S. 2020. Diabetes, infection risk and COVID-19. Mol Metab, 39, 101044.
	Mc Gurnaghan, SJ., Weir A, Bishop J et al. Risks of and risk factors for COVID-19 disease in people with diabetes: a cohort study of the total population of Scotland *Lancet Diabetes Endocrinol* 2021; 9: 82–93
	Tadic, M., Cuspidi, C. & Sala, C. 2020. COVID-19 and diabetes: Is there enough evidence? J Clin Hypertens (Greenwich), 22, 943-948.
Immunocompromise	Bastard P and Rosen LB. Autoantibodies against type IFNs in patients with life threatening COVID-19. Science 370, eabd4585 (2020). https//doi.org/10.1126/science.abd4585
	HSE COVID-19: Interim Clinical Guidance: Immunosuppressant Therapy v5 updated 29th Oct 2020. HSE Library https://hse.drsteevenslibrary.ie/ld.php?content_id=32936278
	Winthrop KL, Brunton A, Beekmann S et al. SARS CoV-2 infection among patients using immunomodulatory therapies . *Ann Rheum Dis* February 2021 Vol 80 No 2

	Zhang Q, Bastard P, Liu Z et al. Inborn errors of type 1 IFN immunity in patients with life threatening COVID-19. Science 10.1126/science.abd4570 (2020)
HIV	Bhaskaran K, Rentsch CT, MacKenna B et al. HIV infection and COVID-19 death: a population-based cohort analysis of UK primary care data and linked national death registrations within the OpenSAFELY platform. *Lancet HIV* 2021; 8: e24–32
	DEL AMO, J., POLO, R., MORENO, S., et al 2020. Incidence and Severity of COVID-19 in HIV-Positive Persons Receiving Antiretroviral Therapy : A Cohort Study. Ann Intern Med, 173, 536-541.
Inherited metabolic diseases	Lampe, C., Dionisi-Vici, C., Bellettato, C.M. *et al.* The impact of COVID-19 on rare metabolic patients and healthcare providers: results from two MetabERN surveys. *Orphanet J Rare Dis* 15, 341 (2020). https://doi.org/10.1186/s13023-020-01619-x
Intellectual disability	Clift AK et al (2020). COVID-19 Mortality Risk in Down Syndrome: Results From a Cohort Study Of 8 Million Adults. Ann Int Med. https://www.acpjournals.org/doi/10.7326/M20-4986
	Henderson A, Fleming M, Cooper S-A et al. COVID-19 infection and outcomes in a population-based cohort of 17,173 adults with intellectual disabilities compared with the general population medRxiv preprint doi: https://doi.org/10.1101/2021.02.08.21250525; this version posted February 9, 2021
	Public Health England. Deaths of people identified as having learning disabilities with COVID-19 in England in the spring of 2020 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/933612/COVID-19__learning_disabilities_mortality_report.pdf
Obesity	HUSSAIN, A., MAHAWAR, K., XIA, Z., et al. 2020. Obesity and mortality of COVID-19. Meta-analysis. Obes Res Clin Pract, 14, 295-300.

Severe mental disorder	DE HERT, M., MAZEREEL, V., DETRAUX, J. & VAN ASSCHE, K. 2021. Prioritizing COVID-19 vaccination for people with severe mental illness. World Psychiatry, 20, 54-55.
	Martin Maripuu1, Marie Bendix1,2, Louise Öhlund3, Micael Widerström4andUrsula Werneke3* Death Associated With Coronavirus (COVID-19) Infection in Individuals With Severe Mental Disorders in Sweden During the Early Months of the Outbreak—An Exploratory Cross-Sectional Analysis of a Population-Based Register Study. Front. Psychiatry, 08 January 2021 | https://doi.org/10.3389/fpsyt.2020.609579
Sickle cell disease	Panepinto JA, Brandow A, Mucalo L, et al. Coronavirus Disease Among Persons with Sickle Cell Disease, United States, March 20–May 21, 2020. Emerging Infectious Diseases. 2020 Oct. https://doi.org/10.3201/eid2610.202792external icon

Appendix

HSE National Clinical Programme (NCP) submissions to this prioritisation review process

- National Cancer Control Programme
- National Heart Programme
- National Women & Infants Health Programme
- NCP Acute Medicine
- NCP Children
- NCP Cystic Fibrosis
- NCP Dermatology
- NCP Diabetes
- NCP Disability
- NCP Early Intervention in Psychosis
- NCP Eating Disorders
- NCP Emergency Medicine
- NCP Infectious Diseases
- NCP Mental Health
- NCP Neurology
- NCP Obesity
- NCP Ophthalmology
- NCP Palliative Care
- NCP Rehabilitation Medicine
- NCP Renal
- NCP Respiratory
- NCP Rheumatology
- NCP Surgery
- NCP Older Persons

Other submissions

- Adult Inherited Metabolic Disorders
- National Centre of Expertise for AATD
- EURORDIS – Rare Diseases Europe
- European Reference Networks for Rare Diseases
- National Rare Diseases Office
- Irish Platform for Patient Organisations, Science and Industry
- Department of Paediatric Immunology, CHI @ Crumlin
- Executive Committee of the Irish Association of Allergy and Immunology
- VINE network