National Screening Advisory Committee

Condition	ADA-SCID (Adenosine Deaminase Deficiency-Severe Combined Immunodeficiency)
Application Type	Modification to Existing Screening Programme i.e. adding a new condition to the National Newborn Bloodspot Screening Programme (NNBSP)
Target Population	Newborn
Date(s) Considered	5 March 2020 17 July 2020
Decision Date	17 July 2020
Recommendation / Decision	Approve
Background	ADA-SCID (Adenosine Deaminase Deficiency - Severe Combined Immunodeficiency) is a genetic condition. ADA-SCID is the leading cause of SCID in Ireland. Babies born with ADA -SCID show no clinical symptoms at birth and it is not until the following weeks when the fact that they are immunodeficient becomes apparent. As the condition is currently not screened for at birth, often many children do not receive the appropriate treatment in a timely manner which is crucial as this condition is uniformly fatal in infancy in the absence of treatment. However, ADA -SCID is detectable via newborn screening and curable via haematopoietic stem cell transplant (HSCT) or gene therapy (GT) that enables immune reconstitution in affected individuals. In the absence of screening, a number of factors impede timely clinical diagnosis of ADA-SCID. Affected infants appear healthy at birth, protected from infection by the sterile intrauterine environment and transplacentally derived maternal IgG antibodies. Symptom onset occurs within the first few weeks of life with symptoms including failure to thrive, chronic diarrhoea and recurrent severe infections. As ADA- SCID is a rare condition the index of suspicion may be low among clinicians, many of whom will never have encountered a case in their professional careers, further impeding timely diagnosis.

	In the absence of screening, ADA-SCID is typically diagnosed within the first six months of life, by which time infants may have developed permanent organ damage or succumbed to severe infection.
Evidence & Information Considered by NSAC	• Overview Document – Expansion of the National Newborn Bloodspot Screening Programme (NNBSPGG) - February 2020 NNBSPGG; • Appraisal of adenosine deaminase deficiency severe combined immunodeficiency (ADA-SCID) against UK National Screening Committee criteria - 2020 - NNBSPGG; • An analysis of a national cohort of infants with Severe Combined Immunodeficiency Disorder (SCID): to inform screening recommendations. - February 2020 - NNBSPGG; • Endorsement Letter - February 2020 - IPIA (Irish Primary immunodeficiency Association); • Endorsement Letter - March 2020 - ERTN (Eastern Region Travellers Network); • National Newborn Bloodspot Screening Programme (NNBSP) presentation to National Screening Advisory Committee - March 2020 - NNBSPGG; • Formal application to add Adenosine Deaminase Deficiency Severe Combined Immunodeficiency (ADA-SCID) to the National Newborn Bloodspot Screening Programme - July 2020 - NNBSPGG;
Reasons for Decision	The recommendation has been based on documentation of national and international evidence presented to the NSAC in accordance with the criteria for appraising applications.
Conditions of Decision	Clarification and assurances requested from NNBSPGG on specific points related to implementation.
Observations / Recommendations	none
Monitoring	Ongoing engagement with HSE on implementation continues.
Review	To be reviewed as agreed by Committee in line with its Terms of Reference and work programme.
Further Reading	National Newborn Bloodspot Screening Programme (NNBSP)