

The NSO “Age at Collection” Indicator

Introduction

Timely newborn screening (NBS) allows babies affected with the diseases screened to be identified early and access the treatment they need to prevent serious health problems – this is the primary purpose of NBS.

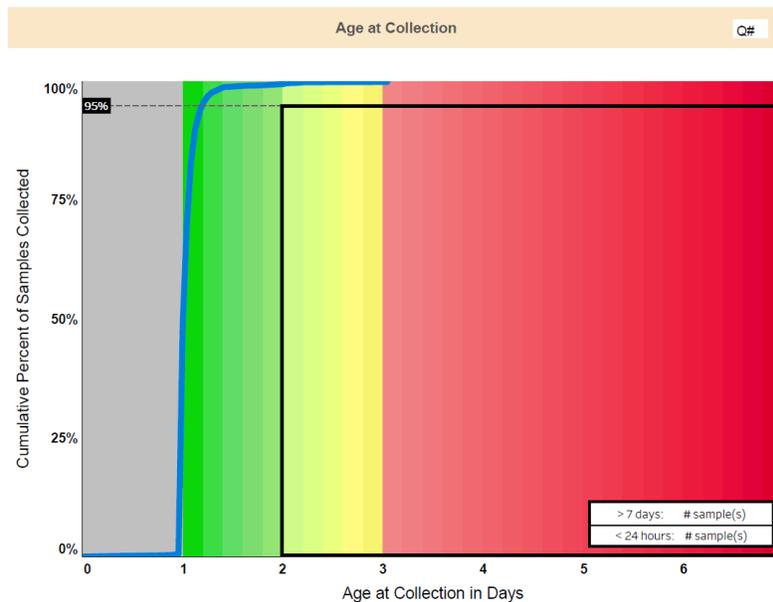
NSO recommends that the ideal time for NBS dried blood spot (DBS) specimen collection is between 24-48 hours of age.

The Association of Public Health Laboratories and other NBS jurisdictions’ best practice guidelines recommend 24-48 hours after birth as the ideal window for DBS collection. Extensive data analysis and literature reviews strongly support that collecting the DBS specimen between 24-48 hours of age is safe and will decrease the age of identification of babies with early presenting diseases by at least one day. There is little collective experience to support the safety of less than 24 hour specimen collections as few screening programs accept specimens collected at less than 24 hours of age as satisfactory. Other benefits of earlier DBS collection include correlation with the timing of hyperbilirubinemia and Critical Congenital Heart Disease pulse oximetry screening.

Benchmark

NSO launched the Age at Collection indicator to provide health care providers with site specific data about the timing of NBS specimens collected at their institution or midwifery practice.

The Age of Collection best practice standard proposed by NSO is that 95% of NBS specimens be collected prior to 48 hours of age, with as few collections prior to 24 hours as possible.



Interpretation

Only data for initial newborn screening specimens is included in the Age at Collection indicator. The indicator displays the “Cumulative Percent Samples Collected” on the y-axis and the “Age at Collection” (in days) on the x-axis. The “Cumulative Percent Samples Collected” is the running total of all of the specimens collected between birth and the age specified on the x-axis, expressed as a percent of the total number of specimens collected during the period of the report.

The blue line represents specimens collected by your organization or practice during the period of the report.

Specimens collected within the ideal screening window lie inside the green shaded area and outside of the black box. Specimens collected after 7 days of age are not displayed in the graph, however, they are tallied in the text box located in the bottom right hand corner.

NSO recommends that a NBS specimen be collected prior to 24 hours of age if a baby is discharged or is receiving a packed red blood cell transfusion prior to 24 hours of age. These specimens will lie inside the grey shaded area, but still fall outside of the black box because the collection, although not ideal, is recommended by NSO. NBS specimens collected at < 24 hours of age are tallied in the bottom right hand corner as well.

Many neonatologists prefer postponing the NBS collection until the third day of life and NSO provides special recommendations for collecting specimens from low birth weight (<1500gms) or premature (<33 weeks gestational age) babies. These recommendations can be referenced on our website via this link, [NSO Submitter Manual](#). NSO is exploring options to indicate the exceptional status of these specimens or exclude them from this report entirely.

