



NEWBORN SCREENING REFERENCE CENTER



Type of Document: Guidebook

Title of Document: Facilitator's Guidebook Module 1

Document No: NSRC-INT-058	Effective Date: AUG 02 2023	Page: 1 of 36	Rev: 0
Prepared by: Vina G. Mendoza Process Owner	Reviewed by: Ma. Elouisa L. Reyes Unit Head	Approved by: Michelle E. Abadingo, MD, FPPS Director	

REVISION REGISTER

REVISION DATE (dd/mm/yy)			REV	PAGE REVISED	DESCRIPTION OF ISSUANCE/ REVISION	EFFECTIVE DATE (dd/mm/yy)
5/16/23	0				Initial Document	

Authorized printed copy of this document must have the Controlled Stamp and distributed only to approved Copyholders. This document must not be reproduced or photocopied without prior approval of the QMR and/or Director.

Controlled Copy



NEWBORN SCREENING in the Communities

Facilitator's Guidebook

Controlled Copy

PREFACE

The updated Facilitator's Guidebook: Newborn Screening in the Communities is a product of a concerted effort of key newborn screening program implementers to come up with an up-to-date instructional material to facilitate easy teaching and learning process. The need to come up with a ready reference arises due to the evident need to support newborn screening facilitators when organizing and running newborn screening orientations. It standardizes the information to be communicated to all health workers.

This version contains new developments in the program, updated statistics and data, and recommendations on how to conduct the training orientation. This guidebook includes slide presentations, scripts, and additional notes that may aid the facilitator in delivering the presentation. The script is based on the usual lines delivered in previous orientations as well as valuable contributions from the newborn screening pool of speakers and input from the Newborn Screening Centers, Centers for Health Development, and Newborn Screening Continuity Clinics.

There are five sections in this guidebook:

Module 1 contains an overview of the general aspects of the screening program. It describes the history of newborn screening in the Philippines as well as its importance.

Module 2 presents the highlights of RA 9288 (the Newborn Screening Act of 2004) with an emphasis on the role of health workers and its implications on the health facilities in the country.

Module 3 is devoted to the procedures for implementing newborn screening in health facilities. The presentation includes the newborn screening flow of operations.

Elective Module 1 is optional for refresher courses. This module discusses the role of Newborn Screening Continuity Clinics (NBSCCs) in the national newborn screening program.

Elective Module 2 is also an optional course that discusses each of the disorders in the Expanded Newborn Screening Panel, along with their symptoms and treatment. This course is recommended if the need arises based on the training needs of the participants.

Each of the modules have two versions, one for face-to-face trainings, and another for online trainings. Use the module appropriate for your training's mode of delivery. If you want more information about newborn screening, particularly on the conditions included in the expanded newborn screening panel, you may go through the Fact Sheets for Doctors, NCNBSS Manual of Operations, or visit www.newbornscreening.ph for more resources and information.

We hope that using this guidebook will be beneficial to you. Any pertinent information (such as local policies) may be incorporated or updated as appropriate. In order to help you the most, we ask for your feedback while you use this guidebook. Every year, NSRC will update this manual to reflect the most recent information, address persistent issues, and give facilitators further guidance on any crucial aspects of the newborn screening program.


Thank you and stay safe!

Contacts: Newborn Screening Reference Center
National Institutes of Health
University of the Philippines Manila
Email add: info@newbornscreening.ph
Inserts: Newborn Screening AVP and Videos
Year of Revision: 2023

HOW TO USE THIS BOOK

THE FORMAT

ENBS in the Communities: Facilitator's Guidebook



Now, take a look at this picture? If a child is born in your facility with this kind of genitalia would you classify the baby as a boy or a girl? (generate response from participants)

Ambiguous genitalia is one of the manifestations of CAH

Additional Notes

Congenital adrenal hyperplasia is a group of hormonal disorders characterized by abnormally high levels of male sex hormones in both boys and girls. If not detected and treated early, babies may die within 7 days.

Babies, children or adults with classic congenital adrenal hyperplasia can experience a life-threatening "adrenal crisis," due to inadequate production of cortisol from the adrenal glands. An adrenal crisis can result in a seriously low level of sodium in the blood, diarrhea, vomiting, dehydration, low blood sugar levels and shock. People experiencing an adrenal crisis need immediate treatment.

Although CAH can be life-threatening, affected patients can lead normal lives with early detection and proper treatment which may include surgery in severely virilized girls.

There are classical non-saltwasters who also require treatment.

ISO # "NSRC-INT-04_I1R2"

Actual slide presentation

Suggested script for the Speaker

Some facts and details/points for discussion and issues that may aid the speaker

The *suggested script* for the speaker is in italics.

Additional notes for the speaker are written at the bottom of the page.

All points to be emphasized are in italic bold format.

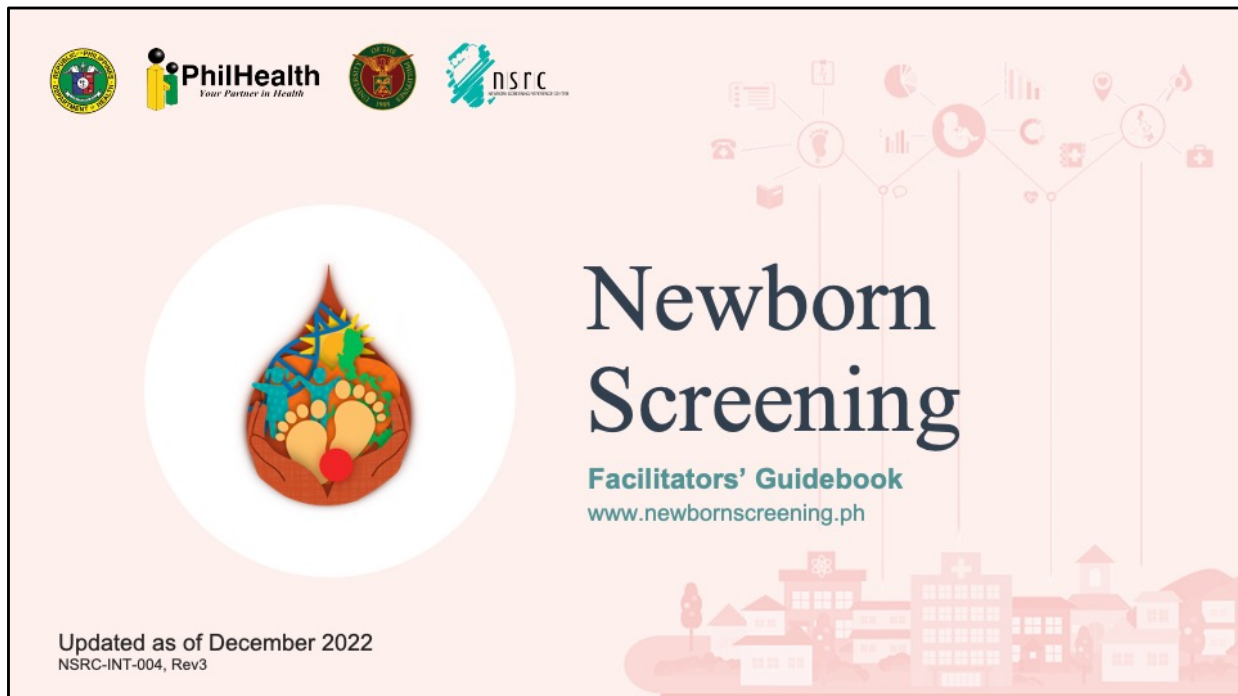
This book comes with an 8-minute AVP to highlight steps for implementing newborn screening at the community level.

ACRONYMS

3MCC	3-Methylcrotonyl CoA Carboxylase Deficiency
6-PTPS	6-Pyruvoyltetrahydrobiopterin synthase Deficiency
ACNBS	Advisory Committee on Newborn Screening
ASA	Argininosuccinic Aciduria
BKT	Beta Ketothiolase Deficiency
BTB	Biotinidase Deficiency
CAH	Congenital Adrenal Hyperplasia
CF	Cystic Fibrosis
CH	Congenital Hypothyroidism
CIT	Citrullinemia
CPT	Carnitine Palmitoyltransferase Deficiency
CUD	Carnitine Uptake Deficiency
DOH	Department of Health
DOH-RO	Department of Health-Regional Office
ENBS	Expanded Newborn Screening
GAL	Galactosemia
G6PD	Glucose-6-Phosphate Dehydrogenase Deficiency
GA	Glutaric Acidemia
HFSRB	Health Facilities and Services Regulatory Bureau
HGB	Hemoglobinopathies
HCY	Homocystinuria
IRR	Implementing Rules and Regulations
IVA	Isovaleric Acidemia
LCHAD	Long Chain Hydroxyacyl-CoA Dehydrogenase Deficiency

ACRONYMS

LGU	Local Government Unit
MAT	Methionine Adenosine Transferase Deficiency/ Hypermethioninemia
MSUD	Maple Syrup Urine Disease
MCAD	Medium Chain-Acyl-CoA Dehydrogenase Deficiency
MMA	Methylmalonic Acidemia
MCD	Multiple Carboxylase Deficiency
NBS	Newborn Screening
NCP	Newborn Care Package
NIH	National Institutes of Health
NSC	Newborn Screening Center
NSF	Newborn Screening Facility
NSRC	Newborn Screening Reference Center
PA	Propionic Acidemia
PHIC	Philippine Health Insurance Corporation
PKU	Phenylketonuria
RHU	Rural Health Unit
TFP	Tri-functional Protein Deficiency
TYR	Tyrosinemia
VLCAD	Very Long Chain-Acyl-CoA Dehydrogenase Deficiency



Greet the participants. Introduce yourself and your team.

Congratulate the participants who are present and recognize the difficulties brought about by the new normal that challenge the participants to attend the training/orientation. Some had difficulty with internet connectivity, conducive learning environment, and swamped schedules.

Assure the participants that attendance at this training/orientation will be fruitful and productive because they are gathered here together to save lives and provide opportunities for children with special needs to live normal lives.



1 Module 1: Orientation



Advancement in science and technology has made it possible to fulfill the dream that health is a human right. One of these technologies is affordable, very effective, highly beneficial and very much accessible in our country.

This preventive technology is known as Newborn Screening.

As health professionals, it is our responsibility to be informed of new developments taking place that can improve the health condition of our constituents.

The difference a simple test can make

2004

2018

Newborn Screening Reference Center

Has anyone seen this poster before? Do you see any similarities? Do you see any differences?

(Get answers from the participants)

These are photos of two kids with Congenital Hypothyroidism. The boy, JR, is 14 years old when this photo was taken. He could not walk, talk nor sit alone. His mental age was placed at 1 month old. When he was brought to the hospital at age 12 years old for diagnosis, his fontanelles were still open. He is now 32 years old. The girl beside him is Janelle, who's now a 25 year old engineer.

With very observable differences, the question persists, how come JR's condition has strongly manifested more than Janelle did? What factors affected the management of their conditions?

(Get answers from the participants)

To answer these questions, it's important to note that JR was born in Quezon in 1992, and Janelle was born in Manila in 1996. Newborn Screening was not yet available in the Philippines at that time when JR was born. Luckily for Janelle, newborn screening started in 1996, and the hospital where she was born is part of the 1st 24 hospitals that started newborn screening in the Philippines.

Today, with the enactment of RA 9288 or the Newborn Screening Act of 2004, newborn screening is now a standard practice for neonatal care in all birthing centers and clinics. With greater accessibility to testing and management of disorders, we hope that all newborns with genetic disorders can live normal lives just like Janelle.

At present, the success of the program relies in the accurate and timely fulfillment of roles of every newborn screening practitioner and professionals working in the long-term management of disorders.

A boy
or
a girl?



Now, take a look at this picture. If a child is born in your facility with this kind of genitalia would you classify the baby as a boy or a girl? (generate response from participants)

Ambiguous or atypical genitalia is one of the manifestations of CAH

Additional Notes

Congenital adrenal hyperplasia (CAH) is a group of hormonal disorders characterized by abnormally high levels of male sex hormones in both boys and girls. If not detected and treated early, babies may die within 7 days.

Babies, children or adults with classic congenital adrenal hyperplasia can experience a life-threatening "adrenal crisis," due to inadequate production of cortisol from the adrenal glands. An adrenal crisis can result in a seriously low level of sodium in the blood, diarrhea, vomiting, dehydration, low blood sugar levels and shock. People experiencing an adrenal crisis need immediate treatment.

Although CAH can be life-threatening, affected patients can lead normal lives with early detection and proper treatment which may include surgery in severely virilized girls.

There are classical non-saltwasters who also require treatment.

Objectives

At the end of the orientation, the participants should be able to:

- Discuss the significance of newborn screening (NBS) and how it started in the Philippines.
- Discuss the highlights of Newborn Screening Act of 2004 and its implications all health workers, health professionals, and health facilities in the country.
- Describe how NBS is implemented in a health facility.
- Implement expanded newborn screening in your respective health facility.



Newborn Screening Reference Center

After this orientation, you should be able to:

1. *Discuss the significance of newborn screening (NBS) and how it started in the Philippines to your newborn screening team or staff.*
2. *Discuss the highlights of RA 9288 known as the Newborn Screening Act of 2004 and one of the key section: its implications to health workers, health professionals and health facilities in the country.*
3. *Describe the flow of newborn screening and how NBS is implemented in a health facility.*
4. *Lastly, how to start expanded newborn screening in your respective health facility*

Methodologies

- Lecture and Discussion
- Video Showing



Newborn Screening Reference Center

In this module, there will be two parts. We will use lecture and discussion and a video will be presented to you towards the end of Part 2 . Please reserve all of your questions and clarifications until the end of Part 2 of this session. You will find inside your kit pieces of papers for questions. Please write your questions for Part 1 in these papers and a staff member will collect them at the end of Part 1. Questions on Part 2 will be answered at the end of the session.

Additional Notes

During the video presentation the speaker must screen questions and assess if he/she needs assistance from the Newborn Screening Reference Center (NSRC).

Questions that cannot be answered by the speakers must be relayed to the NSCs, CHDs or NSRC.

Newborn Screening

is a public health program for the **EARLY IDENTIFICATION** of disorders that can lead to mental retardation and death



Newborn Screening Reference Center

So what is newborn screening? It is a preventive public health program for the early identification of disorders that can lead to mental retardation and death.

There are many causes of developmental delay and death, but today we are talking about conditions that can be reversed, treated, or managed. There may also be causes which are irreversible. But in newborn screening, we are only talking about conditions that can be saved by medications or change of diet if detected early through newborn screening.

Newborn Screening

- Is an integral part of routine newborn care in most developed countries.
- As routine as Vitamin K injection or cord care
- In the Philippines, it is part of the Newborn Care Package of PHIC



Newborn Screening Reference Center

It's already a part of our newborn routine care in the country. As a fact, it's part of the Newborn Care Package of PHIC since 2006 when it used to be only 5-test; MSUD was then added in 2012. When expanded screening was introduced in 2014 as an option, the amount of PHIC packaged also increased.

Additional Notes

PHIC Circular 34 s. 2006 provides for the newborn benefit package.

PHIC Circular no.69 s-2009 Clarification on PHIC Newborn Care Package and Normal Spontaneous Delivery and Maternity Care Package.

PHIC Circular no.015 s-2011 Clarificatory Guidelines to PHIC Circular Nos. 11, 11-A and 11-B series of 2011. The total benefit that can be availed by the dependent of a PHIC member is increased from P1,000 to P1750. In cases of incomplete provision of services, the corresponding amounts shall be deducted for the following services

Newborn screening test only = P550.00

Newborn hearing screening only = P200.00

Both tests = P750

In 2018, PHIC released Memorandum Circular 2018-0021 enhancing the Newborn Care Package, refer to: https://www.philhealth.gov.ph/circulars/2018/TS_circ2018-0021.pdf

Expanded Newborn Screening (ENBS)

Saving More Babies from Mental Retardation & Death

To save more babies, DOH has approved the full implementation of the expanded newborn screening

- Effective **May 1, 2019**, all newborns must undergo newborn screening.

Amendment to DOH AO 201A-0045-A

Newborn Screening Reference Center



In December 2018, DOH approved of the full implementation of expanded screening. In May 2019, PHIC expanded its coverage of essential health services for newborns where expanded screening was made mandatory. Right now the entire amount is covered by Philhealth.

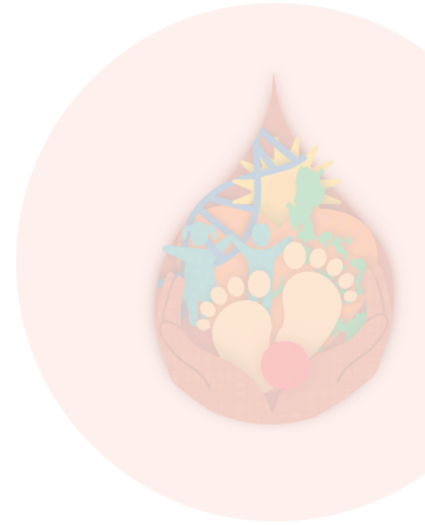
Additional Notes

The DOH AO 2014-0045A's rationale reads:

“Efforts are continuously being done to achieve the goal of saving Filipino newborns for common life-threatening heritable disorders. To this end, the National Comprehensive Newborn Screening System is expanding the screening panel of disorders from six (6) to more than twenty-nine (29) disorders. An expanded screening program will give opportunities to significantly improve the quality of life for affected newborns and will also identify babies whose condition may not become symptomatic until permanent damage or disability has occurred...”

What is ENBS?

Increases the number of disorders in the NBS panel from six (6) to more than 29. The Group of disorders under ENBS include: endocrine disorders, hemoglobinopathies, inborn errors of metabolism, and cystic fibrosis.



Newborn Screening Reference Center

The expanded newborn screening program increases the number of disorders in the newborn screening panel from six (6) to more than twenty-nine (29) while maintaining the number of blood spots in the filter card. The initial 6 disorders covered by newborn screening are Congenital Hypothyroidism (CH), Congenital Adrenal Hyperplasia (CAH), Phenylketonuria (PKU), Galactosemia (GAL), Glucose-6-Phosphate Dehydrogenase (G6PD) Deficiency and Maple Syrup Urine Disease (MSUD).

Expanded newborn screening includes various groups of conditions namely: >20 amino acid/organic disorders, endocrine disorders, thalassemias and hemoglobinopathies, Biotinidase Deficiency, Cystic Fibrosis, Galactosemia, and Glucose-6-Phosphate Dehydrogenase (G6PD) Deficiency.

What Disorders are Tested in ENBS?

There are more than 29 disorders tested in ENBS

GROUP OF DISORDERS:

1. Endocrine Disorders
2. Amino Acid Disorders
3. Fatty Acid Oxidation Disorders
4. Organic Acid Disorders
5. Urea Cycle Defects
6. Hemoglobinopathies (HGB)
7. Others (G6PD deficiency, Galactosemia, Cystic Fibrosis, and Biotinidase Deficiency)



Newborn Screening Reference Center

If you want to know more about the disorders, each of them are discussed in the Expanded Newborn Screening Fact Sheet for doctors which can be downloaded at www.newbornscreening.ph.

Endocrine disorders include Congenital Hypothyroidism or CH and Congenital Adrenal Hyperplasia or CAH

While for amino acid disorders, aside from Phenylketonuria or PKU and Maple Syrup Urine Disease or MSUD, Homocystinuria Hypermethioninemia, Methionine Adenosine Transferase Deficiency and Tyrosinemia Types I and II were added.

Fatty Acid Oxidation Disorders include Carnitine Palmitoyltransferase I Deficiency (CPT1), Carnitine Palmitoyltransferase II Deficiency (CPT2), Carnitine Uptake Deficiency (CUD), Glutaric Acidemia Type II (GA II), Long Chain Hydroxyacyl-CoA Dehydrogenase Deficiency (LCHAD), Medium Chain-Acyl-CoA Dehydrogenase Deficiency (MCAD), Very Long Chain-Acyl-CoA Dehydrogenase Deficiency (VLCAD), and Tri-functional Protein Deficiency (TFP).

Organic Acid Disorders include 3-methylcrotonyl-CoA carboxylase deficiency, Beta Ketothiolase Deficiency (BKD), Glutaric Acidemia Type I (GA I), Isovaleric Acidemia (IVA), Methylmalonic Acidemia (MMA), Multiple Carboxylase Deficiency (MCD), and Propionic Acidemia (PA).

Urea Cycle Disorders include Citrullinemia type 1, and Argininosuccinic Aciduria (ASA).

Hemoglobinopathies include Alpha and Beta Thalassemia, and other Hemoglobin diseases.

Expanded Screening

Prevalence as of December 2021

Disorders	Screened	Confirmed	Prevalence
Endocrine Disorders			
CH	16,368,347	6,179	1:2,649
CAH	16,368,347	795	1:20,589
Amino Acid Disorders			
PKU (20 Classic, 25 Mild, 11 PTPS Def, 73 Hyperphe)	16,368,347	129	1:126,886
MSUD	12,593,564	188*	1:66,987
OTHER AMINO ACIDS (2 MAT, 10 TYR)	4,408,744	12	1: 367,395
Fatty Acid Disorders (11 CPT1, 7 CUD, 1 GA2, 67 MCAD, 18 VLCAD)	4,408,744	104	1:42,391
Organic Acid Disorders (26 3MCC, 34 GA1, 3 IVA, 5 MMA, 3 PA, 1 MCD)	4,408,744	72	1:61,232
Urea Cycle Defect (5 CIT, 4 ASA)	4,408,744	9	1: 489,860
GAL (33 Classical, 116 Non-Classical)	16,368,347	149	1:109,854
G6PD Def	16,289,249	254,883	1:63
Biotinidase Deficiency	4,408,744	1	1:4,408,744
Cystic Fibrosis	4,408,744	1	1:4,408,744

Now based on the number of confirmed cases as of December 2021, G6PD Deficiency has the highest incidence rate of 1 newborn for every 63.

For CH or the cases like that of JR, there have been 6,179 cases confirmed. If all babies are screened, this number will definitely increase .

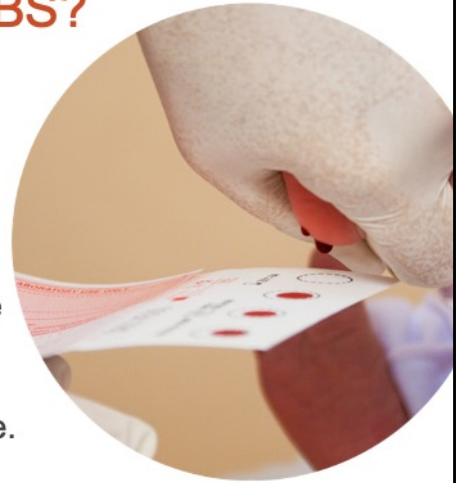
*Note: Based on submissions of Newborn Screening Centers; *Corrections and adjustment made from Prevalence 2020*

Additional Notes

- Q. How are prevalence rates computed?
- A. Number of confirmed cases over number of screened newborns

Why is it important to have ENBS?

- Babies with these metabolic disorders look normal at birth.
- One will never know that the baby has the disorder until the onset of signs and symptoms which may already be irreversible such as mental retardation and death.
- It prevents complications if managed on time.



Newborn Screening Reference Center

Why is it important to have newborn screening?

All babies look normal at birth. Babies having these disorders cannot be identified by physical examination alone. It takes a blood sample to find out if the babies will grow up as normal as they appear to be.

One will never know that the baby has the disorder until the onset of signs and symptoms which may already be irreversible at the time of diagnosis.

The babies may be mentally retarded or in worst cases, may even die.

Treatment and management must be instituted immediately to avoid complications of the disorders.

“ What happens if the child with any of the disorders is not screened? ”



What happens if the child with any of the disorders in the screening panel is not screened?

Additional Notes

This is just a transition slide. The speaker may need not discuss anything here.

Expanded Screening

DISORDER	Effect if NOT SCREENED	Effect if SCREENED and MANAGED
ENDOCRINE DISORDERS	· Severe Mental Retardation · Death	Normal Alive
AMINO ACID DISORDERS	· Mental retardation · Coma and death from metabolic crisis	Alive Normal growth Normal intelligence for some, learning problems to others

Newborn Screening Reference Center

With expanded screening, more than 29 disorders are now included in the panel of disorders.

For each of these conditions, the effects range from mental retardation to death. Since these conditions are included in the newborn screening panel, their adverse outcomes can be avoided by early detection and treatment. Ideally, treatment/management should be started immediately.

Additional Notes

Long term follow-up and management of children with confirmed newborn screening conditions ensure that these children receive the full benefits of early identification through newborn screening.

Expanded Screening

DISORDER	Effect if NOT SCREENED	Effect if SCREENED and MANAGED
ORGANIC ACID DISORDERS	<ul style="list-style-type: none"> ·Developmental delay ·Breathing problems ·Neurologic damage ·Seizures ·Coma ·Early death 	Alive Most will have normal development with episodes of metabolic crisis
UREA CYCLE DEFECT	<ul style="list-style-type: none"> ·Seizure ·Mental Retardation ·Death 	Alive Normal Intelligence

Newborn Screening Reference Center

With expanded screening, more than 29 disorders are now included in the panel of disorders.

For each of these conditions, the effects range from mental retardation to death. Since these conditions are included in the newborn screening panel, their adverse outcomes can be avoided by early detection and treatment. Ideally, treatment/management should be started immediately.

Additional Notes

Long term follow-up and management of children with confirmed newborn screening conditions ensure that these children receive the full benefits of early identification through newborn screening.

Expanded Screening

DISORDER	Effect if NOT SCREENED	Effect if SCREENED and MANAGED
FATTY ACID OXIDATION DISORDER	<ul style="list-style-type: none"> ·Developmental and physical delays ·Neurologic impairment ·Sudden death, Coma ·Seizure ·Enlargement of the heart & liver ·Muscle weakness 	Usually healthy in between episodes of metabolic crises Alive
HEMOGLOBIN OPATHIES	<ul style="list-style-type: none"> ·Painful crises ·Anemia ·Stroke ·Multi-organ failure, Death 	Alive; Reduces the frequency of painful crises May reduce the need for blood transfusions

With expanded screening, more than 29 disorders are now included in the panel of disorders.

For each of these conditions, the effects range from mental retardation to death. Since these conditions are included in the newborn screening panel, their adverse outcomes can be avoided by early detection and treatment. Ideally, treatment/management should be started immediately.

Additional Notes

Long term follow-up and management of children with confirmed newborn screening conditions ensure that these children receive the full benefits of early identification through newborn screening.

When is ENBS done?

- Newborn screening is done ideally **immediately after 24 hours** from birth.
- Preterm(<37 weeks)/low birth weight (<2000 grams)/sick infants (receiving intensive care) shall have their NBS done immediately after 24 hours of life
- IF blood transfusion is to be performed, NBS will be done prior to transfusion regardless of age.



Newborn Screening Reference Center

So when is newborn screening done? Newborn screening should be done immediately after 24 hours from birth and the blood sample should be in the laboratory not later than 4 days old. Preterm(<37 weeks)/low birth weight (<2000 grams)/sick infants (receiving intensive care) shall have their NBS done immediately after 24 hours of life unless blood transfusion is to be performed, in which case, NBS will be done prior to transfusion regardless of age.

In addition, repeat NBS shall be taken at 28th day of life. Babies discharged prior to the 28th day must be recalled for the repeat screen.

A number of factors, including infant condition, treatment, and maternal status, increase the risk of missed or unreliable testing for premature, low birth weight, and sick newborns (e.g. abnormal results such as elevated amino acids may resolve at 28 days of life; thyroid function may have matured to expected levels at 28 days of life.) Initial screening cannot wait for 28 days because the goal of screening is to identify and treat every affected infant before the onset of symptoms, as it can result in irreversible mental and physical damage. Hence, there is a need to repeat their NBS on the 28th day of life to ensure the reliability of results. There are also numerous published international and local studies to back up this protocol.

Additional Notes

It is highly recommended that samples be taken immediately after 24 hours of life. If sample is taken earlier than 24 hours, there is a greater chance of false positive or false negative screen.

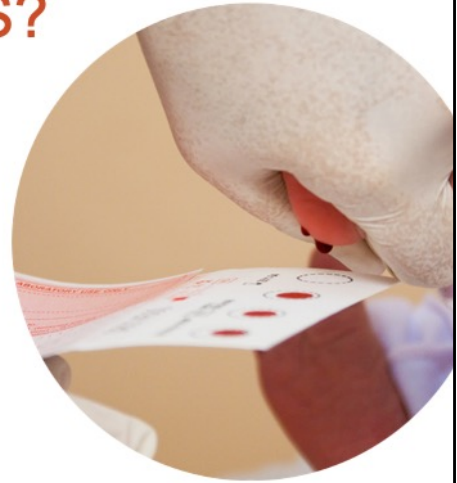
- Q. Can newborn screening be done after 72 hours of life of the baby?
- A. If the parents/legal guardian of the baby decide to bring home the baby first and return for testing after the prescribed period, it must be explained to them that timing of the test is critical for early diagnosis and treatment.
- Q. Can a month old baby or older child still undergo NBS?
- A. After the prescribed period, the evaluation of the attending physician is important to know if the baby needs screening, confirmatory, or immediate referral to a specialist. If the parent insists, newborn screening can still be done, however, if the baby is positive for one of the conditions, the complications have set in. Administration of the necessary management/treatment is the reason why we want the newborns to be screened shortly after the 24th hour of birth.

What is the cost of ENBS?

PHP 1,750.00 covered by



under the Newborn Care Package
(PhilHealth Circular 2018-0021)



Newborn Screening Reference Center

What is the cost of newborn screening?

Expanded newborn screening costs ₱1750. Through PhilHealth Circular No 2018-0021, ENBS full coverage of ENBS was included in the Newborn Care Package (NCP) for PhilHealth members. Effective May 1, 2019, NCP with 6- panel test is no longer being paid for by PHIC.

Pending implementation of Universal Health Care Act, non-PhilHealth Members will pay P1,750. But if parents are indigents or at least one of the parents is listed under the National Household Targeting System (NHTS) for Poverty Reduction as identified by DSWD, they shall automatically be enrolled and covered under the NHTS-PR Program of PhilHealth. For reference, please see https://www.philhealth.gov.ph/circulars/2012/circ51_2012.pdf.

What is NCP?

NCP is a PhilHealth benefit package for essential health services of the newborn during the first few days of life. It covers essential newborn care, **expanded newborn screening**, and hearing screening tests.



Newborn Screening Reference Center

NCP is a PhilHealth benefit package for essential health services of the newborn during the first few days of life. It covers essential newborn care, expanded newborn screening, and hearing screening tests.

What are the eligibility conditions to avail the NCP?

Newborns are eligible for NCP if **ALL** of the following are met:

- Either of the parents are eligible to avail of the benefits
- Born in accredited facilities that perform deliveries, such as hospitals and birthing homes; and
- Services were availed of upon delivery.



Newborn Screening Reference Center

What are the eligibility conditions for newborn to avail of the NCP?

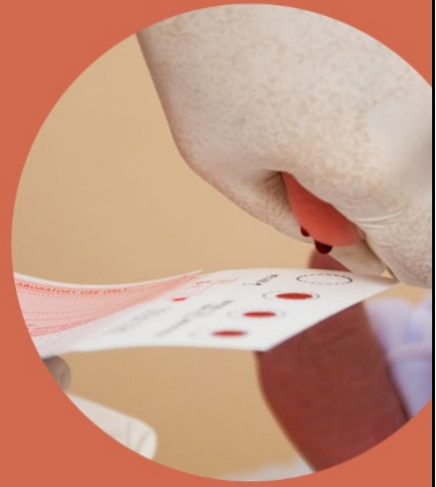
Newborns are eligible for NCP if ALL of the following are met:

- I. Either of the parents are eligible to avail of the benefits, newborns having qualified dependents are also eligible;*
- II. They were born in accredited facilities that perform deliveries, such as hospitals and birthing homes; and*
- III. Services were availed of upon delivery.*

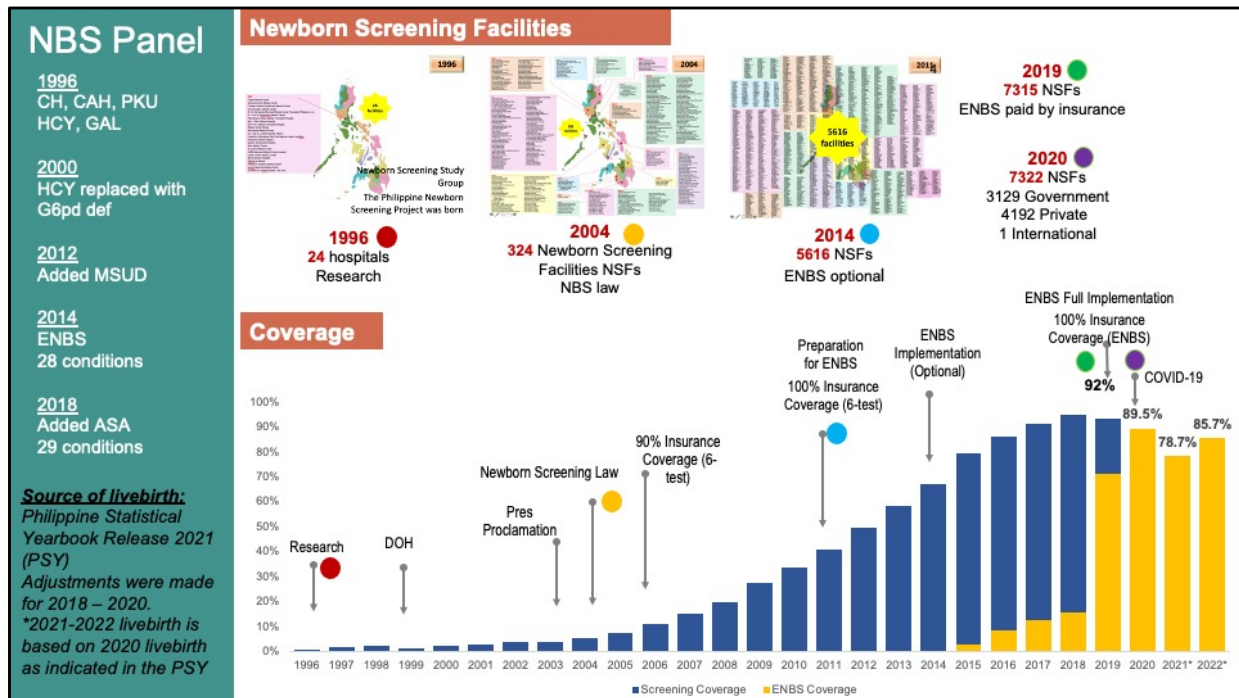
“

**How did Newborn
Screening start in
the Philippines?**

”



The next set of slides will show a short history of Newborn Screening in the Philippines.



NBS started in 24 Metro Manila Hospitals joining the study group in 1996.

In 1999, after presenting the result of the study group, DOH adopted Newborn Screening as one of its programs.

In 2000, DOH issued AO no. 1-A entitled Policies on Nationwide Implementation of Newborn Screening. It was envisioned that by 2004 Newborn Screening shall be part of the standard newborn care and be a national program. Before mid 2003, the newborn screening bill was filed in both the Senate and the House of Congress.

And in 2004, finally the Newborn Screening Act of 2004 was enacted on April 2004 and the Implementing Rules and Regulations were signed in October of the same year.

The second Newborn Screening Center was opened in 2006 and processed samples of hospitals in the Visayas and Mindanao. In the same year, NBS was included into the PHIC Newborn Care Package and licensing requirement of DOH.

On October 2009, the 3rd Newborn Screening Center was formally launched in Mindanao. At this time, all samples from Mindanao are processed here. A year after, a Newborn Screening Center was opened in Angeles City for the Northern Luzon regions.

In 2011, a committee on the Use, Retention and Storage of Residual Dried Blood Spots was created.

In 2012, MSUD was included in the newborn screening panel of disorders.

In 2013, the fifth NSC was opened in Southern Luzon to cater for Region 4A.

On December 2014, expanded newborn screening became available.

In 2017, a new NSC was opened in Ilocos Norte.

In 2018, PHIC fully covered ENBS.

In 2019, DOH released a memorandum that all newborns shall be tested for ENBS only.

In early 2020, a new NSC opened in Central Visayas.

Participating Hospitals as of 1996

Started in 18 private and 6 gov't hospitals

Newborn Screening Study Group

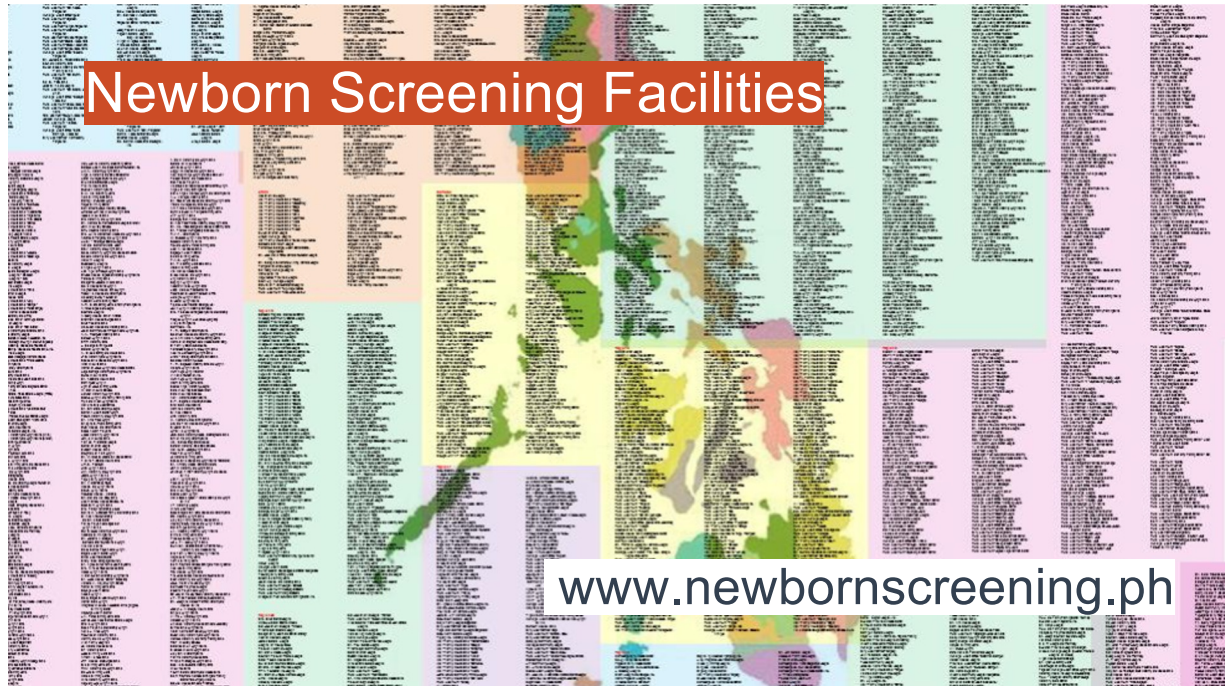
Philippine Newborn Screening Project



METRO MANILA
Capitol Medical Center
Cardinal Santos Medical Center
Children's Medical Center
Chinese General Hospital
De Los Santos Medical Center
Dr. Victor R. Potenciano Medical Center
FEU-NRMF
Manila Doctors Hospital
Mary Chiles General Hospital
MCU-FDTMF
Medical Center Manila
Metropolitan Hospital
Ospital ng Maynila
Our Lady of Lourdes Hospital
Perpetual Help Medical Center
Philippine Children's Medical Center
Philippine General Hospital
Quezon City General Hospital
Quirino Memorial Medical Center
Rizal Medical Center
St. Luke's Medical Center
St. Martin de Porres Hospital
UERMMMC
United Doctors Medical Center

Newborn Screening Reference Center

As mentioned in the previous slide, newborn screening started when 24 hospitals in Metro Manila joined a research project to establish the local incidence of some common NBS conditions. The project was later known as the Philippine Newborn Screening Project. This core group of hospital prepared the data that were presented to DOH for adoption as a child health program.



Newborn Screening is now available in more than 7,000 health facilities in the country. The complete list can be viewed at www.newbornscreening.ph.

Quiz Question no. 1

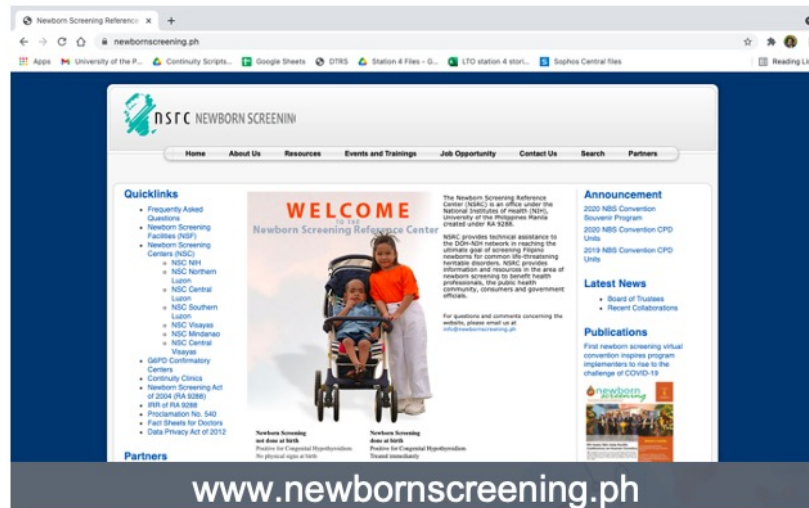
When is the best time to do newborn screening?

Immediately after 24 hours from birth

Quiz Question no. 2

Why is Newborn Screening important?

Most babies with metabolic disorders look “normal” at birth. By doing ENBS, metabolic disorders may be detected even before clinical signs and symptoms are present. As a result of this, treatment can be given early to prevent consequences of untreated conditions.

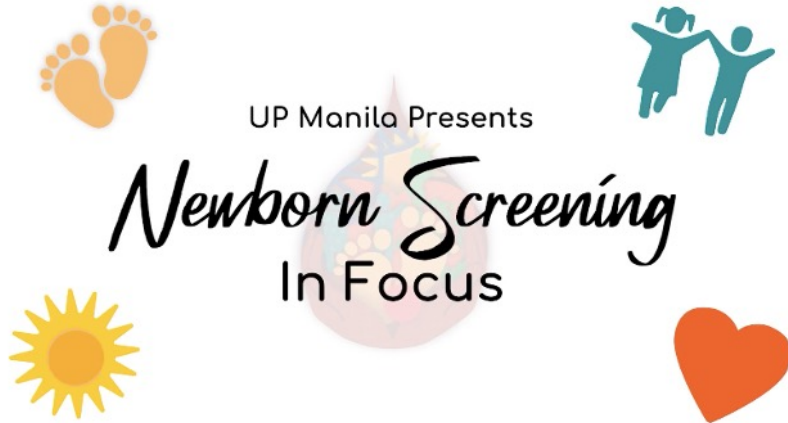


Newborn Screening Reference Center

For more information about newborn screening, you can visit the newborn screening resource/portal site:

www.newbornscreening.ph

Watch Newborn Screening in Focus at
[youtube.com/@TVUPPh](https://www.youtube.com/@TVUPPh) or Cignal TV channel 101



Newborn Screening Reference Center

Newborn Screening in Focus is a video series that uncovers the wonderful story of Newborn Screening in the Philippines, zooming in on what makes Newborn Screening a comprehensive program for every Filipino.

NBS in Focus features the humble beginnings of the Newborn Screening Program and its evolution into a national health program. The series also presents the very process of newborn screening from the moment the child is born, and into the continuing care available for newborns confirmed to have a disorder included in the panel. Features and management of the disorders from the newborn screening panel are also discussed in individual episodes. Finally, the series presents the Newborn Screening program network, and how the program managed to give quality service despite the limits brought about by disasters such as the COVID-19 pandemic.

Watch the live airing of NBS in Focus every Saturday 7-8 pm at Cignal TV 101 or online at [youtube.com/@TVUPPh](https://www.youtube.com/@TVUPPh).



Newborn Screening

Facilitators' Guidebook

www.newbornscreening.ph



Updated as of December 2022
NSRC-INT-004, Rev3

Controlled Copy

Slide 30 out of 30

NSRC-INT-058/rev0