IPC Integrated Food Security Phase Classification

Evidence and Standards for Better Food Security and Nutrition Decisions

IPC GUIDANCE NOTE

IPC ACUTE MALNUTRITION POPULATION IN NEED (PIN) CALCULATION

March 2025

WHAT DOES THE IPC TECHNICAL MANUAL 3.1 SAY ABOUT IPC AMN Population in Need (PIN) CALCULATION?

The IPC Technical Manual 3.1 recommends that the combined Global Acute Malnutrition (GAM) prevalence [low WHZ (WHZ<-2) rather than the commonly used prevalence of GAM based on WHZ/Oedema should be used when calculating the Population in Need (PIN). Nevertheless, the decision on which prevalence to use is up to the discretion of the country Technical Working Group and other stakeholders in the country – see page 162 of the IPC Technical Manual 3.1 for additional details.

WHAT DOES THIS RESOURCE ADD TO THE MANUAL?

This guidance note provides detailed guidance on how to calculate the PIN using two different methods and how to select the one that is appropriate for the context.

SECTION USE

This document provides information on how to calculate IPC Acute Malnutrition (IPC AMN) Population in Need (PIN) using two different methods and how to select the one that is appropriate for the context. IPC country Technical Working Groups (TWG) are encouraged to use this guidance note to calculate PIN during the IPC AMN analyses, compare the two different PINs calculated using the different methods against the actual admissions from previous years, and use the approach specified in this note to choose the PIN calculated from a particular method when coming to a final concensus.

This guidance note comes with an accompanying tool (see link below) for calculating PIN using both methods.

SECTION CONTENTS

CONTACTS

For queries or to request for support contact the IPC Global Support Unit at info@ipcinfo.org.

1. Introduction

There is no agreed standard for calculating the acute malnutrition Population in Need (PIN)[1]. Two different methods are currently proposed for the calculation of PIN.

- **Method 1:** uses the previous year's total number of admissions into treatment programmes, number of children under five years of age, the coverage of treatment programmes, and the prevalence of acute malnutrition in the calculation.
- **Method 2:** uses the Incidence Correction Factor (ICF)[2], number of children under five years of age, coverage of treatment programmes, and the prevalence of acute malnutrition in the calculation.

Although there are two different methods available to calculate acute malnutrition PIN, most countries use only method 2: using incidence correction factor. Research has shown that the ICF used in the PIN calculation *Method 2* varies considerably across countries and regions within countries. However, in the absence of country and region specific ICF, most countries resort to using an ICF of 1.6 in their PIN calculation.

A retrospective analysis comparing PIN numbers calculated using *Method 1* and *Method 2* with actual admission figures reveals that *Method 1* underestimates actual admissions in some countries while overestimating them in others. Similarly, *Method 2* also underestimates admissions in certain contexts and overestimates them in others. The analysis suggests that it may be necessary to calculate PIN numbers using both methods for the past three-four years, compare them against actual admission data for the same period, and select the method that aligns more closely with the actual admissions.

Actual admission data should only be used when there is reasonable evidence of good coverage of treatment programmes, sufficient reporting rate, and admissions are not affected by logistics such as stockouts, staffing, etc.

The IPC Nutrition Working Group recommends that country IPC Technical Working Groups (TWGs) calculate the PIN figures for each unit of analysis using both Method 1 and Method 2 for the past 3-4 years. These figures should then be compared with actual admissions data from the same years to determine which method is most suitable for the specific unit of analysis.

The Global Nutrition Cluster (GNC) provides detailed instructions and tools for calculating the total PIN figures, including the acute malnutrition PIN. For additional information, refer to Guidelines for Conducting Nutrition Humanitarian Needs Assessments and Analysis, version 2.0, 2024. This guidance note is intended for use alongside the GNC guidelines.

[1] Population in Need (PIN) is a general term used to describe the total number of people who need assistance in a given population. PIN in this document refers specifically to children who are experiencing acute malnutrition and are in need of treatment (also referred to as total burden of acute malnutrition).

[2] The incidence correction is a multiplier used to estimate the number of new cases over a period based on the point-in-time prevalence data. While prevalence shows the proportion of children currently malnourished, the incidence correction factor helps to calculate the total number of children who may experience malnutrition within a specific period (e.g., annually). This factor, typically ranging from 1.2 to 2.0, is applied to better understand the full burden of malnutrition for effective resource allocation and program planning. It allows organizations to target both existing and potential new cases to comprehensively address acute malnutrition.

2. How are PIN figures calculated using different methods

Both *Method 1* and *Method 2* use specific formulas to calculate the PIN for acute malnutrition. In both approaches, the PIN for Severe Acute Malnutrition (SAM) and Moderate Acute Malnutrition (MAM) are calculated separately. The total PIN for acute malnutrition, known as GAM (Global Acute Malnutrition), is then determined by summing the PIN for SAM and MAM.

Method 1: using programme admissions data

When PIN figures are calculated using Method 1, the total number of expected admissions (also referred to as caseloads) are first calculated using the following formula:

$$\textbf{Number of expected admissions} = \textbf{Admissions } (T_0) x \frac{\textbf{Population}^1}{\textbf{Population}^0} x \frac{\textbf{Prevalence}^1}{\textbf{Prevalence}^0} x \frac{\textbf{Coverage}^1}{\textbf{Coverage}^0}$$

Where T_0 is denotes the previous year and T_1 refers to the current year

The PIN is then calculated using the below formula:

$$\textbf{PIN} = \textbf{Number of expected admissions } x \frac{1}{\textbf{Coverage}}$$

The following should be noted when calculating the PIN using *Method 1*.

- The reporting rate of programme admissions data should be at least 80 percent, otherwise the total number of admissions may be underestimated.
- If the programme coverage is unavailable, an estimate can be plugged into the formulas, granted there are no significant changes expected in programme coverage in the coming two years.

Method 2: using the Incidence Correction Factor (ICF)

When the PIN is calculated using *Method 2*, the below formula is used:

$$\textbf{PIN} = \textbf{Population } x \textbf{ Prevalence } X \ (1 + K)$$

Where K refers to Incidence correction factor

Unlike *Method 1*, *Method 2* directly provides the PIN numbers. The expected admissions (i.e. caseloads) can be obtained by multiplying the PIN by the coverage.

3. Tools for calculating PIN figures using Method 1 and Method 2

A Microsoft Excel spreadsheet can be used to calculate PIN figures using both *Method 1* and *Method 2*. The spreadsheet comes with specific instructions on how to enter data and compare the PIN figures from both methods.

The spreadsheet helps calculate PIN figures separately for SAM and MAM for the unit of analysis. Once the PIN figures for SAM and MAM are determined, the total acute malnutrition (i.e., GAM) PIN can be obtained by adding the PIN figures of SAM and MAM.

4. How to decide which PIN method to use

- Review the PIN figures calculated using both methods each year against the actual number of admissions recorded for the respective years.
- Identify the method that is consistently closer to the actual number of admissions in the majority of the years.
- If there is no specific pattern that can be identified (i.e., different methods are closer to the actual number of admissions each year), review the contextual information to try to determine the reason. Reasons might include, the COVID pandemic where admissions were interrupted, changes in admission criteria, supply interruptions, etc.
- If it is not possible to identify any specific reason to eliminate one method and choose the other, decide on the method using concensus.
- It is possible that, in the same unit of analysis, *Method 1* may be appropriate to calculate PIN for SAM while *Method 2* might be more suited for calculating PIN for MAM (or vice versa). Additionally, different methods may be appropriate for different units of analysis.
- In the event that the actual number of admission figures is lower than the expected admissions, it is possible that the coverage of the treatment programmes may be low. In these cases, it is important to explore the treatment coverage before deciding on the PIN.