

Adverse Events Following Immunisation (AEFI)

Vaccines used in national programmes are considered safe and effective when used correctly. Careful procedures are followed before vaccines are registered for use. However, no vaccine is “perfect” and entirely without risk. After immunization, some people may experience reactions ranging from mild local reactions to life-threatening symptoms or in rare cases, frank illnesses. These adverse events following immunization (AEFI) may be true reactions caused by the vaccine or its products or by an error in the administration of the vaccine or in most cases, may be unrelated to the vaccine or its administration (i.e. there is no causal relationship).

Whatever the cause, AEFI upsets people to the extent that they refuse further immunizations for their children and themselves. As a result, the population, especially children, are put at risk of Vaccine Preventable Diseases (VPDs). Public trust in vaccine safety is key to the success of vaccination programmes.

An AEFI is any untoward medical occurrence which follows immunization and which does not necessarily have a causal relationship with the usage of the vaccine. The adverse event may be any unfavorable or unintended sign, abnormal laboratory finding, symptom or disease. Diagnosing, treating and reporting AEFIs, and differentiating between mild, non-significant reactions and serious events which need prompt attention is a quality issue.

Cause Specific Classification of AEFI

Vaccine product-related reaction	Vaccine quality defect-related reaction	Immunization error-related reaction	Immunization anxiety-related reaction	Coincidental event	Unknown
<ul style="list-style-type: none"> • Due to inherent properties of the vaccine: E.g. Anaphylaxis due to reaction to some vaccine component(s) 	<ul style="list-style-type: none"> • Due to manufacturing defect: E.g. Failure to attenuate a live-attenuated vaccine properly leading to infection (polio, yf, measles etc.) 	<ul style="list-style-type: none"> • Due to errors in handling, prescribing, storage or administration of the vaccine: essentially, a program-related error E.g. Abscess at the site following injection 	<ul style="list-style-type: none"> • Due to anxiety to vaccination or the processes of vaccination: E.g. Fainting attacks among teenagers in a queue during a mass vaccination campaign exercise 	<ul style="list-style-type: none"> • Unrelated to vaccine or vaccination E.g. Malaria occurring after vaccination 	<ul style="list-style-type: none"> • Cause cannot be determined
	Manufacturer's problem	Programmatic issue	Person-related		

The mechanism of AEFI depends on its cause as shown in the table