



Data collection, sharing and reporting



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Why isn't rabies more of a priority?

- ❖ 'Public health authorities issue alert as cases of rabies increase'
- ❖ '...first rabies death, overseas traveller dies...'
- ❖ 'Fear of mass rabies outbreak...'
- ❖ '...surging risk of dogs arriving with rabies...attempt to prevent reintroducing canine variant...'
- ❖ '...struggles to arrest rabies outbreak'

- ❖ **Poor rabies data continues to result in poor political will and investment**





Why should we report and share rabies data?

- To improve understanding of **real burden** of rabies
- **Measure progress** towards targets and goals
- Demonstrate ownership and maximise transparency in **tracking global progress** towards Zero by 30
- **Validating success** by applying for international milestones
- **Inform resource** needs
- Enable **collaboration** across sectors at all levels
- Empower national **decision making** that meets local needs
- **Inform international policy** decisions including global health guidelines, international norms and standards
- **Global health advocacy**
- Advance **scientific understanding** of rabies transmission dynamics
- Meeting **WHO and WOAHA Member requirements**



What data should I collect?

Minimum Data Elements for Monitoring and Evaluation of National and International Rabies Control Programs.

Version 4, September 2023



- Data should help inform national programme and monitor progress
- Available resources include:
 - **United Against Rabies Minimum Data Elements**
 - Brings together international recommendations from WHO and WOAHA
 - 5 categories of data elements
 - WOAHA Terrestrial Code and Manual
 - WHO Toolkit for Routine Health Information Systems Data
 - WHO NTD Roadmap Tracker
 - WHO NTD Country Profiles
 - WHO Global Health Observatory



Human Rabies (7 data elements)

Element Name	Description	Response Options	Reference	M & E Framework
Case Classification	The number of suspected human rabies cases investigated ⁹ during the calendar year *	<ul style="list-style-type: none"> - Laboratory Confirmed (#)¹¹ - Clinically Confirmed - Probable (#)¹⁰ - Suspected Case (#)⁹ - Ruled Out through Testing (#) 	Table 13 Table 4.1	<ul style="list-style-type: none"> - Rabies burden - Human rabies case rate - Human rabies testing rate - Human rabies trend analysis
Source of Infection	The number of confirmed human rabies cases (clinically ¹⁰ or laboratory ¹¹) by the species of animal responsible for virus transmission *	<ul style="list-style-type: none"> - Dog (#) - Bat (#) - Terrestrial Wildlife (#) - Other Animal (#) - Unknown Animal (#) 	Table 13 Table 4.1	<ul style="list-style-type: none"> - Dog-mediated rabies case rate - Dog-mediated human rabies trend analysis
Rabies Virus Variant	The number of confirmed human rabies cases (laboratory ¹¹) by the rabies virus variant *	<ul style="list-style-type: none"> - Dog (#) - Bat (#) - Terrestrial carnivore (Wildlife) (#) - Other (#) - Unknown (#) 	Table 14.1	<ul style="list-style-type: none"> - Canine-rabies freedom - Terrestrial-rabies freedom
Gender	The gender of confirmed human rabies cases (clinically ¹⁰ or laboratory ¹¹)	<ul style="list-style-type: none"> - Female (#) - Male (#) - Unknown (#) 	Table 13	<ul style="list-style-type: none"> - Gender-specific risk factors
Age	The age of confirmed human rabies cases (clinically ¹⁰ or laboratory ¹¹)	<ul style="list-style-type: none"> - <5 years (#) - 5 – 14 years (#) - >15 years (#) - Unknown (#) 		<ul style="list-style-type: none"> - DALYS - Age-specific risk factors
Disease Outcome	The number of confirmed human rabies cases (clinically ¹⁰ or laboratory ¹¹) that died or survived	<ul style="list-style-type: none"> - Died (#) - Survived (#) - Unknown Outcome (#) 		<ul style="list-style-type: none"> - Treatment outcomes - Death rate
Vaccination Status	The vaccination status of confirmed human rabies cases (clinically ¹⁰ or laboratory ¹¹)	<ul style="list-style-type: none"> - Unvaccinated (#) - Deviations or Incomplete (#) - Appropriate Vaccination (#) ** - Unknown Vaccination Status (#) 	Table 6 & 9	<ul style="list-style-type: none"> - PEP failure rate - PEP compliance



Human Rabies Exposures (4 data elements)

Element Name	Description	Response Options	References	Monitoring and Evaluation Framework
Case Classification	The number of people with WHO category II or III exposures ¹² identified through standard reporting and case investigation ⁴ during the calendar year, by the case classification of the offending animal	<ul style="list-style-type: none"> - Laboratory Confirmed Exposure (#)⁵ - Clinically Confirmed Exposure - Probable (#)⁶ - Suspected Exposure (#)⁷ - Non-Exposure (#)⁸ 	Section 8.3.1 Section 9.1	<ul style="list-style-type: none"> - Rabies exposure rate - Modeling key rabies indicators (human rabies deaths, exposures, PEP demand) - Trend analysis
Source of Exposure	The number of WHO category II or III human rabies exposures ¹² by the species of animal responsible for exposure (laboratory ⁵ , clinically confirmed ⁶ , or suspected ⁷ exposure)	<ul style="list-style-type: none"> - Dog (#) - Bat (#) - Terrestrial Wildlife (#) - Other Animal (#) - Unknown Animal (#) 	Section 9.1	<ul style="list-style-type: none"> - Dog-mediated rabies exposure rate - Modeling key rabies indicators (human rabies deaths, exposures, PEP demand) - Trend analysis
Gender	The gender of WHO category II or III human rabies exposures (laboratory ⁵ , clinically confirmed ⁶ , or suspected ⁷ exposure)	<ul style="list-style-type: none"> - Female (#) - Male (#) - Unknown (#) 		<ul style="list-style-type: none"> - Gender-specific risk factors
Age	The age of human rabies exposures (laboratory confirmed ⁵ , clinically confirmed ⁶ , or suspected ⁷ exposure)	<ul style="list-style-type: none"> - <5 years (#) - 5 – 14 years (#) - >15 years (#) - Unknown (#) 		<ul style="list-style-type: none"> - Age-specific risk factors - Trend analysis



Post-Exposure Prophylaxis (3 data elements)

Element Name	Description	Response Options	References	Monitoring and Evaluation Framework
Exposure Case Classification	The number of people who received rabies PEP during the calendar year, by the case classification of the offending animal	<ul style="list-style-type: none"> - Laboratory Confirmed Exposure (#)⁵ - Clinically Confirmed Exposure - Probable (#)⁶ - Suspected Exposure (#)⁷ - Non-Exposure (#)⁸ 	Section 9.1	<ul style="list-style-type: none"> - Rate of PEP initiation - Efficiency of PEP utilization
Source of Exposure	The number of people who received rabies PEP by the WHO Exposure Category ¹²	<ul style="list-style-type: none"> - Category I (#) - Category II (#) - Category III (#) - Unknown Category (#) 	Section 8.3.1	<ul style="list-style-type: none"> - Efficiency of PEP utilization
Rabies Immuno-globulin	The number of people with Category III exposures who received rabies immunoglobulin	<ul style="list-style-type: none"> - # 		<ul style="list-style-type: none"> - Rate of RIG availability



Animal Rabies (5 data elements)

Element Name	Description	Response Options	References	Monitoring and Evaluation Framework
Dogs	The number of suspected ⁷ rabies cases in dogs investigated ⁴ during the calendar year *	<ul style="list-style-type: none"> - Laboratory Confirmed (#)⁵ - Clinically Confirmed - Probable (#)⁶ - Suspected Case (#)⁷ - Laboratory - Negative (#) - Passed Quarantine – Negative (#) 	Section 9.1	<ul style="list-style-type: none"> - Dog-mediated rabies burden - Dog-mediated rabies case-detection rate - Laboratory testing rate - Dog-mediated rabies freedom - Trend analysis
Livestock	The number of suspected ⁷ rabies cases in livestock investigated ⁴ during the calendar year *	<ul style="list-style-type: none"> - Laboratory Confirmed (#)⁵ - Clinically Confirmed - Probable (#)⁶ - Suspected Case (#)⁷ - Laboratory - Negative (#) 	Section 9.1	<ul style="list-style-type: none"> - Laboratory testing rate - Trend analysis - Economic impact
Bats	The number of suspected ⁷ rabies cases in bats tested during the calendar year *	<ul style="list-style-type: none"> - Laboratory Confirmed (#)⁵ - Laboratory - Negative (#) 		<ul style="list-style-type: none"> - Laboratory testing rate - Trend analysis
Other Species	The number of suspected ⁷ rabies cases in other species tested during the calendar year *	<ul style="list-style-type: none"> - Laboratory Confirmed (#)⁵ - Laboratory - Negative (#) 		<ul style="list-style-type: none"> - Laboratory testing rate - Trend analysis
Rabies Virus Variant	The number of confirmed ⁵ animal rabies cases (laboratory confirmed) by the rabies virus variant *	<ul style="list-style-type: none"> - Canine (#) - Bat (#) - Terrestrial carnivore (#) - Other (#) - Unknown (#) 	Table 14.1	<ul style="list-style-type: none"> - Dog Rabies Freedom - Terrestrial Rabies Freedom - Rabies Freedom



Dog Population Management (3 data elements)

Element Name	Description	Response Options	References	Monitoring and Evaluation Framework
Vaccination	How many dogs were vaccinated against rabies during the calendar year? * / **	<ul style="list-style-type: none"> - Owned-Confined (#) - Owned-Roaming (#)¹³ - Community (#)¹⁴ - Unknown (#) - Total Dog Population (#) ** 	WOAH 7.7.8	<ul style="list-style-type: none"> - Dog vaccination coverage - Free-roaming dog vaccination coverage - Trend analysis - Dog-mediated rabies freedom
Vaccination Method	What method(s) of dog rabies vaccination were practiced during the calendar year (select all that apply, provide numbers vaccinated by each method if available)?	<ul style="list-style-type: none"> - Private Veterinary Clinics (Y/N) - Fixed Point Mass Vaccination (Y/N) - Door to Door Vaccination (Y/N) - Capture-Vaccinate-Release (Y/N) - Oral Rabies Vaccination (Y/N) - Other (Y/N) 		<ul style="list-style-type: none"> - Free-roaming dog vaccination coverage - Effectiveness of vaccination strategies
Sterilization	The number of dogs that were sterilized within the calendar year *	<ul style="list-style-type: none"> - Male (#) - Female (#) - Unknown (#) ** 		<ul style="list-style-type: none"> - Proportion of dogs sterilized - Trend analysis - Sterilization effectiveness

Human case definitions and corresponding surveillance activity

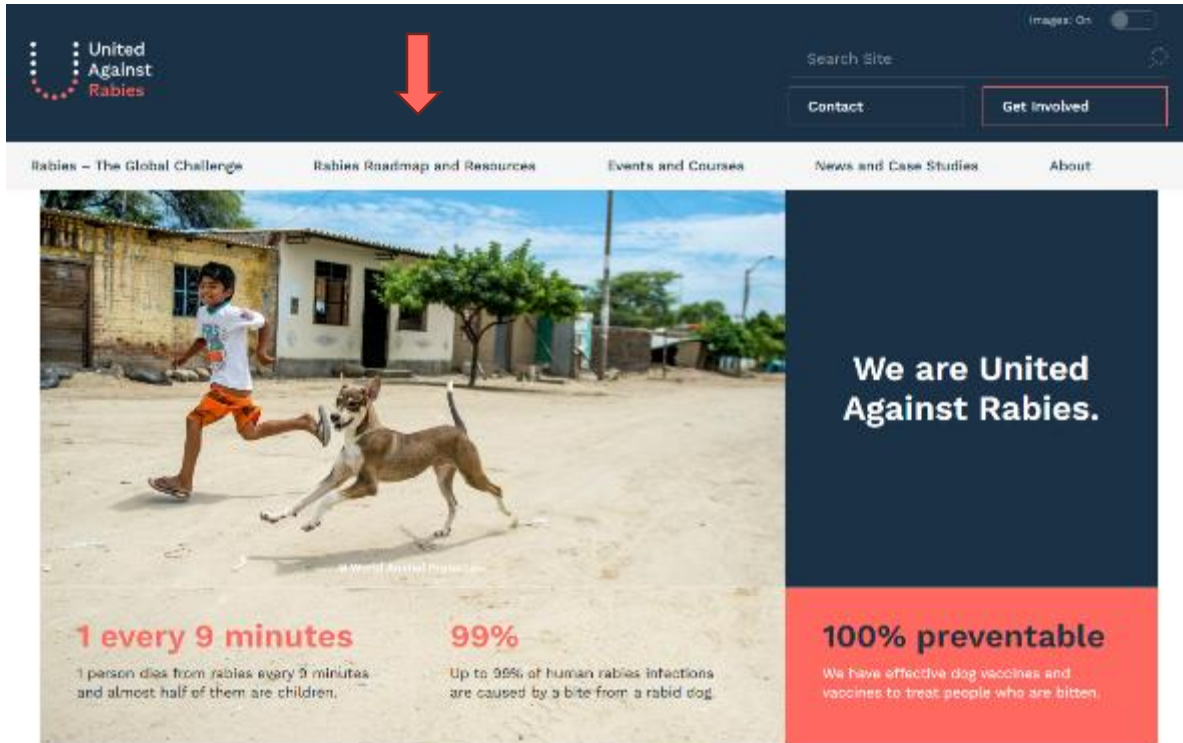
Case	Definition	Surveillance activity
Suspected	A case that is compatible with the clinical case definition: a person presenting with an acute neurological syndrome (i.e. encephalitis) dominated by forms of hyperactivity (furious rabies) or a paralytic syndrome (paralytic rabies) that progresses towards coma and death, usually due to cardiac or respiratory failure, within 7-10 days of the first sign if no intensive care is instituted. The syndrome may include any of the following signs: aerophobia, hydrophobia, paraneesthesia or localized pain, dysphagia, localized weakness, nausea or vomiting.	<p>Notify the appropriate local authorities according to national protocols.</p> <p>Collect appropriate samples from the patient according to national protocols.</p> <p>Conduct a verbal autopsy to collect a case history for the patient for further characterization (Annex 11).</p>
Probable	A suspected case plus a reliable history of contact with a suspected, probable, or confirmed rabid animal (see Table 12).	Identify contacts of the patient and/or animal involved for follow-up.
Confirmed	A suspected or probable case that is confirmed in a laboratory. ^a	<p>Systematically record the laboratory diagnosis and link with verbal autopsy information.</p> <p>Notify the appropriate authorities of a confirmed human rabies case according to national protocols.</p>

Animal rabies case definitions and corresponding surveillance activity

Suspect case	<p>An animal that presents with any of the following signs</p> <ul style="list-style-type: none"> • Hypersalivation • Paralysis • Lethargy • Unprovoked or abnormal aggression (biting two or more people or animals, and/or inanimate objects) • Abnormal vocalization • Diurnal activity of nocturnal species 	<ul style="list-style-type: none"> • Notify appropriate local authorities of suspect rabid animal • Collect primary animal history if available (i.e., ownership status, vaccination status, prior exposures, date of onset for signs, etc.) • Collect CNS samples for laboratory diagnosis if available
Probable case	<p>Any suspect animal with a history of a bite by another Suspect/Probable/Confirmed animal. AND/OR A suspect animal that is killed, died, or disappears within 4-5 days of observing illness.</p>	<ul style="list-style-type: none"> • Systematically record secondary information and link to primary history • Notify appropriate authorities of probable animal rabies cases according to national protocols
Confirmed case	<p>A suspect or probable animal confirmed using a standard diagnostic test as defined by WHO or WOAHA (see rabies chapter) or WOAHA manual (OIE,2016).^a</p>	<ul style="list-style-type: none"> • Notify appropriate authorities for follow-up of any human or animal exposures • Systematically record laboratory diagnostic results and link with case records
Not a case	<p>A suspect or probable animal in which rabies is ruled out by laboratory diagnosis or epidemiological investigation</p>	<ul style="list-style-type: none"> • Systematically record laboratory diagnostic results and link with primary history



How do I collect this data



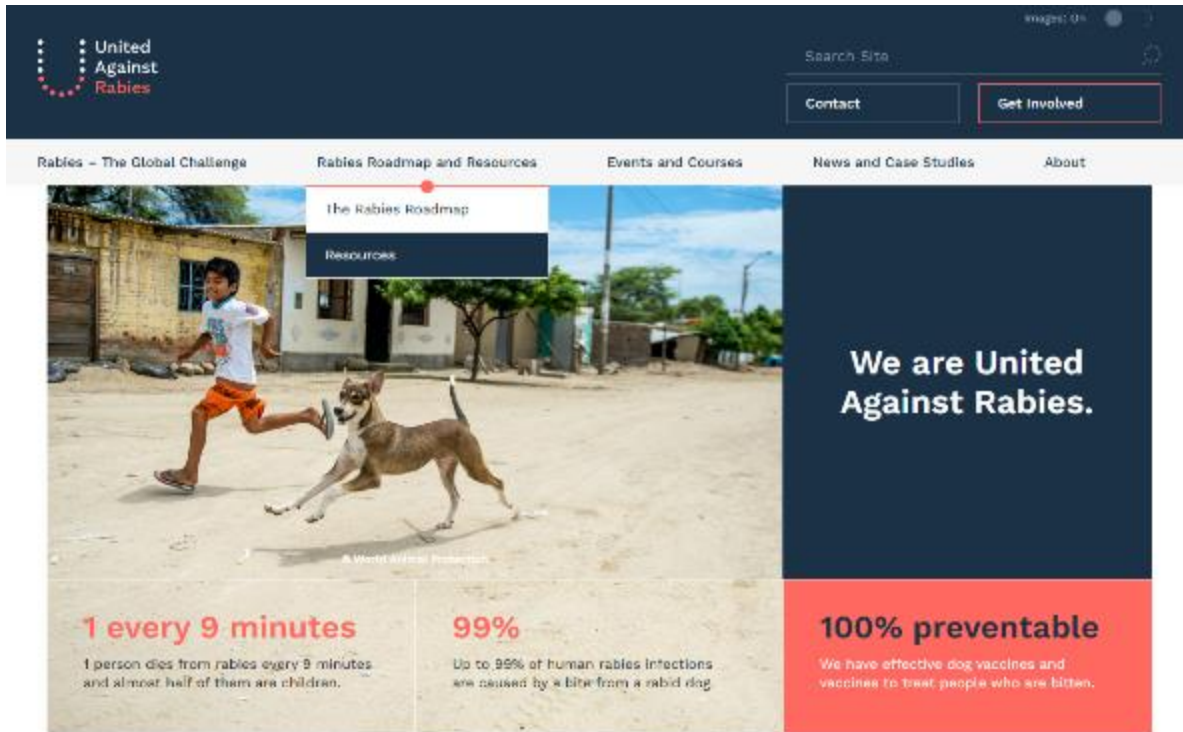
- ⌘ Number of available tools
- ⌘ These tools can help with gathering data and rapid reporting
- ⌘ Able to integrate into human and animal health databases
- ⌘ **Note: This data should still be reported to WHO and WOAH**



<https://www.unitedagainstrabies.org/resources-toolbox/>^{1/2}



How do I collect this data



- ⌘ Number of available tools
- ⌘ These tools can help with gathering data, and rapid reporting
- ⌘ Able to integrate into human and animal health databases
- ⌘ **Note: This data should still be reported to WHO and WOAH**



<https://www.unitedgainstrabies.org/resources-toolbox/>³



What do I do with this data?

- ❖ Competent authorities (especially between human and animal health sectors)
- ❖ Can facilitate by having a **national point of contact for rabies**
- ❖ Field → National → International
- ❖ Health authorities → WHO Global Health Observatory
- ❖ Veterinary Services → WOAHA World Animal Health Information System



i To receive animal disease alerts, subscribe to the [distribution list](#).

WAHIS: World Animal Health Information System

WAHIS is the global animal health reference database of the World Organisation for Animal Health (WOAH). WAHIS data reflects the validated information since 2006 reported by the Veterinary Services from Member and non-Member Countries and Territories on terrestrial and aquatic Listed diseases in domestic animals and wildlife, as well as on emerging diseases and zoonoses.

WAHIS includes interactive mapping tools and dashboards to support data consultation, visualization and extraction of officially validated animal health data.



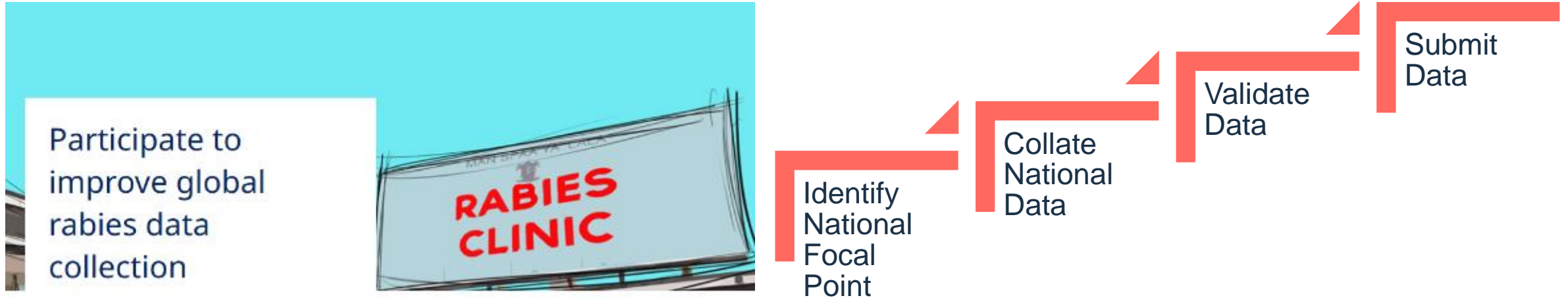
Submitting data to WHO

Which minimum key indicators does WHO collect?

- ⌘ Number of **human rabies cases** (by gender, age, transmission, type of diagnosis)
- ⌘ Number of **people exposed to animals** (by gender, age, offending animal, WHO wound category)
- ⌘ Number of **people receiving rabies PEP** (by gender, age, WHO wound category)
- ⌘ Number of **rabies cases in dogs and other animal** (by species, type of diagnosis)
- ⌘ Number of **dogs in the country** (by ownership status)
- ⌘ Number of **dogs vaccinated against rabies** (by ownership status)



Submitting data to WHO



- ✦ Standardized Excel document (available [online](#)) shared with WHO counterparts
- ✦ Submission directly through the WHO Integrated data platform (WIDP) <https://extranet.who.int/dhis2/dhis-web-login/>





Submitting data to WOAAH

What do we submit?

- ❖ Early warning system for immediate management of alert notices
 - Event means single outbreak or group of epidemiologically related outbreaks of a listed disease – for rabies this is the occurrence of one or more cases
- ❖ Monitoring system
 - Six-monthly reports (Members can choose to enter data in WAHIS every month during six-month period)

How do we submit?

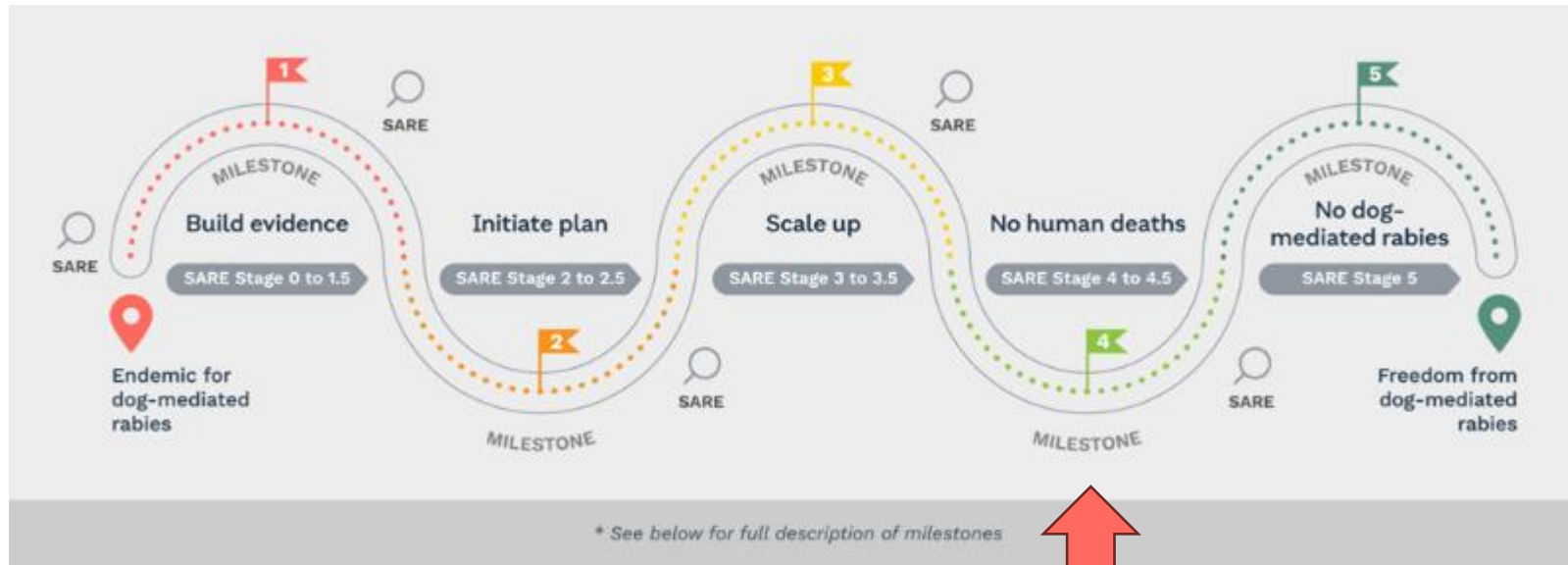
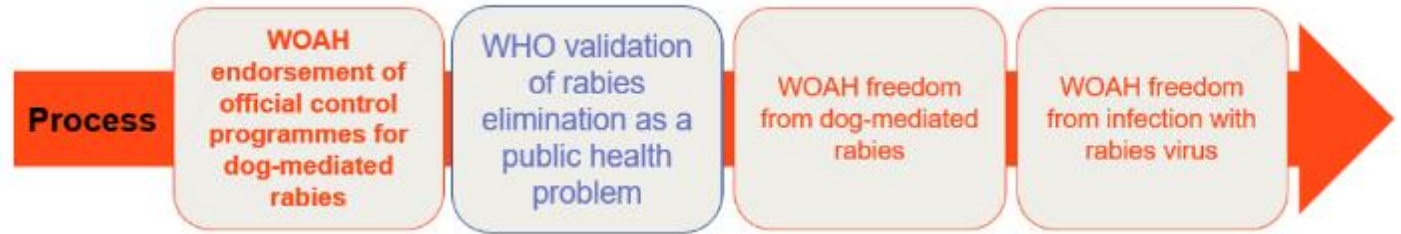
- ❖ WAHIS provides a platform for collection, submission and access of all data provided by countries
- ❖ Notification by focal points, under responsibility of the Delegate





Are we progressing towards Zero by 30?

- Objective 1: to effectively use vaccines, medicines, tools and technologies
- Objective 2: to generate, innovate and measure impact
- Objective 3: to sustain commitment and resources



Zero by 30 goal



'Zero by 30' indicators

'Zero by 30' Monitoring and Evaluation Indicators
Version 1, January 2025



- ❖ Developed by the United Against Rabies Forum Steering Group and Tripartite to monitor progress against the 3 objectives of 'Zero by 30'
- ❖ Underpinned by the international milestones
 - WOAH endorsement of official control programme for dog-mediated rabies
 - **WHO validation of zero human deaths from dog-mediated rabies**
 - WOAH self-declaration of freedom from dog-mediated rabies or freedom from rabies
- ❖ Encouraged as a guide for regional and national M&E indicators



'Zero by 30' indicators

'Zero by 30' Monitoring and Evaluation Indicators
Version 1, January 2025



- Full list of indicators in the document – but include:
- Number of countries with a national strategic plan for rabies validated by competent authorities and publicly available
- Number of countries with a dedicated rabies point of contact (nominated by Ministry of Health or Ministry of Agriculture)
- Number of countries where rabies is a notifiable disease in humans and animals
- Number of countries reporting data to WHO GHO and WOA H WAHIS
- Number of countries achieving international milestones (WOAH endorsement, WHO validation)
- Number of countries using intradermal PEP within public health system
- Number of countries that have incorporated oral rabies vaccines into their dog rabies vaccination programmes
- Number of countries reporting adequate dog vaccination coverage through the WOA H endorsement or WHO validation processes



What can we do?

Improving data collection, sharing and reporting

- ✧ Identify national point/s of contact for rabies
- ✧ Use of electronic data capture tools
- ✧ **Encourage uptake of minimum data elements and alignment of M&E framework with 'Zero by 30' M&E indicators**
- ✧ Share data
 - Between competent authorities
 - Internationally – contact WHO and WOAHA if support is needed on how to collect and report

International milestones

- ✧ Does your country still have dog-mediated rabies, but a robust One Health control plan is in place?
 - Veterinary services should contact WOAHA regarding endorsement of official control programme for dog-mediated rabies.
- ✧ Has your country had zero human deaths from dog-mediated rabies for at least 24 months?
 - Health authorities should contact WHO regarding validation procedures (WHO TRS 2018)
- ✧ Is your country free of dog-mediated rabies?
 - Veterinary authorities should contact WOAHA regarding self-declaration of freedom from dog-mediated rabies.



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