

TRAINING REPORT

SMILE FOR RABIES APPLICATION IN BALI AND EAST NUSA TENGGARA PROVINCES



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LIST OF ABBREVIATIONS

DHO	District Health Office
MOH	Ministry of Health
NIK	National ID card number
PEP	Post-exposure Prophylaxis
PHO	Provincial Health Office
RIG	Rabies Immunoglobulin
VAR	Anti-Rabies Vaccine
<i>Puskesmas</i>	Community Health Center

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INTRODUCTION

Dog-mediated rabies is a deadly zoonotic disease that is endemic in over 150 countries, most of which are in Asia and Africa (Hampson, et al., 2015). More than 90% of rabies cases are caused by dog bites and the majority occur in poor rural communities. In Indonesia, rabies is included in the priority strategic infectious animal diseases because it has socio-economic and public health impact (Ministry of Health, 2017). Impoverished communities bear most of the rabies burden. These people, mostly children, live in underserved areas where access to vaccines is limited. Stigma, misconceptions, and inefficient knowledge around rabies pose additional challenges to receive treatment.

There is an urgency to engage various stakeholders, as eliminating rabies could only be achieved through cross-sectoral efforts. The Government of Indonesia made a multi-ministerial commitment in adopting the One Health approach as an effort to eliminate rabies. In line with the global commitment to achieve elimination of dog-mediated human rabies by 2030, Indonesia has developed the One Health Roadmap for National Rabies Elimination by 2030. It focuses on several national strategies involving all ministries and agencies related to rabies control in Indonesia. The strategies include rabies elimination in dog, rabies prevention in human, strengthening rabies surveillance on human and animals, awareness raising, strengthening national and local regulation, implementation of operational research, strengthening multi-sectoral coordination and partnership, and resources mobilization.

However, efforts in most provinces in Indonesia have not been successful due to difficulties in vaccinating stray dogs, cold chain management, and vaccine delivery to remote areas which are hampered by geographical factors, socio-cultural differences, and lack of resources. However, rabies is entirely preventable through Post-Exposure Prophylaxis (PEP). Ensuring timely access to PEP is critical for preventing rabies deaths and contributes to the World Health Organization's goal of eliminating dog-mediated human rabies deaths by 2030 (WHO, 2019). Central to reaching this goal is improved access and availability of vaccines in rabies-endemic areas.

The Ministry of Health reports that there are 26 provinces which are included in the rabies endemic category and only 12 provinces are free from rabies, including the Riau Islands, Bangka Belitung, DKI Jakarta, Central Java, DI Yogyakarta, East Java, West Papua, Papua, South Papua, Papua Central, Papua Highlands, and South Papua (<https://sehatnegeriku.kemkes.go.id/>). In 2023, the number of cases of rabies-transmitting animal (RTA) bites is becoming increasingly higher in Indonesia. In several areas, rabies is designated as an outbreak. In 2023, more than 170 thousand cases of RTA bites were recorded which resulted in 145 deaths (Figure 1).

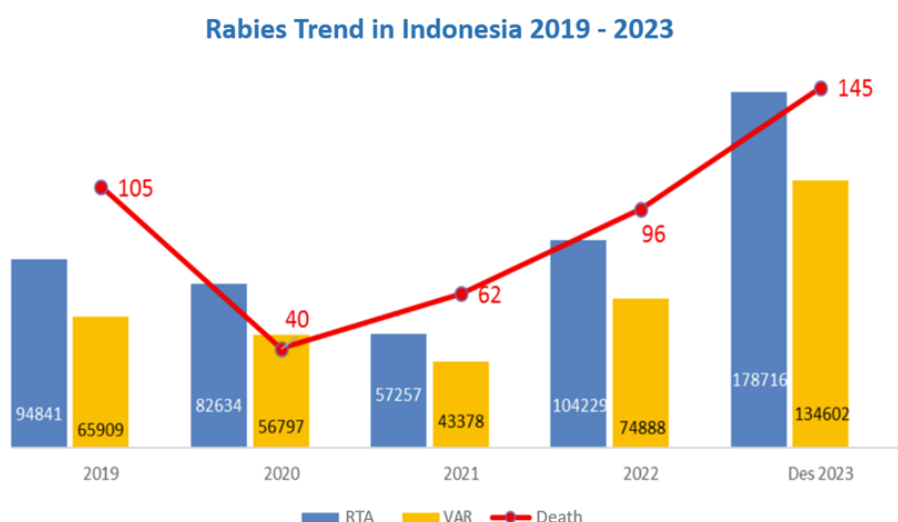


Figure 1. Rabies trend in Indonesia from 2019 to 2023.

Bali and East Nusa Tenggara province are among the rabies endemic areas in Indonesia. In Bali Province, 11 people were reported to have died due to rabies infection from January to early July 2023, whilst six people tested positive of rabies in Timor Tengah Selatan (TTS) district in East Nusa Tenggara Province with over 1,200 bite cases from suspected rabid animals ([Rabies outbreak response: Accelerating a One Health approach in East Nusa Tenggara \(who.int\)](#)).

To ensure timely access to PEP, a robust rabies vaccine supply chain management system is essential. The current paper-based data entry leads to a lack of real-time visibility of stock level and temperature, often leading to vaccine wastage, over-stocking, and stock-outs, and subsequently inadequate vaccine coverage. To address the drawbacks associated with the conventional paper-based supply chain management system, UNDP Indonesia adopts its digital tool called the electronic immunization logistics monitoring system or Sistem Monitoring Imunisasi Logistik secara Elektronik (SMILE) to manage and monitor the rabies vaccines and serum. The app and system have previously showed a success in recording and monitoring the distribution of COVID-19 and routine immunization vaccines.

SMILE for Rabies prototype trial was tested in Bali Province last year. The next stage is to train the health workers at all levels – Provincial Health Office (PHO), District Health Office (DHO), and Puskesmas on the utilization of SMILE for Rabies to record the supply chain management of rabies vaccines and serum.

Training objectives:

- a. To train health workers at all entity levels in Bali and East Nusa Tenggara Province on the utilization of SMILE for Rabies.
- b. To gather more feedback and recommendation on the development of SMILE for Rabies.

TRAINING ON SMILE FOR RABIES

Trainings on SMILE for Rabies were held in Bali Province on 24–25 January 2024 and in East Nusa Tenggara Province on 27–28 February 2024 which were attended by a total of 104 participants as follows:

- The Zoonosis Working Team of the Directorate of Prevention and Control of Communicable Diseases, the Ministry of Health (MoH)
- The Directorate of Pharmaceutical Service Management, MoH
- Strategic Delivery Unit of the MoH
- The Centre for data and Information of the MoH
- The Digital Transformation Office (DTO)
- The Department of Communication, Informatics, and Statistics of Bali
- The Department of Tourism of Bali
- The Department of Agriculture and Food Security of Bali
- Bali Cultural Community
- The Regional Development Planning and Research and Development Agency of East Nusa Tenggara
- The Animal Husbandry Department of East Nusa Tenggara
- The Department of Tourism and Creative Economy of East Nusa Tenggara
- Bali Provincial Health Office (1 person each from Pharmacy Unit and Rabies Program)
- East Nusa Tenggara Provincial Health Office (1 person each from Pharmacy Unit and Rabies Program)
- 16 District Health Offices in Bali (1 person each from Pharmacy Unit and Rabies Program)
- 22 District Health Offices in East Nusa Tenggara Province (1 person each from Pharmacy Unit and Rabies Program)

On the second day of the training, rabies program and pharmacy staff at district level conducted an online desk with the respective Puskesmas/Rabies Centres within their working region to create and add stock transaction on the SMILE for Rabies application. In this session, District Health Offices in Bali, and East Nusa Tenggara Province acted as a supervisor to ensure Puskesmas/Rabies Centres compliance in inputting stock data on the app (Figure 2).



Figure 2. District Health Offices conducting an online desk with Puskesmas/Rabies Centre.



AGREED FOLLOW-UP ACTIONS

Below are the follow-up actions that were agreed upon:

- SMILE for Rabies will be used in all districts and Puskesmas/Rabies Centres in Bali Province no later than 1 February 2024;
- SMILE for Rabies will be used in all districts in East Nusa Tenggara Province no later than 28 February 2024 and Puskesmas by 10 March 2024;
- Training on SMILE for Rabies application at the Puskesmas/Rabies Centres in Bali Province will be conducted by the respective DHOs no later than 31 January 2024 with a mechanism regulated by each DHO;
- Training on SMILE for Rabies application at the Puskesmas in East Nusa Tenggara Province will be conducted by the respective DHOs no later than 10 March 2024 with a mechanism regulated by each DHO;
- Vaccine request/order is done via SMILE for Rabies for entities at all levels in Bali and East Nusa Tenggara Province by attaching a signed request letter;
- Recording of rabies logistics issuance and receipt is carried out in SMILE application in a timely manner;
- Provincial Health Offices and District Health Offices in Bali and East Nusa Tenggara are required to conduct routine monitoring on record keeping mechanism in SMILE for Rabies application within their respective regions;
- Pharmacy staff at Puskesmas will undertake close coordination with rabies program regarding the needs of rabies vaccines and serum as well as their derivative products;
- The person in charge of the rabies program at district level will undertake close coordination with pharmacy staff regarding planning and reporting of vaccines issuance;
- The person in charge of the rabies program at Puskesmas/Rabies Centres must record the name and batch number of the vaccine during vaccination session;
- Reception, storage, recording, destruction and reporting of rabies vaccines, serum, and its medical consumables are carried out through the SMILE for Rabies application by pharmacy officer at district and Puskesmas level (One gate policy);
- An identification number on national identity card and/or a medical record number need to be input in SMILE for Rabies app when creating issuance transaction (vaccination session);
- Vaccine request/order will be done by the person in charge of the rabies program at Puskesmas/Rabies Centres through SMILE for Rabies application;
- All rabies vaccines and medical consumables that are procured independently can be added to the SMILE for Rabies application by reporting to the SMILE helpdesk;
- Stock addition/stock reduction menu on the SMILE for Rabies application will be closed on 31 January 2024 for Bali province and on 11 March for East Nusa Tenggara Province;
- Puskesmas and/or District Health Offices can propose additions or abolition of health facilities service units, such as auxiliary health centres, Puskesmas, private clinics, hospitals through the SMILE helpdesk WhatsApp group;
- Vaccine request/order from District Health Offices to the higher level (Provincial Health Office) is due on the 20th of the current month;
- Vaccine reallocations at district level should be reported to Provincial Health Office by attaching Vaccine Minutes.

FEEDBACK FOR THE SMILE FOR RABIES APPLICATION

During the SMILE for Rabies training in Bali and East Nusa Tenggara Provinces, several feedback were provided by participants to alleviate flaws and enhance the app's performance, such as:

1	Recording of two doses of post-exposure prophylaxis (PEP) are categorized as VAR 1 and should be locked;	2	Recording of rabies immunoglobulin (RIG) or referred as anti-rabies serum should not be locked as its total administration depends on patient's weight (1 dose of RIG for every 15 kilograms of patient's body mass);	3	"Input ID number" tab on the app should not be locked in numerals only and it is expected that it can be filled out with alphabet and numerals to facilitate tourists who are vaccinated in Bali or East Nusa Tenggara Province as their passports serve as a valid form of identification;
4	For Indonesian patients who do not have a national identification card, "input ID" on the app can be filled out with their medical record number when recording vaccine issuance or vaccination session in the SMILE for Rabies app;			5 The SMILE for Rabies application is expected to give an alert/notification to health workers when they input patient data with cross vaccination site. For example, patient A was vaccinated at Puskesmas X for their 1st and 2nd dose (VAR 1) and visited Puskesmas Z in different district for their 3rd dose of rabies vaccine (VAR 2), the SMILE for Rabies app will send a notification to vaccinator in Puskesmas Z notifying them that the patient was given their VAR 1 in Puskesmas X. This notification will help vaccination session with ID number is well-recorded and minimize the administration of the same vaccine dose (double and/or undercounting);	
6	"Pre-exposure rabies prophylaxis" activity needs to be added on the app to facilitate those who are at continual and increased risk of exposure to the rabies virus, as a result of their occupation or residence.				

IMMEDIATE ACTIONS

Upon completion of the training, the Denpasar City Health Office immediately followed up by issuing a circular letter stating that all Rabies Centres in Denpasar City, both hospitals and Puskesmas, have to use the SMILE for Rabies application for its record keeping practices by 1 February 2024. The letter also stated that vaccine consumption should be recorded by the person-in-charge of the rabies program by inputting the patient's national identification card number on the app (Figure 3).



PEMERINTAH KOTA DENPASAR
DINAS KESEHATAN
 Jl. Maruti No. 8 Denpasar, Kode Pos 80111
 Telepon (0361) 424801, Fax (0361) 425369
www.denpasarkota.go.id email: kesehatan@denpasarkota.go.id

Denpasar, 30 Januari 2024

Nomor : 400.7.9.3/2898/Dikes
 Sifat : Biasa
 Lampiran : -
 Hal : Penggunaan aplikasi (SMILE) program Rabies

Kepada Yth.
 1. Kepala/Direktur Rs Umum Daerah Wangaya
 2. Kepala UPTD Puskesmas I Dinas kesehatan Kec. Denpasar Selatan
 3. Kepala UPTD Puskesmas I Dinas kesehatan Kec. Denpasar Barat
 4. Kepala UPTD Puskesmas I Dinas Kesehatan Kec. Denpasar Timur
 di-
 Denpasar.

Dengan Hormat,

Menindak lanjuti hasil pelatihan SMILE Rabies di Provinsi Bali pada tanggal 24-25 Januari 2024 yang dihadiri Kementerian kesehatan, Dinas Kesehatan Provinsi Bali dan dihadiri oleh kabupaten Kota Se- Bali diharapkan Nanti seluruh rabies Centre yang di tunjuk masing – masing Kabupaten / kota pada tanggal 1 Februari 2024 sudah menggunakan aplikasi SMILE dan untuk pencatatan pemakaian / pengeluaran / konsumsi vaksin perlu dicantumkan Nik pasien pada aplikasi SMILE dilakukan oleh petugas Program Rabies Puskesmas/Rabies Centre melalui aplikasi SMILE.

Demikian kami sampaikan atas perhatian dan Kerja samanya kami ucapkan terima kasih

Dokumen ini ditandatangani secara elektronik
 Kepala Dinas Kesehatan Kota Denpasar,



dr. Anak Agung Ayu Candrawati, M.Kes.
 Pembina Tk. I
 NIP. 196709151998032003



Dokumen ini ditandatangani secara elektronik menggunakan sertifikat elektronik yang diterbitkan oleh BSR-E
 Cetakan dokumen ini merupakan salinan dari file dokumen bertandatangan digital yang resmi dan sah yang keabsahannya dapat diakses di alamat:
https://e-surat.denpasarkota.go.id/files/tte/tnde_surat_keluar_sgn/tte-005066-SRT-0120241_conv.pdf

Figure 3. A circular letter issued by the Denpasar City Health Office.

SMILE FOR RABIES APPLICATION

The 1st version of SMILE for Rabies only accepted a national ID card number consisting of a unique 16-digit number (F) with four vaccination sequences (G). Below is the appearance of SMILE for Rabies 1st version (Figure 4).

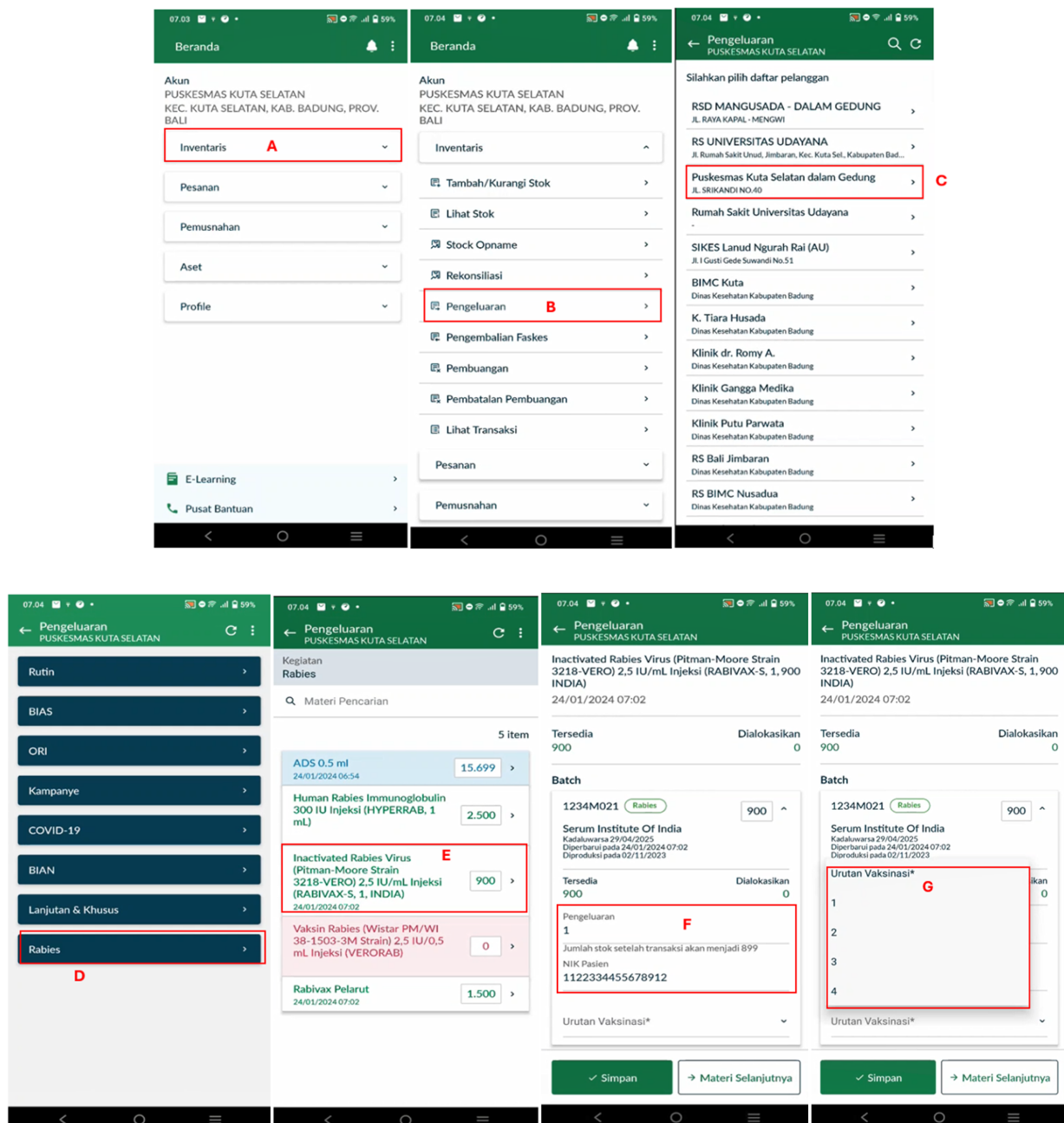


Figure 4. The 1st version of SMILE for Rabies application.

The latest version of SMILE for Rabies has been enhanced with an option to input ID card number and non-ID card number (Figure 5), such as passport number or medical record number (H) and vaccination sequences – VAR I (2 doses), VAR II (1 dose), VAR III (1 dose) and booster (I).

8:10 70%
← Pengeluaran
DINKES KOTA KUPANG

Kegiatan
Rabies

Vaksin Rabies (Wistar PM/WI 38-1503-3M Strain) 2,5 IU/0,5 mL Injeksi (VERORAB) 1.942
27/02/2024 15:46

Tersedia 1.942 Dialokasikan 0

Batch

CCC333 Rabies 996 ^

Sanofi
Kadaluwarsa 23/02/2033
Diperbarui pada 27/02/2024 15:46
Diproduksi pada

Tersedia 996 Dialokasikan 0

Tipe Identitas
Non NIK/Paspor

Nomor Identitas Pasien
ABC123

Urutan Vaksinasi*

VAR I

VAR II

VAR III

Booster

✓ Simpan → Materi Selanjutnya

8:11 70%
← Pengeluaran
DINKES KOTA KUPANG

Batch

CCC333 Rabies 996 ^

Sanofi
Kadaluwarsa 23/02/2033
Diperbarui pada 27/02/2024 15:46
Diproduksi pada

Tersedia 996 Dialokasikan 0

Tipe Identitas
Non NIK/Paspor

Nomor Identitas Pasien
ABC123

Urutan Vaksinasi*

VAR I

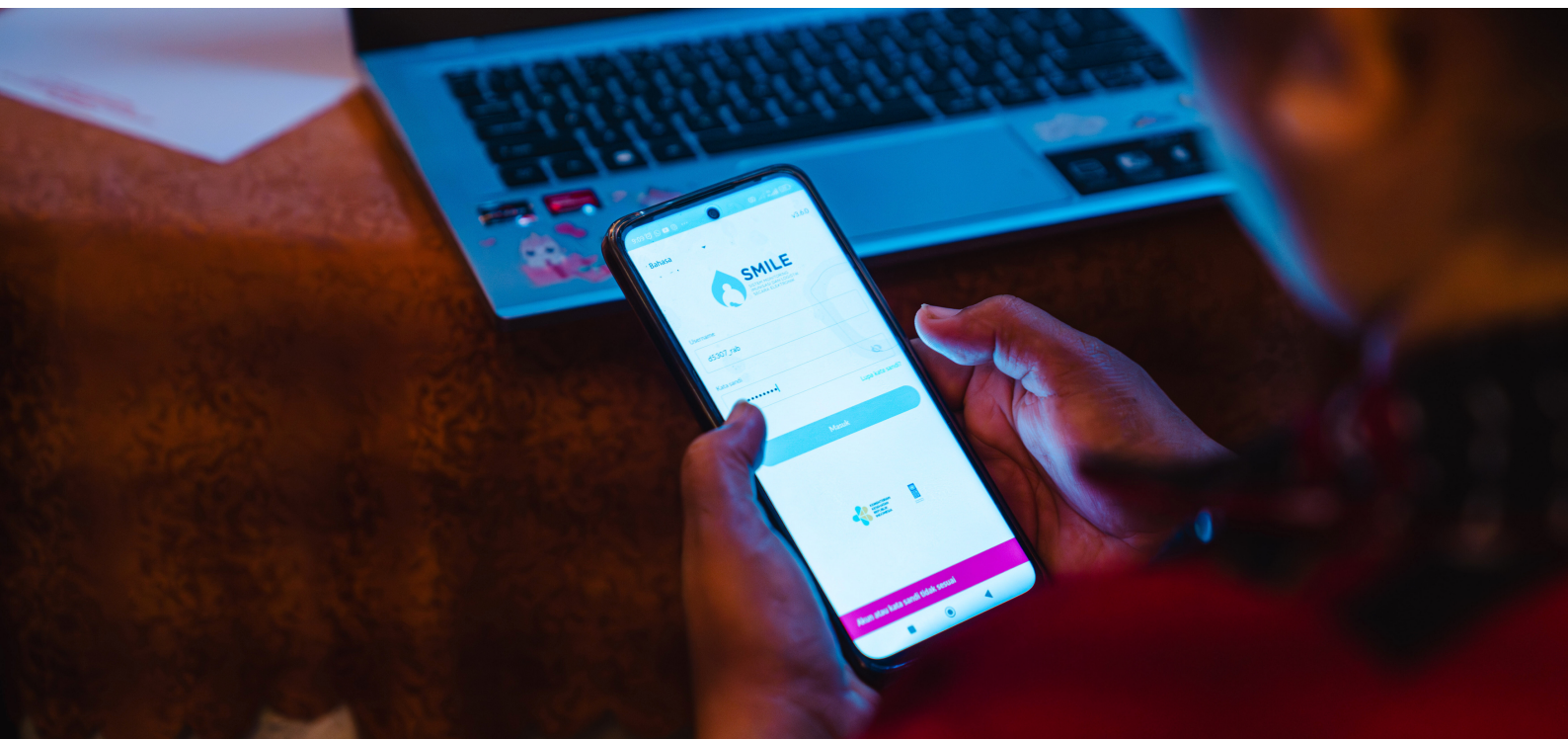
VAR II

VAR III

Booster

✓ Simpan → Materi Selanjutnya

Figure 5. The latest version of SMILE for Rabies.



WORKSHOP ON JOINT ASSESSMENT OF RABIES LOGISTICS IN BALI PROVINCE

UNDP Indonesia conducted a workshop on joint assessment of Rabies logistics on 14 March 2024 (Figure 6) inviting:

- Zoonosis Working Team of the Directorate of Prevention and Control of Communicable Diseases, the Ministry of Health
- Directorate of Animal Health, the Ministry of Agriculture
- The Ministry of Tourism and Economy Creative
- Bali Provincial Health Office
- Tangerang District Health Office
- Puskesmas Balaraja, Tangerang district and
- Puskesmas Curug, Tangerang district

The joint assessment took place in August–September 2023. Assessment results were presented by the MoH’s Zoonosis Working Team, highlighting some of these points:

1. The rabies vaccine supply chain in Bali province was managed by manual paper-based data entry to record the vaccine stocks;
2. RIG availability in Rabies Centres is limited due to its expensive price and the administration only for persons with serious wounds (high risk exposure);
3. A minimum of four vials anti-Rabies vaccine should be available at a Rabies Centre along with trained medical personnels, first aid for animal bites, and information media including posters, video, etc. to create community awareness and to serve as a quick reference, aiding healthcare providers in making informed decisions for timely and effective PEP;
4. Dogs represent the overwhelming majority of animal-related wound in Bali province, making up to 87% of all animal bites followed by cats and monkeys.





“ The Japanese Consulate diligently asked for Rabies situation and logistics stocks in Bali. In the past, we had to call the DHOs one by one to know the remaining stock. But with SMILE, we just need to check the stock balance on our mobile app up to the Puskesmas level.

”

– Bali Provincial Health Office

“

SMILE is principally good at improving the routine and COVID-19 vaccines availability by providing real-time stock inventory of each vaccine type. The same impact is expected to occur for Rabies vaccine logistics as well.

”

– Zoonosis Working Team, Ministry of Health

“

We are happy that SMILE program is in place to help prevent the spread of Rabies in Bali as we know Bali is popular for its reputation as the quintessential tropical paradise. Last year, foreign tourists were the victims of canine attacks in Bali and experienced anti-Rabies vaccination shortage. With SMILE, we hope that this will not happen again as SMILE provides clear visibility of vaccine stocks at all levels. This will also help to attract tourists to come to Bali and hope that they could bring or relocate their pets to Bali when Bali is free from Rabies in 2028.

”

– Ministry of Tourism and Economy Creative

Watch the presentation here: <https://www.youtube.com/watch?v=VkJBwO76wc&t=195s>



Dissemination Workshop on SMILE Qualitative Study and Rabies Focus Group Discussion

Rabies Centres di Bali

No	Kabupaten/Kota	Jumlah Rabies Centre			Jumlah Kasus GHPR	Jumlah Kasus Lyssa
		Puskesmas	Rumah Sakit	Total		
1	Buleleng	20	3	23	847	0
2	Jembrana	10	1	11	530	0
3	Tabanan	6	2	8	684	0
4	Badung	13	1	14	961	0
5	Denpasar	3	1	4	1077	0
6	Gianyar	13	0	13	1060	0
7	Bangli	10	1	11	439	0
8	Klungkung	9	1	10	527	0
9	Karangasem	8	2	10	843	0
	Jumlah	92	12	104	6968	0

Sumber: Dinkes Prov. Bali



BROADCAST#



Dissemination Workshop on SMILE Qualitative Study and Rabies Focus Group Discussion

Aplikasi SMILE Rabies







BROADCAST#

Figure 6. Documentations during workshop on joint assessment of Rabies vaccine logistics in Bali Province.



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