

BUILDING HEALTHY CITIES



DATA BRIEF: PUSKESMAS DATA INTEGRATION ASSESSMENT

The USAID-funded Building Healthy Cities (BHC) project is a 5-year (2017-2022) learning project that aims to refocus city policies, planning, and services with a health equity lens while improving data-driven decision-making for Smart Cities in four countries: Indore in India, Makassar in Indonesia, Da Nang in Vietnam, and Kathmandu in Nepal.

Planning for a Smart City is intrinsically linked to health: transportation, the environment, sanitation, education, recreation, technology, and the built environment all influence the health of an urban population. When decision-making across these areas is harmonized, people will benefit from improved access to health services, decreased environmental and lifestyle risk factors for chronic diseases, a lower burden of infectious diseases, and an increased availability of useful data for decision-making.

Integrating and analyzing data across multiple sectors can capture real-time and comprehensive conditions across the city, facilitate improved outcomes through data-driven decision-making, and effectively target and distribute resources. This will increase the quality, accessibility, and timeliness of data, making it a more valuable tool in decision-making. Similarly, improving the ease with which quality data is shared will encourage new pathways for cross-sector collaboration and reduce the negative impacts of a highly siloed system. This requires a consistent and user-friendly data sharing platform as well as trainings and technology for good implementation.

BHC and the University of Oslo Health Information Systems Program (HISP) worked closely with key city government bodies (Bappeda, Kominfo, and the Health Department) in Makassar, Indonesia to develop Sehatami, a multisectoral data integration system using District Health Information System version 2 (DHIS-2). Data from multiple city departments/sectors are reported into the system, including One Health Data (ASDK) and Minimum Health Standard (SPM) indicators from primary health centers (*puskesmas*). Previously, there were seven distinct dashboards for health indicators including HIV, tuberculosis, malaria, home-based care, maternal and child health, immunization, and nutrition. At the request of the Health Department, BHC and HISP also delivered multiple trainings for implementation and use of Sehatami for officers at all 47 *puskesmas* in Makassar. This was followed by a rapid monitoring assessment in March 2022 to evaluate *puskesmas* staff use of Sehatami, identify gaps, and recommend solutions. This brief provides the results of that rapid assessment.

Methods

The purpose of this activity was to evaluate the implementation of the multisectoral data integration system, Sehatami, by all 47 puskesmas in Makassar.

Specific objectives were to:

- Monitor implementation of Sehatami at the 47 puskesmas.
- Identify issues and challenges faced by puskesmas staff during implementation of Sehatami.
- Recommend better practices for implementation of Sehatami in Makassar.

The team used mixed methods, including a questionnaire (Annex 1) that was uploaded to a shared drive for puskesmas staff to answer, in-person and virtual interviews with staff at each puskesmas, and focus group discussions. The assessment culminated in a three-day assessment workshop which was attended by 100% of the 47 puskesmas in Makassar, six officers from the Health Department, five BHC staff, and four facilitators representing HISP. Over the course of the assessment workshop, participants were divided into small discussion groups led by facilitators from the Health Department and HISP. The tools were developed by HISP.

Results

Technical Issues with System

During discussion groups on the first day, puskesmas staff identified technical issues they faced while using the system. Some common technical issues included account errors, internet connection, and getting the dashboard to appear correctly. Facilitators spent the rest of the session providing assistance to fix the puskesmas accounts, did trouble shooting on the dashboard appearance, and worked to resolve any access issues.

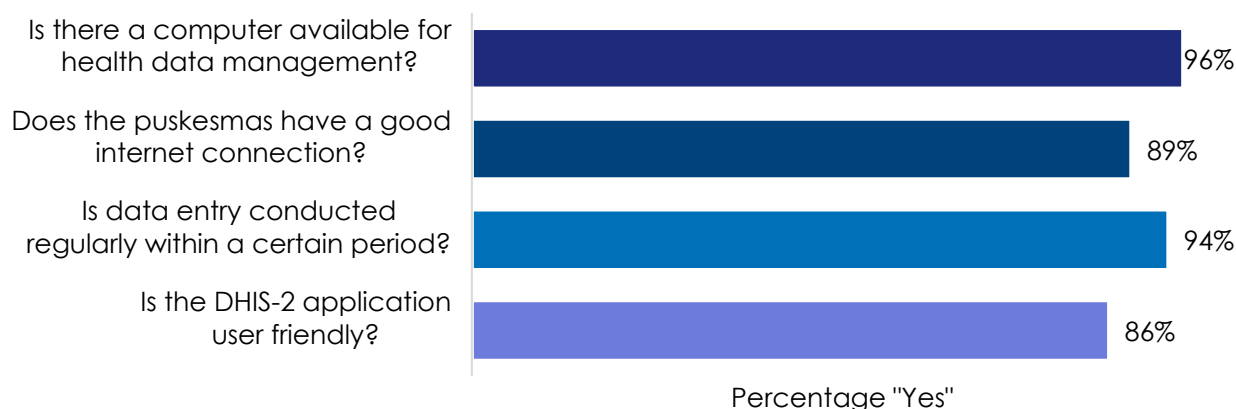
Data Entry and Processing

In-depth interviews and a check of the system interface provided information on the functionality of data entry and processing of SPM indicators since the new system was deployed. The team found that 100% of the puskesmas had appointed at least one person as a health data manager. The health data managers not only entered SPM indicator data, but also data for the other seven health data dashboards that have been integrated into ASDK.

There were 2 puskesmas (4%) that did not have a computer, and 5 (11%) that had a poor internet connection that impacted the quality of ASDK data management. Other issues that impaired the puskesmas ability to enter data are provided in Figure 1.



Figure 1. Summary of Results for Input Indicators



Data Quality

This assessment found that 86% of puskesmas in Makassar conducted data verification and validation of the inputted data. The remaining 14% of puskesmas did not have an internal data quality check process, and rather expected to have feedback from the Health Office regarding their data quality. In addition, 86% of puskesmas conducted regular monitoring and evaluation of their ASDK data.

On day three of the assessment workshop, the facilitators assessed the ASDK SPM indicator outputs, including a data quality check of timeliness, completeness, and data anomalies.

Timeliness

This assessment found that 94% of puskesmas shared their data on time. Some puskesmas were not able to submit their data on time due to conflicting responsibilities of the officers in charge of submission. For instance, they often also handled other programs such as tracing and vaccination for COVID-19.

Completeness

There are 12 SPM health indicators integrated in the Sehatnami system. For each indicator, staff must report two variables: SPM data targets (what should be done), and SPM realization data (what is actually done). Figure 2 shows the completeness of those variables.

Figure 2: SPM Data Completeness



This assessment found that more puskesmas had completed the realization data than the target data. There were 10 puskesmas that had not completed neither realization nor target data: Ballaparang, Batua, Dahlia, Kassi-kassi, Mangasa, Panambungan, Pattingalloang, Tabaringan, Tarakan, and Pertiwi. Completeness decreased from 2020 to 2021. Discussions at the assessment workshop indicated that this was due to switching from paper-based to electronic reporting; many puskesmas were still working to input some paper records into the system at the time of the assessment.

Data Anomalies

The facilitators also assessed data anomalies in order to check data validity. They found that 12% (6) of puskesmas needed to re-check and re-input their data: Daya, Maccini Sombala, Maradekaya, Pertiwi, Sudiang, and Dahlia.

Discussion

The facilitators presented their findings, follow-up plans, and recommendations to the Health Department and puskesmas at the end of the assessment workshop. The follow-up plans are meant to improve data management and quality. The recommendations include:

- The Health Department should conduct regular (three to four times per year) monitoring and evaluation for all 47 puskesmas to improve data completeness, data accuracy, and dashboard monitoring.
- Staff turnover was an issue; some puskesmas officers moved to new positions between October 2021- March 2022, in the midst of training on SehatTami. The puskesmas will need to consider regular refresher courses on the system to account for staff turnover.
- The DHIS-2 user interface was difficult to operate. BHC worked with HISP and Hasanuddin University to develop user manuals, and recommended that they be shared with the puskesmas to improve data manager capacity. The manuals were distributed in July 2022.
- The system should be integrated with Google analytics to monitor the puskesmas activity in the system.
- The city should strengthen IT infrastructures in the puskesmas, including providing computers and internet.
- The Health Department should encourage the city to provide and ratify regulations requiring use of the DHIS-2 platform for data management and reporting.
- HISP should customize the data visualizer menu to be more attractive and user friendly.



Annex 1. Questionnaire

Assessment dilakukan dari tanggal: _____ sampai tanggal _____

A. Pelaksana Assessment		
Nama Lengkap	Lembaga	Jabatan

B. Pelaksanaan Assessment Kota Makassar, Provinsi Sulawesi Selatan	C. Informan Pelaksanaan Assessment (ditulis Nama Lengkap, Nama Puskesmas dan Jabatan) 1. _____ 2. _____ 3. _____
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TATA CARA PELAKSANAAN PENGISIAN:

Catatan:

- Assesment akan dilakukan secara virtual.
- Pada tahap awal, akan dilakukan self Assessment, dimana masing-masing puskesmas melakukan pengisian secara mandiri (10-15 menit) pada lembar penilaian puskesmas yang telah disediakan di link.
- Masing-masing puskesmas memilih jawaban ya/tidak dengan menghapus "tidak" jika jawabannya YA begitu pula sebaliknya.
- Setelah 15 menit. Fasilitator dari puskesmas dan tim DHIS-2 akan menelaah form yang telah diisi secara mandiri oleh masing-masing puskesmas.
- Selain itu, Fasilitator dari puskesmas dan tim DHIS-2 juga menelaah hasil update data SPM pada DHIS-2 yang telah digunakan oleh masing-masing puskesmas.
- Fasilitator dari puskesmas dan tim DHIS-2 akan melakukan diskusi sebagai pendalaman dari hasil telaah baik melalui form penilaian maupun temuan update data SPM pada platform DHIS-2.



Unsur Assessment		Hasil Assessment	
		<i>Berikan penjelasan detail proses, kendala, tantangan dan keberhasilan yang dilakukan</i>	
1	Input		
()	1. Apakah ada staf pengelola data: *	Ya	Tidak
	2. Apakah petugas mempunyai tugas rangkap?*	Ya	Tidak
	3. Apakah ada tim pengelola data puskesmas/SIK?*	Ya	Tidak
	4. Berapa jumlah tenaga pengelola SIK? *		
	5. Apakah ada format pencatatan rutin laporan kegiatan puskesmas?*	Ya	Tidak
	6. Apakah ada alat atau sistem yang digunakan untuk memproses laporan/pencatatan tersebut?*	Ya	Tidak
	7. Bila ya, sistem atau alat apa yang digunakan?*		
	8. Apakah ada mekanisme berbagi data?*	Ya	Tidak
	9. Bila ya, Bagaimana SOP terkait data sharing?*		
()	10. Apakah tersedia infrastruktur yang memadai?	Ya	Tidak
	a. Apakah tersedia sumber listrik 24 jam?*	Ya	Tidak
	b. Apakah tersedia komputer untuk pengelolaan data kesehatan?*	Ya	Tidak
	c. Apakah LAN tersedia atau tidak?*	Ya	Tidak
	d. Apakah tersedia akses internet?*	Ya	Tidak



	e. Apakah jaringan Internet lancar atau tidak?*	Ya	Tidak
	f. Jenis layanan Internet apa yang digunakan dan berapa bandwidth?		
()	18. Apakah pemegang program melaporkan data secara rutin dalam periode tertentu?*	Ya	Tidak
	19. sebutkan, Apa saja keluhan puskesmas terhadap aplikasi DHIS2?*		
	20. Apakah aplikasi DHIS2 user-friendly?* jika tidak, sebutkan apa yg perlu di perbaiki atau di tambahkan.	Ya	Tidak, Sebutkan.....
()	21. Apakah ada mekanisme koordinasi antar pengelola data/SIK? *	Ya	Tidak
	22. Bila ada, seperti apa? Jelaskan*		
	23. Apakah ada yang ditugaskan secara khusus sebagai pengelola DHIS2?*	Ya	Tidak
	24. Apakah ada petugas tambahan yang ditugaskan untuk mengelola DHIS2 SPM?*	Ya	Tidak
2.	Proses		
()	1. Apakah ada pendampingan dari tim dinkes kota terkait penggunaan aplikasi DHIS-2 untuk SPM?*	Ya	Tidak
	2. Berapakah kali dalam setahun?		
	3. Seperti apa bentuk pendampingannya dan Apa saran anda untuk memaksimalkan proses pendampingan.		



()	4. Apakah ada pertemuan rutin antar program untuk membahas data (validasi data) SPM? *	Ya	Tidak
	5. Berapa kali per tahun?		
	6. Apakah ada pemantauan dan evaluasi secara rutin?*	Ya	Tidak
()	7. Apakah ada kegiatan supervisi/mentoring dan monitoring?	Ya	Tidak
()	8. Apakah data DHIS2 khususnya indikator SPM dimanfaatkan oleh puskesmas? *	Ya	Tidak
()	9. Apakah ada mekanisme verifikasi dan validasi data SPM? *	Ya	Tidak
	10. Menurut anda, apa saja kekurangan dari mekanisme verifikasi tersebut?		
	11. Apa saran anda?		
3. Output			
()	1. Apakah tersedia dashboard DHIS2 SPM?*	Ya	Tidak
	2. Apakah data SPM pada aplikasi DHIS-2 telah dilakukan update? *	Ya	Tidak
	3. Apa saja kendala selama melakukan update data SPM pada aplikasi DHIS-2?		
	4. Apakah telah dilakukan visualisasi data SPM?	Ya	Tidak
	5. Apa saja kendala yang anda temui dalam melakukan visualisasi data SPM?		
	6. Apa saran anda terkait kendala dalam melakukan entry dan visualisasi data?		



4.	KESIMPULAN						
5.	RENCANA TINDAK LANJUT UNTUK LOKASI ASSESSMENT						
6.	REKOMENDASI						
	Laporan Hasil Pelaksanaan Assessment Dibuat pada tanggal _____ <table border="1" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;">Tertanda Fasilitator</td> <td style="width: 50%; text-align: center;">Tertanda Fasilitator</td> </tr> <tr> <td style="text-align: center;">(_____)</td> <td style="text-align: center;">(_____)</td> </tr> <tr> <td></td> <td></td> </tr> </table>	Tertanda Fasilitator	Tertanda Fasilitator	(_____)	(_____)		
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(_____)	(_____)						

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