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Challenges in Implementing POSBINDU PTM with Limited Resources: an Evaluative Study

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Abstract
Introduction: *The increase in the prevalence of non-communicable diseases (NCDs) in Indonesia, including in Sigi District, Central Sulawesi Province, has prompted the need to strengthen early detection services through the POSBINDU NCD Program.* ***Objective:*** *To identify obstacles to the implementation of POSBINDU in the working area of the Kaleke Community Health Center.* ***Method:*** *Using a qualitative descriptive approach based on the framework of input, process, and output aspects. Data collection was conducted through in-depth interviews with four key informants involved in POSBINDU PTM.* ***Result and Discussion****: The results of the study indicate that the constraints include limited funding that is entirely dependent on Health Operational Assistance (BOK), low quality of human resources due to a lack of ongoing training, and facilities without adequate maintenance support. In addition, the implementation of POSBINDU activities has not been consistent with standard operating procedures and the simultaneous use of manual and digital recording systems. Furthermore, low participation among the productive age group is attributed to rigid schedules and non-strategic activity locations, compounded by equipment limitations that affect the completeness of services.* ***Conclusions:*** *This study concludes that POSBINDU PTM has limitations in terms of structural readiness, human resource quality, and adequate logistical support.*

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Introduction

The prevalence of NCDs in Indonesia shows an increasing trend, as illustrated in the results of the 2018 Basic Health Research (Kemenkes RI, 2019). The data shows that stroke has the highest prevalence at 10.9%, followed by hypertension (8.36%), joint disease (7.3%), asthma (2.4%), cancer (1.79%), diabetes mellitus and heart disease (each at 1.5%), and chronic kidney disease (0.38%) (Badan Litbangkes, 2018). This fact confirms that Indonesia is facing a double burden of disease, with NCDs being one of the main contributors to morbidity and mortality.

The phenomenon of increasing NCD prevalence is also evident in Central Sulawesi Province. The 2018 Riskesdas survey shows that the prevalence of diabetes mellitus increased from 6.9% (in 2013) to 8.5% in 2018. Meanwhile, hypertension increased from 25.8% to 34.1% over the same period. Data from the Central Sulawesi Provincial Health Office in 2019 showed that the prevalence of hypertension in Sigi Regency reached 41.3%, placing it fourth highest in the province. In terms of cancer, Sigi Regency ranked sixth with a prevalence of 3.4% (Dinas Kesehatan Provinsi Sulawesi Tengah, 2019).

These findings indicate that the Sigi Regency is one of the areas with a significant burden of NCDs and requires special attention in public health interventions. One of the government's strategies in controlling NCD risk factors is the establishment of Integrated Non-Communicable Disease Control Posts (POSBINDU PTM). POSBINDU is a community-based health initiative that emphasizes active community participation in early detection, monitoring, and promotion of healthy lifestyles. The implementation of POSBINDU is carried out collaboratively by healthcare workers and community health workers, with the aim of strengthening promotive and preventive efforts at the community level (Evi Yanti et al., 2019).

However, the effectiveness of POSBINDU implementation in various regions is still not optimal. POSBINDU implementation faces obstacles in terms of inputs, such as a lack of human resources and infrastructure, as well as limited funding (Susilawati et al., 2021). This has an impact on the service process and output, which ultimately leads to low detection and control rates.

Similar conditions were also identified in the working area of the Kaleke Community Health Center, Sigi District, based on the results of field observations of the POSBINDU program in January 2025. The POSBINDU PTM program at this health center still faces various challenges regarding the availability of health workers and volunteers, the completeness of measuring tools and recording media, as well as the availability of operational funds. Funds sourced from the Health Operational Assistance (BOK) are also insufficient to support all the needs for program implementation.

In terms of implementation, POSBINDU activities are still limited. As a result, the target number of visits each year has not been maximized. In 2021, out of a target of 1,240 visits, only 999 people visited, and in 2023, there were 909 visits out of a target of 990. Furthermore, the data on diseases detected through POSBINDU also show fluctuating trends. This indicates that the burden of non-communicable diseases (NCDs) in the service area of the Kaleke Health Center remains high.

Based on these various issues, this study was conducted with the aim of evaluating the implementation of the POSBINDU PTM program at the Kaleke Community Health Center. The evaluation was conducted by examining input aspects (human resources, facilities and infrastructure, and funding), the process of implementing activities, and outputs in the form of implementation barriers and facilities and infrastructure. This study is expected to provide a comprehensive overview of the effectiveness of POSBINDU

implementation in the Kaleke Community Health Center area, as well as to provide recommendations as alternative solutions to strengthen promotive and preventive interventions in community-based PTM control.

Method

This study is a qualitative descriptive study based on three main components, namely input, process, and output. The study was conducted at the Kaleke Community Health Center, Kaleke District, Sigi Regency, Central Sulawesi Province, from November 2024 to January 2025. The research site was selected purposively because it is one of the areas with high coverage and challenges in implementing POSBINDU PTM with a high prevalence of PTM.

The research variables consist of input, process, and output in the implementation of the Integrated Non-Communicable Disease Management Program (POSBINDU PTM). Data collection was conducted using observation and in-depth interview techniques. The instruments used included interview guidelines, observation sheets, and audio recording devices. Data analysis was conducted verbatim to ensure the accuracy of interpretation. Data categorized based on input, process, and output components were organized in narrative form. Data presentation was conducted in a descriptive manner.

The research subjects consisted of POSBINDU program implementers at the Puskesmas level and cadres directly involved in the activities. Informants were selected purposively, totaling 4 individuals, based on the criteria of direct involvement in program implementation and sufficiency of information to address the research objectives.

Result and Discussion

This study involved four informants who were directly involved in the implementation of POSBINDU PTM in the working area of the Kaleke Community Health Center. Data were obtained through in-depth interviews and then categorized into three main aspects of program implementation: input, process, and output, as follows;

a. Input

1. Funding

a) Regarding the source of funding for the implementation of POSBINDU PTM in the working area of the Kaleke Community Health Center, information obtained from informants includes the following;
"POSPINDU PTM selama ini dengan BOK di Tercover, Untuk saat ini dananya dari BOK, kalo dulu ada dari dinas sekarang tidak ada lagi. Hanya sekarang stik aja dibantu sama dinas setengahnya dari sasaran" (PI).
Similar statements were also confirmed by other informants:
"Ada dari dana BOK dana dari situ" (SU)
"Iya ada, dari dana BOK namanya" (HA)
"Ada dari BOK buk, lalu baru ada dari dinas setahu saya" (TR).

b) Furthermore, regarding the use of funds, the informant said that;
"Eeee klo PTM itu ada ke skrining kesehatan, POSBINDU binaan terpadu tiap bulan rutin ada yang ke sekolah sekolah mencari faktor resiko ada yang ke masyarakat untuk pemantauan obat hipertensi dan diabetes melitus PTM, dana tidak cukup, kaya begini saya di desa Pesaku cuma capek saja tidak ada dana, kita kerja 4 orang dan naik 3 orang dengan jumlah yang kecil, bagaimana itu kayak kemarin kita terima 3 bulan 1 orang itu dapat 300 an tiga bulan, kita 12 pos melayani bagaimana mau cukup, bensin saja tidak cukup, pencairanya

selalu lambat tidak pernah cepat kadang uang pribadi keluar buat beli bensin" (PI).
Other informants also confirmed that;
"Kalo untuk program PTM sendiri kita untuk kegiatan-kegiatan turun lapangan, kunjungan rumah rumah untuk pasien-pasien hipertensi, kalo dana itu kurang yaa dicukup-cukupkan" (SU).
"kan kita ada empat petugas, kalo ka Pian program diabetes Melitus sama hipertensi, sukma pegang Inveksi Visual Asam Asetat (IVA), kalo saya keswa(kesehatan jiwa) dana ini beda-beda tergantung waktu lalu kita cukup, tergantung pendanaan. Kalo kita sekarang agak rendah" (HA). "ya dananya masih kurang tapi ya kita cukup-cukupkan aja dengan kunjungan 12 pos setiap bulannya" (TR).

Based on information obtained from informants regarding funding, it is known that POSBINDU PTM program funding, which is entirely dependent on BOK (Health Operational Assistance), reflects the fiscal vulnerability of preventive programs at the primary care level. Insufficient and delayed disbursement of funds hinders the implementation of field activities and encourages informal cross-subsidization by health workers. This indicates the absence of a health financial policy design that prioritizes promotive-preventive programs, which should form the foundation for the control of Non-Communicable Diseases (NCDs).

2. Human Resources (HR)

Regarding the availability of human resources, the informant said that;
"Kalo POSBINDU PTM cuma 4 orang, 3 perawat, 1 bidan, dan kader 5 orang setiap POSBINDU. Pembiayaannya dari desa langsung yang biayai" (PI).
It was reinforced by other informants that;
"Empat petugas, 3 perawat, 1 bidan" (SU).
"POSBINDUnya kita ada 24, dia 12 desakan di sini dari 12 desa setiap desa ada 2 POSBINDU" (HA).
"Petugas kita ada empat dengan wilayah desa ada 12 desa dan 24 POSBINDU" (TR).

1) As for the training of informant cadres, he explained that;
"Pelatihan yang dilaksanakan dalam SDM Setiap satu tahun sekali ada pelatihan khusus kader Namanya regency kader, disitu nanti kadernya diajar bagaimana cara pengukuran TB dan BB, tapi kalau mungkin dana tidak cukup tidak ada refresing pelatihan buat kadernya" (PI).
Namun informan lainnya menjelaskan bahwa;
"saya kan masuk di PTM ini baru 1 tahun, setau saya selama satu tahun ini belum ada pelatian kader" (SU).
"ada, pelatihan dari puskesmas tapi tidak terus ada itu pelatihannya" (HA).
"Pelatihan ada dari PKM" (TR).

2) Regarding the skills of cadres, the informant stated that;
"ee kita di sini kan sudah bertahun–tahun mereka, sekitar 5 tahunan ada sih, cuma yang kita harus selalu harapkan itu dia yang berkompeten, dia juga masih di bawah maksudnya jangan lansia baru. dia juga berwawasannya bagus, masyarakatnya bagus yang begitu itu kita mau cuma kan itu tergantung

dari Desa masing-masing kita mau yang supplei yang bisa diajak kerja sama" (PI).
This is supported by information from other informants, namely;
"kalo secara keterampilan kader dari 12 Desa, ada Desa yang sudah paham alurnya, ada juga yang belum sesuai alur" (SU). *"belum, soalnya dorang cuma ada yang SMP ada yang SMA stau. tapi memang depe pengetahuan tidak terlalu anu dant. kadang ba isi buku itu kadang salah"* (HA). *"kalo dibilang keterampilan kader mereka ada yang paham ada yang tidak alurnya, kadang-kadang mereka baku bertanya sesama teman kader"* (TR).

1. Cadre Appointment System
In this case, it was revealed by the informant that;
*"Sistem penunjukkan kader, kader itu didanai dari desa jadi untuk kader hubungi dari desa , terus kader yang dari desa ke puskesmas terus puskesmas yang membina dan memberikan pelatihan"(*PI).
Hal serupa juga diungkapkan oleh informan lainnya;
"Dari Desa karena yang bayar Desa" (SU)
"Desa yang tentukan" (HA)
"Kelurahan yang menunjuk siapa yang jadi kadernya"(TR).
The human resources aspect of the input section, based on information from informants, can be interpreted as follows: although the number of officers and cadres is sufficient in terms of quantity, the quality of human resources varies greatly due to the absence of a continuous training system and a competency-based cadre selection mechanism. This reflects a structural gap in the management of public health human resources, particularly in ensuring the readiness of non-formal personnel (cadres) to carry out NCD screening programs that require precision and an understanding of standard workflows.

3. Facilities and Infrastructure

Regarding the availability of POSBINDU tools, information was obtained from informants that;
"Alat banyak kalo PTM hanya saja keadaannya banyak yang rusak terutama alat tensi baterainya cepat sekali rusak" (PI).
The same thing was also expressed by the informant;
"Alat-alatnya banyak rusak" (SU).
"Iya kalo alatnya rusak" (HA).
"Alat tensi yang kurang, banyak rusak" (TR).

Information received from informants regarding facilities and infrastructure in terms of inputs indicates that the main PTM screening devices are experiencing significant problems. Equipment damage and improper distribution have caused the screening process to operate suboptimally, indicating failures in the logistics and procurement systems within the primary health care program. The absence of quality control mechanisms and equipment maintenance directly impacts the effectiveness of early detection. This underscores the need to strengthen asset management and procurement planning based on field requirements.

The implementation of POSBINDU PTM in the Kaleke Puskesmas working area is greatly influenced by structural limitations in the input aspect, where the program is entirely dependent on inadequate BOK funding, faced with inconsistent

human resource quality due to the absence of a selection and continuous training system, and constrained by damaged equipment without a standardized procurement and maintenance system.

The implementation of the POSBINDU PTM program at the Puskesmas faces significant challenges due to structural limitations in terms of input. First, reliance on inadequate BOK funding directly impacts training and capacity-building activities for health workers, resulting in inconsistent human resource quality (Nuryanto et al., 2024; Tressia Febrianti et al., 2024). The lack of a selection system and ongoing training for Posyandu cadres also contributes to suboptimal delivery of health services to the community (Nastasya & Wanda, 2021).

The implementation of the POSBINDU PTM (Non-Communicable Disease Care Post) program in Indonesia is significantly influenced by several structural limitations. One of the main contributing factors is limited funding, which is often inadequate. Research indicates that the program's reliance on fluctuating and limited funding prevents many health programs from being optimized (Andriyanto et al., 2022; Iskandar et al., 2020). The varying quality of human resources (HR) among health workers, caused by the lack of a selection system and ongoing training, also results in disparities in service delivery (Sayed et al., 2019; Smith et al., 2021). Additionally, infrastructure for screening is often absent or in poor condition, without standardized procurement and maintenance systems, further exacerbating the situation (Evina Bolo et al., 2024).

b. Proses

1. Preparation Stage

Regarding the preparation of POSBINDU activities, the Informant explained that;

"Itu kader, tapi kadang jadwalnya bisa berubah dan juga tergantung masyrakatnya jika ada pesta kadang diundur, sesuai dari kadernya karena kita mengikuti jadwal dari kadernya tanggal sekian ini di desa ini jadi kan sudah tahu jadi sore-sore sudah kasih tahu ada diumumkan di masjid sama kadernya" (PI).

Related matters were also conveyed by other informants, namely;

"Kalo kita tiap bulan memang dikasih jadwal sama ka pian (Kordinator POSBINDU PTM), kalo sudah dikirim jadwal jadi itu Desa so tau toh. jadwal disini hari apa tinggal diumumkan" (SU).

"Ditugaskan kader untuk menginformasi kalo ada POSBINDU yang dilakukan di Desa itu lewat masjid" (HA)

"Kader yang langsung infokan noh ke masyarakat kalau mau ada posbindu, kita petugas mengikuti jadwal yang ditentukan bisanya masyarakat" (TR).

Reliance on informal communication indicates a high degree of social flexibility, but with structural weaknesses and a lack of adherence to SOPs or formal coordination systems, as well as minimal operational resources and support, there is a risk of inconsistent implementation and low accountability.

2. Implementation of Activities

Related to the implementation of activities, information was obtained from the informant as follows;

"tergantung lokasinya kadang empat kadang lima orang satu meja jadi dua orang dua fungsinya pencatatan penimbangan karena melihat sikon juga, kalau kecil tempatnya, kadang kita melantai saja, kita melihat sikon saja kita kerja sesuai sikon

keadaan yang ada tidak menentu, tidak mesti dia lima meja tidak memaksakan duduk di mana semua meja saja tidak ada" (PI).

This was then strengthened by information from other informants;

"karena kan seharusnya harus 5, kadang ada cuma 3 jadi dia cuma merangkap-merangkap. harusnya meja ini lain, meja ini lain" (SU).

"situasi di Desa kita itu apa yang disediakan kalo mejanya cuma ada yang itu ya.. sudah itu saja" (HA).

"ya sesuaikan sikon yang ada, yang penting kegiatan bisa terlaksana dengan baik"(TR).

Based on information obtained from informants regarding the implementation of activities in terms of process, it is known that the implementation of POSBINDU activities does not meet the five-table SOP standard, with cadres and officers performing multiple tasks and adjusting to the location as it is, reflecting an improvisational rather than systematic implementation. This shows that the sustainability of the program depends on individual initiative and local social relations, rather than on a structured health system.

1. **Recording and Reporting**

In this case, it is all data on POSBINDU implementation activities, which is inputted or reported by the manager. The information obtained from informants is as follows;

"semua data yang ada di POSBINDU itu langsung di input menggunakan aplikasi Asik." (PI).

The information from other informants is;

"ada memang kita punya buku laporan, kan kita setiap POSBINDU PTM itu turun juga kita yang catat, dari kader juga, kita dari Desa catat dulu nanti habis itu kasih masuk baru Puskemas input"(SU).

"manual, habis itu selasai dari POSBINDU baru kita lakukan penginputan lewat online" (HA).

"pakai buku laporan manual dulu baru di salin di aplikasi asik" (TR).

In terms of recording and reporting, based on information gathered from informants, it can be interpreted that the use of a dual recording system (manual and digital) indicates an effort to transition to digitization. However, without adequate human resource capacity and support systems, this can lead to data errors and reduce the validity of PTM epidemiological reports.

The implementation process of POSBINDU PTM is adaptive and improvisational, with activity stages that do not consistently follow the five-table SOP structure, coordination based on informal communication, and a dual recording system between manual and digital, indicating high dependence on individual initiative and weak institutional support systems at the primary care level.

This practice reflects flexibility in responding to changing needs and situations, where activity stages do not always consistently follow the five-table SOP structure. Research shows that formal paradigms can sometimes be rigid and hinder the speed of responsiveness to health needs that are often urgent and unique (Nuryanto et al., 2024). Therefore, adaptive systems are often the preferred choice to maintain the effectiveness of health services, although this can result in difficulties in applying uniform standards (Adelia et al., 2023). This is in line with

analyses of the lack of efficiency in data management and documentation, which is often not standardized, limiting the effectiveness of health services in the community (Ede, 2022).

Suboptimal service delivery is caused by a lack of operational standards and institutional system support (Kamilah et al., 2021). The need for individual capabilities in applying technology to improve service efficiency (Arianita et al., 2023). As a result, this leads to difficulties in the collaboration required for public health programs, including negative effects on health outcomes (Hidayani et al., 2022; Widarti & Suprianto, 2021). In addition, the use of dual manual and digital recording systems reveals limitations in the efficient organization and delivery of information in order to improve the quality of health services (Heryanadi et al., 2021). The minimized involvement of community health workers contributes to low individual motivation to participate in health programs, highlighting the need for enhanced support and more structured coordination (Arsita Harnawati & Chikmah, 2024).

c. Output

1. Implementation Barriers

Related to this, the obstacles encountered in the implementation were informed by the respondents that;

"partisipasi masyarakat ke POSPINDU masih kurang karena yang datang ke POSBINDU itu diharapkan dia tiap bulan itu ada yang baru tapi selama ini yang datang ke POSBINDU cuman yang itu itu saja dan kebanyakan lansia mungkin yang bisa produktif terkendala ada yang sekolah ada juga yang kerja karena jadwal POSBINDU itu terkena dihari kerja, makannya kalo di POSBINDU ada jadwal kunjungan kegiatan ke masyarakat diluar jadwal POSBINDU tidak menentu, nanti ada keramaian kita swiping" (PI).

And confirmed by another informant that;

"masyarakat susah kalau ada POSBINDU, berbagai macam alasan mereka ya jauh tempatnya, ada pekerjaan lain pokoknya masih banyak lagi" (SU).

''itu hambatannya dimasyarakat kalo ada pesta, banyak yang tidak datang karna di sini desa toh jadi dorang baku bantu begitu kalo ada pesta" (HA).

"masyarakat mengeluh jarak karena jauh mereka rasa baru korban waktu" (TR).

Based on information obtained from informants in the section on obstacles, it can be interpreted that the low participation of the productive age group in POSBINDU activities indicates that this program has not yet been transformed into a service based on the needs and preferences of the community. Inflexible scheduling and remote locations reflect a lack of adaptability to the social realities of rural communities.

2. Infrastructure Barriers

As for the obstacles related to facilities and infrastructure, information was obtained from the informants as follows;

"kalo alat banyak yang PTM tapi banyak yang rusak, terutama tensi baterainya cepat sekali rusak, kalau stik pemeriksaan kita dibagikan setengah dari sasaran semisalnya seribu sasaran kita dikasih 500 begitu jadi ya kadang setiap bulan cukup kadang tidak"(PI).

Then this was confirmed by another informant that;

"stik kemarin banyak yang distok dari Dinas, cuma expired, lama sekali di sana pas distok sini sisa berapa bulan expired"(SU).
"iya karena dorang cuma kasih itu stik tidak dengan alatnya, jadi cuma stik to, mau diapakan itu stik tidak sesuai kan"(HA).
"stik ada tapi kalua alatnya rusak kan tidak bisa dipakai juga baru alat ukur tensi kurang sekali kita"(TR).

The obstacles faced in terms of infrastructure supporting PSOBINDU, based on information from informants, can be interpreted as follows: limitations and damage to equipment have a direct impact on the accuracy and completeness of screening. As a result, people who come to POSBINDU may not receive comprehensive services, which poses a risk of failure in early detection.

The outcomes of the POSBINDU NCD program are not yet optimal, as reflected in the low participation of the productive age group due to inflexible schedules and non-strategic locations, as well as limitations in screening equipment that directly impact the accuracy of early detection and the completeness of services, thereby threatening the effectiveness of the program as a preventive tool against Non-Communicable Diseases (NCDs).

The participation of the productive age group in the POSBINDU PTM program shows less than optimal figures, which are indicated to be caused by several factors. First, the scheduled activities interfere with flexibility and may not align with daily routines, thereby reducing interest in attending (Iskandar et al., 2020). Additionally, the non-strategic location of the program makes accessibility an issue, particularly for working individuals (Widarti & Suprianto, 2021). Limitations in screening tools also impact the accuracy of early disease detection and the comprehensiveness of services provided, which may reduce public trust in the program as a preventive measure against non-communicable diseases (Sujarwoto & Maharani, 2022).

Other research indicates that ineffective coordination among various stakeholders in health services exacerbates these challenges, which in turn threatens the program's effectiveness as a preventive tool (Nuryanto et al., 2024). Services supported by adequate facilities and infrastructure are crucial in enhancing the effectiveness of health programs (Dewiyuliana & Syah, 2022).

Additionally, empirical evidence indicates that disruptions in screening services can seriously hinder the pathway to timely diagnosis and treatment, particularly in resource-constrained settings (Khumalo et al., 2023). Improving the quality of medical equipment is essential for enhancing outcomes in preventive health programs, including cancer detection initiatives (Acuti Martellucci et al., 2024). Therefore, ensuring well-functioning equipment and infrastructure is of utmost importance to reduce risks associated with inadequate screening services and facilitate early intervention in public health efforts (Zamzam et al., 2021).

Conclusion

The results of this study conclude that the implementation of the POSBINDU PTM program in the Kaleke Community Health Center working area shows limitations in terms of input, process, and output, which pose real challenges. Therefore, the success of the POSBINDU PTM program is highly dependent on the structural readiness of the primary health care system, including funding, human resource training, and program logistics. Comprehensive improvements to all three aspects are necessary to ensure that POSBINDU plays its role as the spearhead of promotive and preventive strategies in controlling NCDs in the community.

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