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# Translating international HIV treatment guidelines into local priorities in Indonesia

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## Abstract

**OBJECTIVE** International guidelines recommend countries to expand antiretroviral therapy (ART) to all HIV-infected individuals and establish local-level priorities in relation to other treatment, prevention and mitigation interventions through fair processes. However, no practical guidance is provided for such priority-setting processes. Evidence-informed deliberative processes (EDPs) fill this gap and combine stakeholder deliberation to incorporate relevant social values with rational decision-making informed by evidence on these values. This study reports on the first-time implementation and evaluation of an EDP in HIV control, organised to support the AIDS Commission in West Java province, Indonesia, in the development of its strategic plan for 2014–2018.

**METHODS** Under the responsibility of the provincial AIDS Commission, an EDP was implemented to select priority interventions using six steps: (i) situational analysis; (ii) formation of a multistakeholder Consultation Panel; (iii) selection of criteria; (iv) identification and assessment of interventions' performance; (v) deliberation; and (vi) selection of funding and implementing institutions. An independent researcher conducted in-depth interviews ( $n = 21$ ) with panel members to evaluate the process.

**RESULTS** The Consultation Panel included 23 stakeholders. They identified 50 interventions and these were evaluated against four criteria: impact on the epidemic, stigma reduction, cost-effectiveness and universal coverage. After a deliberative discussion, the Consultation Panel prioritised a combination of several treatment, prevention and mitigation interventions.

**CONCLUSION** The EDP improved both stakeholder involvement and the evidence base for the strategic planning process. EDPs fill an important gap which international guidelines and current tools for strategic planning in HIV control leave unaddressed.

**keywords** antiretroviral therapy, Evidence-informed deliberative processes, HIV, Indonesia, treatment guidelines

## Introduction

International guidelines on HIV treatment recommend countries to expand antiretroviral therapy (ART) to all HIV-infected individuals, in an effort to end the AIDS epidemic by 2030 [1, 2]. Globally, the United Nations (UN) has committed to this via a UN resolution in 2016

[3], but local authorities face many challenges in translating the global recommendation into local-level priorities. There are many other interventions competing for the scarce resources [4], the evidence about which interventions are most effective is incomplete [5], there are multiple funding sources [4] and diverging values and interests of stakeholders, such as patients, health professionals,

NGOs and donor agencies [6, 7], all in the context of health system constraints [8–10]. Existing tools for strategic planning, such as the UNAIDS ‘Know your epidemic, know your response’ approach [11] and the ‘HIV investment framework’ [12], concentrate on expanding the evidence base, but these tools only provide a partial answer to the challenges local authorities face.

Generic frameworks on priority setting in health recognise priority setting as a highly complex and value-laden political process [13–16]. This has led to the development of evidence-informed deliberative processes (EDPs) that are explicitly aimed at facilitating legitimate priority setting [14, 17]. Legitimacy here refers to the reasonableness, or fairness, of decision-making processes and the eventual decisions, as perceived by stakeholders [16]. EDPs are, on the one hand, based on deliberation between stakeholders to identify, reflect and learn about the meaning and importance of relevant social values. On the other hand, they are based on structured decision-making through evidence-informed evaluation of the identified values, where possible. Importantly, EDPs do not provide a specific format or blueprint on how countries should organise their planning process. Instead, the framework outlines the principles and steps of such a process (Figure 1), whereby the further practical operationalisation depends on what is reasonable and affordable in a local context [14, 17].

Indonesia is the largest archipelago in the world with more than 13 000 islands, of which about 6000 are inhabited [18, 19]. Of the country’s total population of 261 million, 690 000 (0.3%) were people living with HIV (PLWHA) in 2016 [20]. The country is home to Asia’s fastest growing HIV epidemic, with 48 000 new infections in 2016. Except in Papua province (which is experiencing a generalised epidemic where the majority of infections are among the general population), the epidemic is concentrated, meaning that mainly key populations are infected. This includes 5.3% of female sex workers (FSWs), 28.8% of people who inject drugs (PWID), 25.8% of men who have sex with men (MSM) and 24.8% of transgender (TG) people. While a decline in HIV prevalence has been indicated in some affected populations, particularly among PWID in some cities, the overall epidemic is still in an expansion phase. The majority of new infections occur among MSM, who are often married to women due to societal and religious norms on homosexuality in Indonesia, and among clients of FSWs. This route of sexual HIV transmission seems to shift the epidemic from a concentrated epidemic among high-risk populations to a generalised one among the general population [20, 21].

Indonesia has not officially endorsed the international universal testing and treatment guidelines. However, the

Ministry of Health published a regulation on HIV control in 2013 which drastically expanded the guidelines from ‘treat all people with CD4 cell counts of  $\leq 350$  cells/ $\mu\text{L}$ ’ to ‘treat all people with CD4 cell counts of  $\leq 350$  cells/ $\mu\text{L}$  and all at-risk populations (MSM, PWID, FSWs, prisoners, pregnant women and TB/HIV patients and serodiscordant couples) regardless of their CD4 cell count [22]. A 2014 assessment, based on the National Commitments and Policies Instrument, also shows that Indonesia is committed to control HIV by providing ART free of charge [23]. Still, the ART coverage rate among all PLWHA in 2016 was only 13% [20].

West Java province, located in Indonesia’s most developed and densely populated island of Java, has about 46 million inhabitants, a concentrated HIV epidemic comparable to the national picture and one of the country’s highest HIV/AIDS burdens [24, 25]. In 2013, there were an estimated 59 000 PLWHA in West Java, of whom 15 000 were registered by the health system [26]. The West Java AIDS Commission, the governmental body which coordinates the provincial HIV response, struggles to reconcile implementation of the national ART guidelines with other local priorities in HIV control [27].

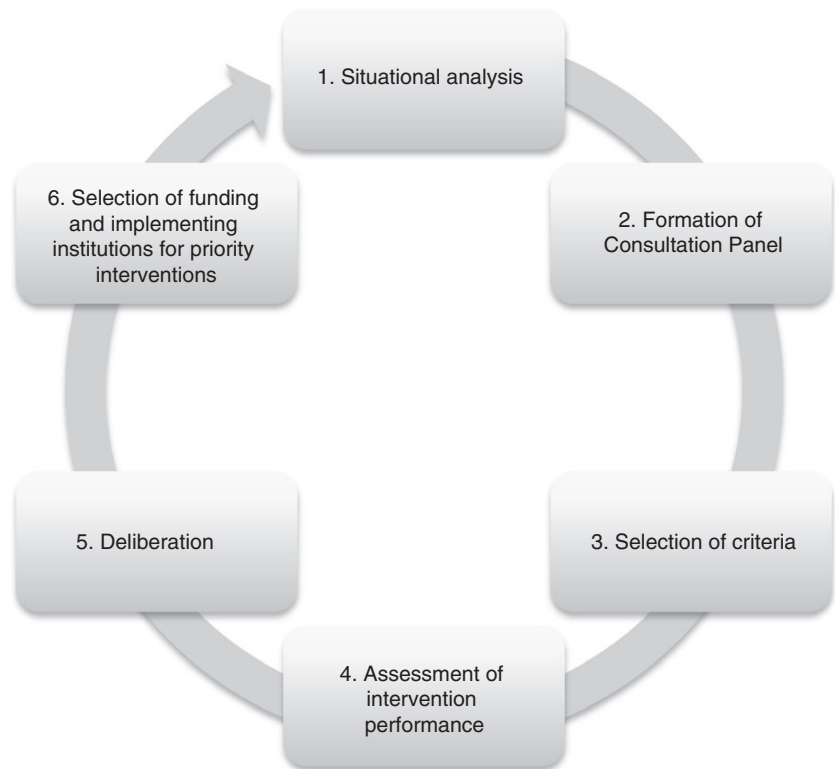
This study reports on the first-time implementation and evaluation of an EDP in HIV control in West Java province, Indonesia. We demonstrate its use 2013–2017 in the development of a new 5-year strategic plan (2014–2018) for HIV control. We derive important lessons for the potential of these processes to translate international guidelines into local priorities in Indonesia and elsewhere in the world, in order to enhance the legitimacy of policy decisions around HIV control.

## Methods

### Setting

The West Java AIDS Commission consists of members from different sector ministries and non-governmental organisations (NGOs) and sets priorities in its 5-year strategic plan, which serves as a reference for the allocation of (inter)national funding in the province [28]. In 2010, total expenditure on HIV control in the province was US \$1.7 million [29]. As financial resource requirements to implement plans typically outstretch budgets, and international funding for HIV control in Indonesia is decreasing [24], the strategic plan also serves to stimulate the provincial government to increase its budget allocation to HIV control.

The previous 5-year strategic planning process (for the years 2008–2013) had several shortcomings: stakeholders were not systematically involved, their underlying values in shaping the HIV response were not made explicit, the



**Figure 1** The six steps of the evidence-informed deliberative process

evidence base used for the decisions was limited, and priorities had not been set. Funding to implement the plan was fragmented among several local government departments and international donor programmes, which hampered its implementation [27].

### Implementation of EDP

The Commission established a so-called ‘Project Team’ ( $n = 6$ ) to implement an evidence-informed deliberative planning process in West Java province in January 2013. The Project Team consisted of the secretary of the West Java AIDS Commission (AL), three researchers with expertise in HIV control and/or health economics from the Padjadjaran University in Bandung, Indonesia (AS, RP and RW), and two researchers from Radboud University Medical Center, the Netherlands, with expertise in priority setting in the health sector (NT and RB).

The Project Team operationalised the six generic steps of EDPs (Figure 1). In step 1, the Project Team conducted a situational analysis in January 2013 and developed an Asian Epidemic Model (AEM) to simulate and predict the HIV epidemic in the province. The AEM is a dynamic mathematical model and widely used among Asian governments [30]. Furthermore, an evaluation was

conducted of the previous 5-year strategic planning process for 2009–2013 to help improve the decision-making process. Details about design, assumptions and data of the AEM and the strategic planning process evaluation can be found elsewhere [25, 27].

Deliberation is a key part of the EDP and is used in steps 2–6 [31]. A plenary discussion was chosen as the deliberation technique based on the evaluation of the previous strategic planning process, which revealed that in the Indonesian culture, it is inappropriate to use voting [27]. The five principles of *Pancasila* (Indonesia’s state principles introduced by president Sukarno in 1945) name democracy as a core value and state that disagreements should be resolved through discussions. All the plenary discussions in the different steps of EDP were moderated by one of the Indonesian researchers on the Project Team (RP) who has a background in psychology, over 5 years of experience in workshop facilitation and HIV control and about 3 years in priority setting in health.

In step 2, the team organised a meeting (duration 90 min) in February 2013 to establish a so-called ‘Consultation Panel’ of 23 stakeholders, including provincial government authorities from the health, labour and education offices and the coordinating body for family

planning ( $n = 6$ ); staff members from community organisations that provide family planning services or represent PLWHA and high-risk groups (MSM, TG and PWID) ( $n = 4$ ); programme managers from the West Java AIDS Commission ( $n = 7$ ); and experts from Padjadjaran University in the economic and epidemiological aspects of HIV ( $n = 6$ ). The selection of Consultation Panel members was based on an existing expert team consulted regularly by the AIDS Commission, as well as the situational analysis and stakeholder evaluation from step 1. The Project Team asked the Consultation Panel for additional names of persons who should be involved in the process, leading to the development of a Broader Stakeholder Panel ( $n = 70$ , including the Consultation Panel members) of West Java and national government institutions, NGOs and eight private sector parties.

In step 3, the Project Team organised a 120-min focus group discussion (FGD) [32] in March 2013 for the Consultation Panel (participation rate 43%) to determine the criteria they considered important in HIV control. As input for the discussion, a list of criteria was composed based on a survey conducted in West Java among different stakeholder groups (policymakers, lay people, PLWHA and healthcare workers) on the most important criteria for HIV control [33]. Other inputs for the list were the WHO guidelines on the strategic use of ARVs [34] and (implicit) criteria that had been used in previous National and West Java strategic plans [27]. During the FGD, the Project Team presented the list of 31 criteria to the Consultation Panel members and asked each member to write his or her top three criteria on a piece of paper. The Project Team collected the papers and tallied the number of times each criterion was mentioned. Through deliberation in the form of a plenary discussion, the Consultation Panel members agreed to rank the criteria based on the number of times each was mentioned. Then, they reached consensus through plenary discussion to select the four most frequently mentioned criteria. Finally, 19 of the 23 Consultation Panel members (response rate 83%) completed a survey to develop criteria weights, where they were asked to divide 100 points among the four criteria to indicate the relative importance of each.

In step 4, the Project Team organised six FGDs of 90 min each over a 2-day period in April 2013. Participants were Broader Stakeholder Panel members, with the sessions organised according to the working groups established in most AIDS Commissions in Indonesia: prevention of sexual transmission (attendance 6/10, or 60%), care support treatment (3/18, or 17%), harm reduction (11/11, or 100%), mitigation (7/19, or 39%), media (12/18, or 67%) and workplace (7/17, or 41%). During the FGDs, facilitated by a member of the Project

Team (RP), Broader Stakeholder Panel members were asked to identify interventions – whether new or existing – for inclusion in the strategic plan. To the list identified in the FGDs, the Consultation Panel and Project Team added interventions from international guidelines and local and other countries' experiences, so as not to miss potentially relevant interventions. The Project Team divided the interventions into three categories: prevention, treatment and mitigation.

Three researchers (NT, RP and AS) from the Project Team assigned performance scores to the interventions for each of the four criteria from step 3, with scores ranging from 0 to 2, where 2 indicated high, 1 moderate and 0 low performance. The scoring was based on existing evidence that was brought together in databases of scientific peer-reviewed and grey literature on HIV in the Indonesian context [35], projections of the AEM, or, alternatively, expert opinion (in teams of at least two experts). The collection of evidence took place from May to September 2013. The scoring system was chosen to keep the scoring simple to understand for the Consultation Panel members. More details about the scoring process can be found online (see Additional Supporting Information Data S1). The strength of the evidence underlying each score was indicated by the researchers of the Project Team in stars: expert opinion on new interventions received one star, indicating weak evidence; expert opinion on existing interventions received two stars, indicating moderate evidence; and interventions backed by compelling scientific evidence (either through mathematical modelling or from the literature) received three stars, indicating strong evidence. The total scores per intervention were calculated by weighting its scores with the criterion weights. Then, a so-called performance matrix was developed to show the scores and rank order of interventions based on the total scores.

In step 5, the Consultation Panel deliberated on the performance matrix during a 1-day meeting in September 2013 (participation rate 54%) in an interactive poster exercise to critically assess and build consensus on the scores. For each intervention, an A1 size poster presented the intervention description and target groups, performance scores and strength of evidence. To improve the scoring of the interventions and create ownership of results, Consultation Panel members were invited to walk individually along the posters and to critically assess the scores or suggest alternative scores, in case they did not agree with the scoring, using 'comment cards'. The comments were entered in a Microsoft Excel spreadsheet by the Project Team on the spot and discussed, particularly when changes were suggested to scores related to very strong evidence. This was to stimulate members to think

in an evidence-informed way. Subsequently, members deliberated plenary on the resulting rank ordering by bringing in additional considerations that were not yet captured by the four criteria. Finally, the final scores, rank order and priority interventions were agreed upon.

In step 6, the Consultation Panel met for 2 days in October 2013 in three subgroups (prevention, treatment and mitigation), with members assigned to an appropriate subgroup based on experience. For the top interventions, each subgroup discussed coverage targets for 2014–2018 and the stakeholders that are currently and could additionally implement and fund the interventions. While for the prevention and mitigation category, the top five priority interventions were discussed, for treatment only the testing and treatment package per target group was discussed due to time considerations.

### Evaluation of EDP

In April–May 2014, an independent researcher (SM) conducted in-depth semistructured interviews with 21 of the 23 Consultation Panel members (response rate 91.3%) to evaluate their perceptions of the process. The questions were based on existing frameworks for successful priority setting in health [36] and covered stakeholder understanding, engagement and satisfaction; explicitness of the implemented process; information management; revision and appeal process; quality of decision-making; and public engagement. Interviews were held in Bahasa Indonesia, voice-recorded, transcribed and translated into English. The researcher coded the transcriptions using Microsoft Excel software and summarised the findings. More details about the evaluation can be found elsewhere [37].

### Role of the funding source

This study was funded by Radboud University Medical Center fellowship for NT. The funding source did not have any impact on the design, conduct or reporting of the study.

### Results

After the situational analysis was conducted (step 1) and the Consultation Panel was established (step 2), the Panel selected four criteria (and assigned weights to these, indicated in brackets) in step 3: impact on the epidemic (34/100), stigma reduction (25/100), cost-effectiveness (18/100) and universal coverage (23/100). Impact on the epidemic was defined as the number of HIV infections that can be prevented by an intervention between 2014 and 2018. Stigma reduction meant the amount of ‘self-enacted’ and ‘societal stigma’ that could be reduced by

an intervention during this same time period. Cost-effectiveness was defined as the budget spent on the intervention against the impact on the epidemic, also for 2014–2018. Universal coverage was defined as achievement of 80% coverage of the target population of the intervention in 2018. In step 4, the Panel proposed 42 existing interventions and eight interventions that had not yet been implemented in West Java province (the definitions can be found in Appendix Table A1). As interventions were not differentiated by coverage level or 2018 coverage target at this stage of the strategic planning process, the criterion ‘universal coverage’ scored similar across interventions. Despite this, stakeholders found it important to retain the criterion to make the scoring and evidence transparent for stakeholders.

In step 5, the Consultation Panel agreed to make a few corrections to the scores. This did not affect the overall rank order of the interventions. The Consultation Panel also discussed broader considerations. Importantly, despite the differences in ranking, they considered it important to implement a combination of preventive, treatment and mitigation interventions, following the UNAIDS strategy on zero new infections, zero AIDS-related deaths and zero discrimination [38]. Mitigation was defined as interventions that relieve the impact of HIV on the lives of PLWHA. The scores, rank ordering and resulting prioritisation of interventions by category (prevention, treatment and mitigation) are presented in Tables 1, 2 and 3, respectively.

The Consultation Panel selected the five highest-ranked preventive interventions, the highest-ranked treatment intervention and the five highest-ranked mitigation interventions as priority interventions. Among preventive interventions, *school-based education*; *information and education during Friday prayers*; and *websites and social media* scored high on all criteria and were ranked 1–3, respectively. *Citizen’s AIDS programme* and *workplace programme* scored high on ‘impact on epidemic’ and ‘stigma reduction’ and moderate on ‘cost-effectiveness’; they were ranked 4 and 5. Among treatment interventions, *HIV testing and treatment package* (including outreach, voluntary counselling and testing, partner notification, ARV treatment and adherence counselling and peer support) scored high on all criteria which made it rank first, whereas *treatment of opportunistic infections* scored low on all criteria, resulting in second rank. Among mitigation interventions, the *Probation programme for prisoners*; *vocational training for FSWs*; *community-based rehabilitation for PWID*; *stigma reduction training for police officers and law enforcers*; and *stigma reduction training for healthcare workers* scored variably on the criteria; they were ranked 1–5 in that order. The



**Table 1** Performance matrix for prevention interventions for HIV control in West Java province

Prevention interventions	Criteria				Total score	Rank overall	Rank subcategory
	Impact on epidemic	Stigma reduction	Cost-effectiveness	Universal coverage			
Weights	34	25	18	23			
<b>School-based education</b>	2*	2	2	1	177†	1	1
<i>Information and education during Muslim Friday prayers</i>	2	2	2	1	177	1	2
<b>Websites and social media</b>	2	2	2	1	177	1	3
Stand-alone outreach‡	2	2	1	1	159	2	4
<b>Citizens' AIDS programme</b>	2	2	1	1	159	2	5
<b>Workplace programmes</b>	2	2	1	1	159	2	6
Condom distribution and promotion	2	0	2	1	127	3	7
<i>Condoms sold with energy drinks in red-light districts</i>	2	0	2	1	127	3	8
PMTCT – information for women of reproductive age	1	2	1	1	125	4	9
Radio talk shows	1	2	1	1	125	4	10
Television talk shows	1	2	1	1	125	4	11
Printed media, HIV columns	1	2	1	1	125	4	12
Stand-alone voluntary counselling and testing	1	1	2	1	118	5	13
PMTCT – family and reproductive health counselling for HIV-infected women	1	1	2	1	118	5	14
PMTCT – HIV testing and treatment B+	1	1	2	1	118	5	15
<i>PMTCT – opt-out testing for pregnant women</i>	1	1	1	1	100	6	16
Universal precautions	1	1	1	1	100	6	17
Training for journalists to write about HIV	1	1	1	1	100	6	18
Printed information and education (leaflets, stickers and posters)	1	1	1	1	100	6	19
Radio ad libs	1	1	1	1	100	6	20
Radio HIV public service announcements	1	1	1	1	100	6	21
Blood screening	1	0	2	1	93	7	22
Sexual transmitted infections testing and treatment	2	0	0	1	91	8	23
Television HIV public service announcements	1	1	0	1	82	9	24
World AIDS day	1	1	0	1	82	9	25
<i>Information and education on televisions in minimarkets</i>	1	1	0	1	82	9	26
Needle exchange and medical waste management	1	0	0	1	57	11	27
Methadone and peer support for PWID	1	0	0	1	57	11	28
<i>Pre-marital voluntary counselling and testing</i>	0	1	0	1	48	12	29
<i>Functional cure experiments</i>	0	1	0	1	48	12	30
Edutainment concerts	0	1	0	1	48	12	31
<i>AIDS ambassador</i>	0	1	0	1	48	12	32
Post-exposure prophylaxis	0	0	0	1	23	13	33

PMTCT, prevention of mother-to-child transmission.

Italics = new interventions that did not yet exist in West Java province at time of the EDP.

Bold = interventions selected as top priorities by the consultation panel.

\*Scores indicate the performance of an intervention on the criteria: 2 = high, 1 = moderate, 0 = low.

†The total score per intervention is calculated by the sum of the weights times the score per criterion, for example

$(2 \times 34) + (2 \times 25) + (2 \times 18) + (2 \times 23) = 177$ .

‡This intervention was not selected among the top five prevention interventions as it is already part of the comprehensive HIV testing and treatment package (see Table 2).

**Table 2** Performance matrix for treatment interventions for HIV control in West Java province

Treatment interventions	Criteria				Total score	Rank overall	Rank subcategory
	Impact on epidemic	Stigma reduction	Cost-effectiveness	Universal coverage			
Weights	34	25	18	23			
<b>HIV testing and treatment package*</b>	2†	2	2	1	177‡	1	1
<b>Opportunistic infections treatment</b>	0	0	0	1	23	13	2

Bold = interventions selected as top priorities by the consultation panel.

\*The package consists of: outreach, voluntary counselling and testing, partner notification, antiretroviral treatment, adherence counselling and peer support.

†Scores indicate the performance of an intervention on the criteria: 2 = high, 1 = moderate, 0 = low.

‡The total score per intervention is calculated by the sum of the weights times the score per criterion, for example  $(2 \times 34) + (2 \times 25) + (2 \times 18) + (2 \times 23) = 177$ .

**Table 3** Performance matrix for mitigation interventions for HIV control in West Java province

Mitigation interventions	Criteria				Total score	Rank overall	Rank subcategory
	Impact on epidemic	Stigma reduction	Cost-effectiveness	Universal coverage			
Weights	34	25	18	23			
<b>Probation programme for prisoners</b>	1*	1	2	1	118†	5	1
<b>Vocational training for FSWs</b>	1	1	0	1	82	9	2
<b>Community-based rehabilitation for PWID</b>	0	2	0	1	73	10	3
<b>Stigma reduction training for police officers and law enforcers</b>	0	2	0	1	73	10	4
<b>Stigma reduction training for healthcare workers</b>	0	2	0	1	73	10	5
<b>PMTCT – milk programme for HIV-infected children</b>	0	1	0	1	48	12	6
<b>Education scholarships for HIV-infected people</b>	0	1	0	1	48	12	7
<i>Support for government insurance application</i>	0	1	0	1	48	12	8
<i>Psychological counselling</i>	0	1	0	1	48	12	9
<i>Legal support for stigmatised children in schools</i>	0	1	0	1	48	12	10
<i>Microloans</i>	0	0	0	1	23	13	11
<i>Social support for widows (group discussion)</i>	0	0	0	1	23	13	12
<i>Day care for children</i>	0	0	0	1	23	13	13
<i>Transport subsidies for HIV patients</i>	0	0	0	1	23	13	14
<i>In-patient rehabilitation</i>	0	0	0	1	23	13	15

FSW, female sex worker; PMTCT, prevention of mother-to-child transmission; PWID, people who inject drugs.

Italics = new interventions that did not yet exist in West Java province at time of the EDP.

Bold = interventions selected as top priorities by the consultation panel.

\*Scores indicate the performance of an intervention on the criteria: 2 = high, 1 = moderate, 0 = low.

†The total score per intervention is calculated by the sum of the weights times the score per criterion, for example  $(1 \times 34) + (1 \times 25) + (2 \times 18) + (1 \times 23) = 118$ .

Consultation Panel questioned the low ranking of PWID-related interventions, but eventually agreed to it given that new infections in West Java province mainly occur among MSM and FSWs, rather than PWID.

In step 6, the Consultation Panel agreed which stakeholders are currently and could additionally take up responsibility for funding and implementation of the priority interventions. Furthermore, the coverage targets for



**Table 4** Overview of current and suggested implementers and funders and 2018 coverage targets for priority interventions

Interventions	Implementers		Funders		Coverage targets 2018
	Current	Suggested	Current	Suggested	
Prevention School-based education	Schools, Education Office, Padjajaran University	District Health Office, City AIDS Commission, NGOs, Family Planning Board	Education Office, Private sector (corporate social responsibility funds)	None	50% of schools
Information and education during Muslim Friday prayers	None (new intervention)	Religious Tolerance Forum, Ministry of Religion, NGOs, Universities, Communities	None (new intervention)	Local government budget	20% of Friday prayers
Websites and social media	West Java AIDS Commission	Ministry of Communication, Relevant Government Institutions with websites			Reaching out to 1% of West Java population
Citizens' AIDS programme	Districts AIDS Commissions in West Java	None	Local government budget	None	50% of new health cadres trained
Workplace programme	Workforce office	Transportation Office, Construction Office, Tourism Office	Local and national government budgets	Private sector	50% migrant worker, 50% company worker
Treatment HIV testing and treatment package	District Hospitals, Private Hospitals, Community Health Centers, District Health Office	Social Office	National Budget, Local government budget, Global Fund	Local government budget	50% MSM, 80% FSW, 80% IDUs, 50% waria, 30% FSW client, 80% prisoners, 5% low-risk male, 50% low-risk female, 20% children
Opportunistic infections treatment	Not discussed	Not discussed	Not discussed	Not discussed	Not discussed
Mitigation Probation programme for prisoners	Probation Office	NGOs			
Vocational training for FSWs	Social Office, Education Office, Workforce Office, NGOs	Private sector	Local Budget, National Budget, International Labour Organization Global Fund, National Budget	Private sector	80% direct FSW, 20% indirect FSW, 50% IDUs
Community-based rehabilitation for PWID		Provincial Narcotic Board	HCPI, National Budget	Local government Budget, Private sector	25% IDUs in 2018
Stigma reduction training for police officers and law enforcers	Police Department	District Attorney Office, Law Office		Local government budget	50% law enforcers
Stigma reduction training for healthcare workers	None (new intervention)	Ministry of Health, DHO	None (new intervention)	Local government budget	50% healthcare workers

2018 were listed. The results of step 6 are presented in Table 4.

The Project Team reported the results of the priority-setting process in the 5-year (2014–2018) strategic document for HIV control in West Java, which was widely distributed to relevant stakeholders. The document was presented to the provincial Governor for endorsement in August 2014 and has since then served as a technical guideline and justification for the resource allocation to the priority interventions by government offices. The document was transformed into a draft Governor decree, as a supplement to the local regulation on HIV control issued in 2012 [39], in November 2014 and published in July 2017 [28].

The evaluation revealed that overall participants were positive about the EDP. They argued it had improved the decision-making quality, especially regarding the use of criteria and evidence for decisions. In addition, they thought it had increased the transparency of the priority-setting process, while at the same time, reducing the risk of corruption. The members were especially satisfied with the involvement of community organisations. However, they doubted whether the process would actually result in increased domestic resource allocation for HIV control. Also, they suggested intensifying the process to obtain stronger commitment of the government Consultation Panel members for domestic resource allocation and to better inform the Consultation Panel members about the nature of the HIV epidemic, the full range of HIV interventions and the principles of EDPs.

## Discussion

The West Java Provincial AIDS Commission used the EDP to identify the top priority interventions for HIV control. They did so on the basis of a set of criteria, which were carefully chosen by Consultation Panel members, reflecting their perceived objectives in HIV control – that is having an impact on the epidemic, reducing stigma and achieving universal health coverage, in a cost-effective manner. After deliberation, the commission prioritised a combination of prevention, treatment and mitigation interventions. For treatment, a broad *testing and treatment package* was prioritised. For prevention, they identified interventions mainly geared towards the general population, reflecting the Consultation Panel's understanding of the changing nature of West Java's epidemic towards the general population. The prioritised interventions are expected to have the largest impact on the epidemic and on stigma reduction. Also, for this reason, the commission decided to give low priority to *needle exchange and medical waste management* and

*methadone and peer support for PWID*. For mitigation, interventions were prioritised that mainly focused on stigma reduction and prevention of stigmatisation through training of health workers and police officers. The resulting mix of interventions reflects the need for a multifaceted response, as expressed by the country's National AIDS Commission [24].

The Consultation Panel also identified various priorities that deviate from contemporary international recommendations in HIV control. Most notably, it assigned low scores to *treatment of opportunistic infections* in terms of 'impact on epidemic' and 'cost-effectiveness', whereas international guidelines consider this essential [40]. The deviating scores and recommendations can be explained by the way the evidence base was constructed. The scores were based on a combination of scientific evidence specifically for the Indonesian context (including mathematical modelling results) and the opinion of experts who brought in the international scientific evidence. Yet, these experts may not have had full knowledge of the international evidence in future applications; a better facilitation of this evidence to the experts may improve their judgements. This also points to a more general operational challenge of priority setting in a decentralised setting, in which public health and/or scientific expertise is scarce. Ideally, EDPs are organised in such a way that available evidence is taken into account as much as possible, while maximising possibilities to bring in local perspectives and preferences. As another operational challenge, the Consultation Panel did not always define independent interventions (i.e. one intervention has no effect on the performance of another intervention), whereas good practice in priority setting requires this. For example, it defined *provision of information to women about prevention of mother-to-child transmission (PMTCT)* separately from *PMTCT-related counselling, HIV testing and ART treatment*, whereas the implementation of the latter intervention clearly affects the performance of the former. The representativeness of the panels could also be improved. For example, FSWs were not represented in the Consultation Panel as they had no organisation representing them. Religious stakeholders and donor organisations were not listed by Consultation Panel members to be part of the Broader Stakeholder Panel. While some other important stakeholders, such as the army and government planning board in charge of domestic funding allocation, were invited, and they did not attend meetings. These challenges should be overcome in future implementations of the processes.

The EDP described here was an important step forward for West Java province in the development of its response to the HIV epidemic. Compared to previous strategic planning processes, both stakeholder involvement and the

evidence base improved. In terms of stakeholder involvement, several parties participated systematically in steps 2–6 of the process, where they expressed explicit values they considered most important in the HIV response, suggested interventions, critically appraised the available evidence and deliberated on final priorities. In terms of evidence, the Consultation Panel made decisions on the basis of systematic information, where available, on the performance of 50 interventions in relation to four criteria. Moreover, unlike in the development of the previous strategy, explicit criteria were used for priority setting and a broad consensus was achieved for the subsequent selection of priority interventions.

Evidence-informed deliberative processes fill an important gap which current tools for strategic planning in HIV control [11, 12] and WHO guidelines [1] leave unaddressed. These tools typically stress the need for fair processes, including stakeholder participation, but fall short of showing how to accomplish this. Existing tools and guidelines would benefit from adopting the principles of EDPs in their decision framework; this would provide national and subnational authorities' practical guidance on translating international guidelines into legitimate country priorities. Although this case study from Indonesia presents one cycle of the EDP, it is meant to be an iterative process whereby countries continuously follow the six steps and gradually improve the fairness of priority-setting decisions in HIV control.

Importantly, the EDP framework does not provide a specific format or blueprint for the organisation of planning process. Instead, it outlines the principles and steps of such a process, whereby the further practical operationalisation depends on what is considered reasonable and affordable in the local context. Many countries already incorporate elements of the framework in their strategic planning in HIV control – such as evidence gathering and some form of stakeholder involvement. They can thus take incremental steps to improve their processes. In doing so, they do not necessarily need to adopt the approach taken by the West Java Provincial AIDS Commission in Indonesia, for example in the selection of stakeholder panel members, the frequency of panel meetings or the way evidence is collected. It is also important to note that priority setting not only requires the development of a process, but also the creation of the right conditions in which it can take place, such as the development of institutions [41]. We are currently developing best practices regarding various elements of the EDP framework [42].

Finally, as countries around the world face challenges regarding the sustainability of their HIV control programmes, driven by the growing number of people who

are eligible for treatment and reduced funding [41], they will be increasingly confronted with the need to make difficult choices. We see the development of EDPs as a suitable response and a necessary condition, both to safeguard the legitimacy of choices that are made and significantly contribute to ending the HIV epidemic by 2030.[1]

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## Appendix I

**Table AI** Overview of definition and target groups of 50 interventions for HIV control in West Java

Intervention	Definition	Target groups
HIV testing and treatment package	Package of interventions including outreach, VCT, partner notification, ART, adherence counselling, peer support. Note: ART is given regardless CD4 cell count for all HIV+ pregnant women, TB/HIV coinfecting, serodiscordant couples, FSW, MSM and PWIDs and for other populations <350	PWID (males and females), FSW (direct and indirect), injecting FSW (direct and indirect), clients of FSW, MSM (visible and hidden), transgender, clients of transgender, serodiscordant couples, prisoners, low at risk (men and women), TB patients, hepatitis patients (B and C), STI patients
Stand-alone outreach	Outreach to populations to provide information education and communication (IEC) in order to prevent new infections and to increase access to HIV care	PWID (males and females), FSW (direct and indirect), injecting FSW (direct and indirect), clients of FSW, MSM (visible and hidden), transgender, clients of transgender, serodiscordant couples, prisoners, low at risk (men and women),
Stand-alone VCT	Only provision of voluntary counselling and testing (VCT) to promote HIV testing and reduce risk behaviour	PWID (males and females), FSW (direct and indirect), injecting FSW (direct and indirect), clients of FSW, MSM (visible and hidden), transgender, clients of transgender, serodiscordant couples, prisoners, low at risk (men and women), TB patients, hepatitis patients (B and C), STI patients
Post-exposure prophylaxes (PEP)	Healthcare workers that had a needle stick incident receive ART prophylaxes, also if HIV status of patient is unknown	Healthcare workers
Pre-marital voluntary counselling and testing	Provision of VCT during Islamic meeting for couples that are about to get married	Islamic couples that join pre-marriage counselling
PMTCT – Component 1: IEC for women in reproductive age	Information Education Communication (IEC) for women in reproductive age (note: only married women can enter antenatal care clinics, other women should be targeted in another way)	Women in reproductive age
PMTCT – Component 2: Family planning and reproductive health counselling for HIV-infected Women	Family planning and reproductive health counselling for HIV-infected women	HIV-infected women
PMTCT – Component 3: PMTCT B+	HIV-infected pregnant women receives long life ART regardless CD4 cell count, caesarean section or normal delivery is rationalized, infant receives ART after delivery	HIV-infected women and their infants
PMTCT – Component 1: Opt-out testing for all pregnant women	Opt-out testing for all pregnant women (note: only married women can enter antenatal care clinics, other women should be targeted in another way)	Pregnant women
PMTCT – Component 4: Milk programme	Formula milk is provided for HIV+ infants for extra nutrition. This is to provide social support to HIV-infected mothers and her HIV-infected child	HIV-infected women and their HIV-infected child



**Table A1** (Continued)

Intervention	Definition	Target groups
STI testing and treatment	STI testing and treatment is provided for all target groups in community health centres and hospitals	PWID (males and females), FSW (direct and indirect), injecting FSW (direct and indirect), clients of FSW, MSM (visible and hidden), transgender, clients of transgender, serodiscordant couples, prisoners, low at risk (men and women), TB patients, hepatitis patients (B and C), General population (people that receive blood)
Blood screening	All blood used for blood donation will be screened for HIV	
Opportunistic infections (OI) treatment	Treatment of opportunistic infections that AIDS patients suffer from	PWID AIDS patients (males and females), FSW AIDS patients (direct and indirect), injecting FSW AIDS patients (direct and indirect), clients of FSW AIDS patients, MSM AIDS patients (visible and hidden), transgender AIDS patients, clients of transgender AIDS patients, serodiscordant couples AIDS patients, prisoners AIDS patients, low at risk (men and women) AIDS patients, HIV-infected people enrolled in the research study
Functional cure experiments	In a research setting, experiments will be carried out to provide ART to adults and children directly after they are infected and their viral load will be measured to see if functional cure occurred	
Probation programme for prisoners	Part of a standard programme to support released prisoners back into society. For HIV-infected prisoners, this includes behaviour change counselling, referral to a clinic for continuation of ART	HIV-infected released prisoners
Vocational training	Training aims to learn FSW and PWIDs skills to increase (regular) employment. FSW (both direct and indirect) are captured by police and receive training of 1 month. This training is not yet provided by PWIDs, but is proposed by a stakeholder during the focus group discussions	FSW (direct and indirect) [existing programme] PWID (female and males) [new programme]
Microloans	Microloans are provided to give HIV-infected people and their families an opportunity to build a business and improve their financial situation	HIV-infected PWID (males and females), HIV-infected FSW (direct and indirect), HIV-infected injecting FSW (direct and indirect), HIV-infected Clients of FSW, HIV-infected MSM (visible and hidden), HIV-infected transgender, HIV-infected clients of transgender, HIV-infected serodiscordant couples, HIV-infected ex-prisoners, HIV-infected low at risk (men and women), widows of HIV-infected partners caregivers of HIV-infected children caregivers of orphans with HIV-infected parents
Social support for widows (group discussion)	Group discussion is held among widows of HIV-infected partners that passed away in order to exchange experiences and to improve their quality of life	Widows of HIV-infected partners
Day care for children (HIV-infected and orphans)	Day care is provided for HIV-infected children and orphans of HIV-infected parents that passed away	HIV-infected children Orphans of HIV-infected parents



**Table A1** (Continued)

Intervention	Definition	Target groups
Education scholarships for HIV-infected people	Scholarships are provided for HIV-infected people with a low socio-economic status (SES) to give them the opportunity for enrolment in education and a better career and financial situation. This is in line with the government programme that provides scholarships for people with low SES	HIV-infected people with low SES
Support for government insurance application (Jamkesmas)	Support for government insurance application is provided to reduce financial burden of HIV-infected people with low socio-economic status (SES)	HIV-infected people with low SES
Transport subsidies for ART patients	Subsidies are provided for ART patient to pay transport fees to the clinic in order to improve their adherence to ART and related financial burden	HIV-infected people on ART
Psychological counselling	All HIV-infected people will receive psychological counselling to improve their quality of life	HIV-infected PWID (males and females), HIV-infected FSW (direct and indirect), HIV-infected injecting FSW (direct and indirect), HIV-infected clients of FSW, HIV-infected MSM (visible and hidden), HIV-infected transgender, HIV-infected clients of transgender, HIV-infected serodiscordant couples, HIV-infected ex-prisoners, HIV-infected low at risk (men and women), HIV-infected children in schools
Legal support for stigmatized children in schools	Legal support will be provided for HIV-infected children that are stigmatized in schools	
Methadone maintenance therapy and peer support	Methadone programme is provided to cure PWID from addiction and to decrease their injecting and sexual risk behaviour to prevent HIV infection among PWIDs and their partners. Peer support is provided to keep them adherent to the programme, to provide social support and to increase their quality of life	PWID
Needle exchange and medical waste programme	Clean needles are provided for PWID to prevent HIV transmission. This is combined with a medical waste programme that takes care of proper management of dirty needles handed in or thrown away in the community by PWID	PWID and indirect the general population
In-patient rehabilitation	Six-month in-patient rehabilitation is provided for PWID to cure them from addiction and to decrease their injecting and sexual risk behaviour to prevent new HIV infections and to improve their quality of life	PWID
Community-based rehabilitation	One-month community-based rehabilitation is provided for PWID to cure them from addiction and to decrease their injecting and sexual risk behaviour to prevent new HIV infections and to improve their quality of life	PWID
Condom distribution and promotion	Condoms will be distributed by condom outlets and the use is promoted among all targets groups to increase condom use and prevent new HIV infections	PWID
Condom sold with energy drinks in hotspots	Condoms will be sold together with energy in minimarkets and warung in hotspots in the red-light areas in order to increase condom use among clients of FSW workers and to prevent new HIV infections	Clients of FSW Clients of transgender

**Table A1** (Continued)

Intervention	Definition	Target groups
School-based education	Sexual and drug-related education is provided to children in junior high school to decrease their risk behaviour, reduce stigma in society and to prevent new HIV infections	Children in 1st grade of junior high school (SMP) (13–14 year old)
Citizen's AIDS programme	Volunteers will visit their community to talk about HIV/AIDS in order to increase awareness, to reduce risk behaviour. This likely decreases stigma and prevents new HIV infections	General population
Stigma reduction training for policemen and law enforcers	Policemen and law enforcers are trained to increase their awareness about HIV/AIDS in order to reduce stigma towards risk groups and in society	Policemen Law enforcers
Stigma reduction training for healthcare workers	Healthcare workers are trained to increase their awareness about HIV/AIDS in order to reduce stigma towards HIV-infected patients and risk groups and to decrease stigma in society	Healthcare workers
Workplace programmes	Workers receive HIV/AIDS information to increase their awareness, reduce their risk behaviour and to reduce stigma in society	Migrant workers Company and factory workers
Universal precautions	Healthcare workers receive training to take precautions to prevent needle stick incidents and other work-related injuries to prevent infections from HIV-infected patients	Healthcare workers
Training for journalists	Journalist receives training to increase their HIV knowledge. This will increase the number of well-written articles and news items in the media on HIV in order to reduce stigma in society	Journalists
Information and education during Muslim Friday prayers	During Moslem Friday prayers (attended by men only) the Imam provides information about HIV epidemic and related problems to increase awareness, decrease risk behaviour and reduce stigma	Moslem men in general population
Websites and social media	Website and social media (e.g. Facebook, Twitter) will provide information on HIV to increase awareness, reduce risk behaviour and stigma in society. Note: social media programmes are not yet established	PWID (males and females), FSW (direct & indirect), injecting FSW (direct and indirect), clients of FSW, MSM (visible and hidden), transgender, clients of transgender, low at risk (men and women), TB patients, hepatitis patients (B & C), STI patients
Printed IEC (posters, leaflets and stickers)	Materials are printed containing HIV messages to create HIV awareness, reduce risk behaviour and reduce stigma in society	PWID (males & females), FSW (direct & indirect), Injecting FSW (direct & indirect), Clients of FSW, MSM (visible & hidden), Transgender, Clients of Transgender, Serodiscordant couples, Prisoners, Low at risk (men & women), TB patients, Hepatitis patients (B & C), STI patients Hotspot (brothels, karaoke+, spa+) owners
Radio – add lips	Add lips are free messages embedded in existing radio programmes that contain HIV messages to increase awareness, decrease risk behaviour and reduce stigma	General population
Radio – HIV Public service announcements	Public health announcements (PSA) in between radio programmes that contain HIV messages to increase awareness, decrease risk behaviour and reduce stigma	General population

**Table A1** (Continued)

Intervention	Definition	Target groups
Radio – talk shows	Talk shows on the radio discuss HIV epidemic and related problems by inviting experts and affected people to increase awareness, decrease risk behaviour and reduce stigma	General population
Television – talk shows	Talk shows on television discuss HIV epidemic and related problems by inviting experts and affected people to increase awareness, decrease risk behaviour and reduce stigma.	General population
Television – HIV public service announcements	Public health announcements (PSA) in between television programmes that contain HIV messages to increase awareness, decrease risk behaviour and reduce stigma	General population
Printed media – HIV columns	Columns that discuss the HIV epidemic and related problems in order to increase awareness, decrease risk behaviour and reduce stigma	General population
World AIDS Day	An entertaining event (e.g. concert by popular artist) is organized on World AIDS Day (1st of December) to increase awareness, decrease risk behaviour and reduce stigma	General population
Edutainment concerts	Entertaining concerts (e.g. by popular artist) are held for general population or specific risk groups to increase their awareness, decrease risk behaviour and reduce stigma	PWID (males and females), clients of FSW, MSM (visible), Transgender, Clients of Transgender
AIDS ambassador	A local cultural artist will act as an AIDS ambassador to reduce stigma in society	Low at risk (men and women), youth General population
IEC on televisions in minimarkets	Televisions in minimarkets will show information about HIV epidemic and related problems to increase awareness, decrease risk behaviour and reduce stigma	General population

### Supporting Information

Additional Supporting Information may be found in the online version of this article:

**Data S1.** Description of scoring process for the four criteria for priority setting of HIV interventions.

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