

# Results from implementing a cohesive strategy and standardized monitoring programme for hygiene kit distribution in Myanmar

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**Abstract:** Hygiene kits are commonly distributed in humanitarian emergencies to interrupt disease transmission and provide dignity. Despite being commonly implemented, hygiene kit distribution interventions are under-researched, and there is a lack of knowledge on kit efficacy and effectiveness. In Myanmar, the WASH cluster developed a national hygiene kit distribution and monitoring strategy. The research was aimed at determining the effectiveness of this strategy in the context of protracted internally displaced persons camps in Myanmar. To understand programme strategy, we reviewed documents against inclusion criteria; extracted and categorized data for included documents; analysed data; and summarized results. Twenty-six documents met the inclusion criteria of describing strategy development (47 per cent), monitoring in Rakhine (47 per cent) or Kachin State (3 per cent), or monitoring menstrual health and hygiene programme (3 per cent). We identified the strategy was successfully adopted and adapted for Kachin and Rakhine states; however, limitations were identified in receiving consistent monitoring data. We found hygiene kit distributions need to consider local context, including population mobility, local markets and availability of products, and household expenses and debt. Due to these interrelated factors, the percentage of households selling kit items decreased over time; additionally, soap and sanitary pad presence was significantly associated with household income. Consistently, women reported preferring disposable pads for menstrual health and hygiene due to privacy concerns. Programmatically, it is recommended to adapt hygiene kit distributions to local contexts, continue to distribute hygiene kits in protracted contexts to identified at-risk households, distribute disposable pads, and continue revising and improving strategy and monitoring tools.

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HUMANITARIAN EMERGENCIES, INCLUDING NATURAL HAZARDS, conflicts, and disease outbreaks, are occurring at increasing rates and affecting growing numbers of people (Smith et al., 2014; EM-DAT, 2019; Kohrt et al., 2019). A total of 70.8 million people were forcibly displaced worldwide in 2019 (UNHCR, 2020) due to conflict and natural hazards. Of these, 41.3 million were internally displaced persons (IDPs). Concurrently with the increase in displaced persons is an increase in populations in protracted contexts, defined as ‘environments in which a significant proportion of the population is acutely vulnerable to death, disease and disruption of livelihoods over a prolonged period of time’ (Harmer and Macrae, 2004).

Myanmar, a country in Southeast Asia, is home to 54 million people divided into 14 state/region administrative districts (Department of Population, 2019). Myanmar has a history of conflict, including some of the world’s longest running civil wars (UN OCHA, 2019). Currently, there are tensions between the Buddhist Rakhine population and the Muslim Rohingya minority in Rakhine State, and fighting between the Myanmar Army and armed independent groups in Kachin and Northern Shan states (UN OCHA, 2019). There are an estimated 230,000 IDPs in protracted situations in Myanmar (UN OCHA, 2019).

Providing access to safe drinking water, sanitation, and hygiene (WASH) is critical to human survival, infectious disease control, and dignity in humanitarian emergencies (Connolly et al., 2004; Salama et al., 2004; Watson et al., 2007). One common WASH intervention in humanitarian emergencies is hygiene kit distribution. Hygiene kits are packages of items necessary to practise hygiene habits, distributed to affected populations to reduce the disease burden and provide dignity (Yates et al., 2018). Hygiene kits often include items such as: buckets or jerrycans, soap, shampoo, laundry detergent, toothbrushes, pads, and water treatment (e.g. chlorine tablets). Hygiene kit contents vary based on context and distributing organization and can include durable or consumable items in initial or refill kits (Sphere Association, 2018). In addition to hygiene kits or as a part of separate kits, items can be distributed for menstrual health and hygiene (MHH), which can include disposable or reusable sanitary pads, underwear, and other items.

Despite being commonly implemented, hygiene kit distributions are under-researched and there is a lack of knowledge on kit efficacy and effectiveness (Vaillancourt, 2016; Yates et al., 2018; Kohrt et al., 2019). In the Sphere Standards it is recommended to adapt hygiene kits and items to culture and context, prioritizing essential items in the initial phase such as soap, water containers, and menstruation and incontinence materials (Sphere Association, 2018). In a systematic review of WASH in emergencies, hygiene kits were found to be commonly implemented and components of the kits were evaluated, but the kits themselves were not (Yates et al., 2018). The following qualitative factors were identified as critical for programme success: sufficient quantity of materials, timeliness of distribution, and coordination to ensure kit content consistency, full coverage of affected population, and avoiding duplication (Oxfam, 2013; Sphere Association, 2018; Yates et al., 2018). Additionally,

there is a lack of evidence around MHH kits (Sommer et al., 2016; Vanleeuwen and Torondel, 2018; Yates et al., 2018), although sanitary pads are consistently recommended to be included in hygiene kits (House et al., 2012; Sphere Association, 2018; Vanleeuwen and Torondel, 2018).

Currently, donors and responders are increasingly using cash or vouchers for providing hygiene items to affected populations (instead of pre-made, in-kind hygiene kits) (UNHCR, 2016; Sphere Association, 2018). Voucher programmes may be commodity or value vouchers and may specify certain eligible items or vendors, whereas cash transfer, especially unconditional and unrestricted multi-purpose grants, are fully flexible (Global WASH Cluster, 2019). Perceived benefits of voucher and cash programming include cost-effectiveness, self-identification of hygiene needs, dignity, and population satisfaction (UNHCR, 2016; Yates et al., 2018; Global Wash Cluster, 2019). However, these programmes must have access to functional markets.

In Myanmar, the national WASH Cluster, a partnership of national and international organizations working in the humanitarian response led by UNICEF, coordinated a national strategy for hygiene kit distribution in humanitarian response, and the development of standardized tools for post-distribution monitoring (PDM). In this research, we analysed strategy and monitoring documents provided by the WASH Cluster to determine the effectiveness of this hygiene kit strategy in the context of protracted IDP camps in Myanmar. The aim of this work was to provide insight on how to design and evolve hygiene kit distributions over time in protracted emergencies.

## Methods

To review the effectiveness of the WASH Cluster hygiene kits strategy in Myanmar, the WASH Cluster provided documents for the period 2016–2018 to Tufts University. These were then analysed to extract, categorize and describe, and summarize data.

### *Review of documents*

The WASH Cluster Coordinator of UNICEF/Myanmar collected documents from Cluster members on hygiene kit distribution and MHH monitoring in Rakhine and Kachin state IDP camps. Documents were made available on the WASH Myanmar cluster website and Google Drive platform (Mountain View, CA, USA). Documents were reviewed by a Tufts researcher and selected according to following inclusion criteria: 1) were focused on Kachin or Rakhine State IDP camps; and 2a) included information on WASH Cluster hygiene kit or MHH item distribution *strategy*; or 2b) included qualitative or quantitative outputs, outcomes, or impact data on hygiene kit or MHH item *distribution*.

### *Data extraction, categorization, and analysis*

Documents were first stratified as related to strategy, PDM, and/or the Rakhine or Kachin State. Data from strategy-related documents were assessed to understand the temporal evolution of the WASH Cluster strategy and summarized by state, in written and graphical format. Data from distribution-related documents were extracted into

an Excel spreadsheet (Redmond, WA, USA), including date, location, implementing partners, methods, item assessed, topics addressed, and summary of findings. Data were summarized in written, tabular, and graphical format. A conversion factor of US\$1 = MMK 1,400 was used for all reports.

### ***Summary analysis***

Data were summarized to elucidate strengths and weaknesses from the WASH Cluster hygiene kit/MHH strategy from 2016 to 2018, especially considering the challenges and opportunities present in protracted crisis contexts.

## **Results**

Forty-five documents were provided by UNICEF to Tufts University. After review, 26 documents met the inclusion criteria. Of these, 10 documents were related to hygiene kit strategy; 14 documents included qualitative or quantitative data from hygiene kit distributions in Rakhine State; 1 document included information on hygiene item presence in Kachin State; and 1 document was an evaluation of a MHH project in Rakhine State. Results are presented by these categories below.

### ***Review of strategy-related documents***

The WASH Cluster in Myanmar ('Cluster') was established in 2013, after two major crises in Kachin and Rakhine State reignited and caused displacement of people that was expected to last for some time (UN, 2012). The Cluster has since worked on integrating and standardizing tools and strategies among partners (Myanmar WASH Cluster, 2018). The Cluster has two sub-clusters in Rakhine and Kachin to facilitate the coordination of partners working in the two specific areas. In 2014, the Hygiene Promotion Working Group (HPWG) of the Cluster formalized a hygiene kit distribution strategy for Rakhine and Kachin states, including: principles, target populations, minimum kit composition, distribution mechanism and frequency, post-distribution monitoring, and frequency of strategy review (WASH Cluster, 2014a).

The strategy was based on five primary principles: 1) each IDP family should have access to items necessary to practise safe hygiene; 2) the agency should know the habits, culture, and requirements of the communities; 3) the content of the kit should be tailored to population practice and quantities and distribution frequencies should be respected by actors as a minimum standard; 4) distributed items should be accompanied by a demonstration of their usage, management, disposal, and ideally integrated in a hygiene promotion programme; and 5) every distribution should be followed by PDM (WASH Cluster, 2014b).

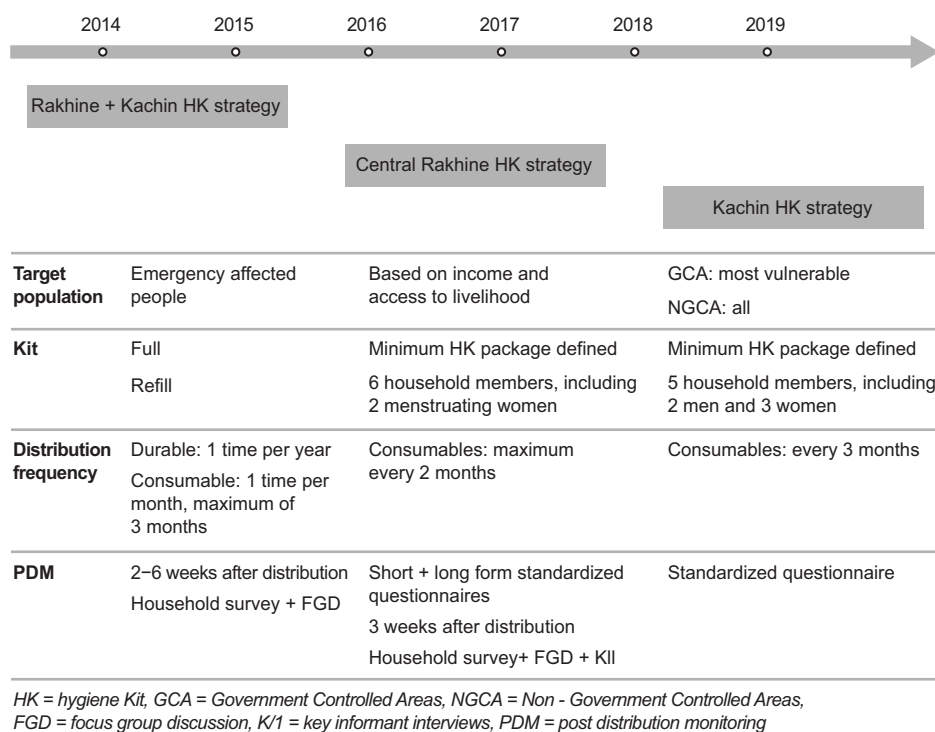
The target population was defined as emergency-affected persons with a low economic situation; in 2014 these persons were IDPs and host families in camps and villages. Items were categorized as: 1) durable items, to be distributed once per year; and 2) consumables, ideally to be distributed every month (12 kits/family/

year) (WASH Cluster, 2014b). Kits were defined as full (with durable items for one year and consumables for one month) and refill (with consumables for one month). The minimum hygiene kit content was based on agencies' field experience and Sphere Standards (2018), and tailored to fit specific population practices, such as anal cleansing, water transport, and/or MHH. Quantities were initially defined for six members per household, including three men and three women. Durable items included a water transport and storage container, female underwear, toothbrush, indoor potty for children, elderly, disabled, and adults at night, lotta (anal cleansing water container), nail cutter, and plastic mugs. Consumables included body soap, laundry soap, sanitary cloths (reusable) or pads (disposable), and toothpaste. Post-distribution monitoring (PDM) was recommended at 2–6 weeks after distribution, including household surveys (random sampling with recommended 10 per cent precision), and focus group discussions (FGD) by gender. The monitoring aimed to assess the distribution process, item handling, item quality/quantity, needed or desired items, and qualitative information on MHH.

The WASH Cluster sub-cluster in Kachin endorsed this national strategy (Lwin, 2014; WASH Cluster, 2014b, c, d), but with modifications to better address specific regional needs (WASH Cluster, 2014b), including: 1) water containers were not distributed, as latrines were equipped with taps for anal cleansing; and 2) disposable menstrual pads were recommended as IDPs were not accustomed to reusable cloths. Cluster partners developed a standardized PDM survey template specific for Kachin (WASH Cluster, 2014c), assessing, in addition to that recommended by the national strategy, if the hygiene kit was sold or exchanged, and preference between in-kind or cash hygiene kit distribution (WASH Cluster, 2014a). Additionally, in Kachin, two strategies were used by cluster partners: in-kind hygiene kit distribution and voucher-based hygiene kit provision, implemented by one partner (WASH Cluster, 2014b). Alternative hygiene kit distributions were aligned with Sphere Standard recommendations (Sphere Association, 2018), endorsed by the WASH cluster (WASH Cluster, 2018), of integrating market-based programmes and cash-based interventions to meet IDP demand and to support local markets.

This initial hygiene kit strategy evolved over time (see Figure 1), as the crisis was prolonged and IDPs continued to need hygiene kit distributions due to new displacements, restrictions on movements, difficulties in accessing markets, lack of livelihood opportunities, and scarce/no availability or affordability of hygiene items (WASH Cluster, 2018); and Cluster partners were experiencing funding constraints. Cluster partners recommended targeting hygiene kits to the long-term displaced population based on income and access to livelihoods. Cluster partners agreed to provide as much as possible of the original hygiene kit, especially to newly displaced populations, and, if not possible, to ensure distribution of the minimum items of: soap, water containers, disposable sanitary pads, and female underwear (WASH Cluster, 2018).

The Cluster partners considered reusable sanitary pads as a possible exit strategy, to be further investigated. PDM was recommended three weeks after distribution to support and inform the hygiene kit strategy review. Lastly, partners began mapping the local market to integrate market-based programming and cash-based interventions (WASH Cluster, 2018).



**Figure 1** Evolution of WASH Cluster hygiene kit strategy, 2014–ongoing

This new national hygiene kit strategy evolved differently in the two states due to differences in the socio-cultural background of the affected population, mobility, and access to livelihoods and markets. In 2016–2017, Cluster partners elaborated a specific strategy for central Rakhine with distribution frequency a maximum of every two months and a minimum hygiene kit including body and laundry soaps, disposable sanitary pads, water containers (Bengali jars or jerrycans, depending on township), shampoo, and toothpaste (only every second distribution due to funding constraints). Kits were sized based on six total household members, including two menstruating women (WASH Cluster, 2017a, b). As most (89 per cent) households were below the agreed income threshold limit to receive kits (WASH Cluster, 2017c), distributions targeted all IDPs. PDM was recommended 3 weeks after distribution using standardized questionnaires, FGD, and key informant interview (KII) guidelines (WASH Cluster, 2017a, b). To understand the relationship between hygiene kit handling and livelihood, PDM questionnaires also investigated household income and expenses, debt, and negative coping mechanisms. A short and long questionnaire was developed, to be conducted every two and six months of the programme respectively. The long version of the questionnaire included additional questions appropriate to ask every six months such as satisfaction about the distribution, item quality and quantity, and most needed items.

The hygiene kit strategy in Kachin evolved considering that IDPs have more livelihood opportunities and less restrictions on movements (WASH Cluster, 2018), and was revised based on a study conducted in 2018 (Harp and WASH Cluster, 2018) on soap and pad presence in IDP households and on hygiene kit interventions carried out by partners (WASH Cluster, 2019). The study highlighted how household income was the biggest determinant of soap and pad presence along with differences in livelihood access and markets between government controlled areas (GCA) and non-government controlled areas (NGCA). Implementing agencies reported using different approaches including: in-kind item distribution to all beneficiaries, in-kind item distribution to vulnerable IDPs only, incentive distributions of hygiene items to IDPs participating in hygiene promotion sessions, and voucher distribution, all with different item composition and/or quantity. In 2019, the proposed hygiene kit strategy planned to specifically target beneficiaries in GCA and NGCA (WASH Cluster, 2019). In NGCA, where 75 per cent of the population requires hygiene item support, it is recommended all households receive in-kind hygiene items every three months. In GCA, where 25 per cent of the population needs hygiene item support, it is recommended to provide in-kind hygiene kit distributions every three months to 'most vulnerable' households, including households with IDPs living with HIV/AIDS, disabilities, or chronic diseases, lactating mothers of children under 2, and large families of  $\geq 7$  members. The minimum hygiene kit content is sized on households of five members (two men and three women) and includes body and laundry soap, toothpaste, toothbrush, disposable sanitary pads, and female underwear (WASH Cluster, 2019). The Cluster partners recommended periodically monitoring and revising the hygiene strategy (WASH Cluster, 2018).

### ***Summary analysis of post-distribution monitoring data in Rakhine***

A total of 14 hygiene kit PDM documents were included for Rakhine IDP camps (Table 1). All documents were from one implementing partner, the Danish Refugee Council (DRC) and included seven survey reports (DRC, 2016a, b, 2017a, b, c, 2018a, b) and seven raw data documents (DRC, 2016c, d, e; 2017d, e, f, g).

Data were collected from June 2016 to February 2018 from three IDP camps: Kyin Ni Pyin (KNP) (DRC, 2016a, 2017a, b), Ohn Taw Gyi (OTG) (DRC, 2016b, d, e, 2017f, g, 2018b), and Phwe Yar Gone (PYG) (DRC, 2016b, c, e, 2017c, d, e, 2018a) (Table 1). Available documents cover a total of 13 distributions: all hygiene kit distributions in KNP from September 2016 to December 2017, six distributions (of a possible maximum of nine) in OTG from June 2016 to February 2018, and four distributions (of a possible maximum of eight) in PYG from June 2016 to February 2018.

Of the total 14 documents, 12 include household survey results, 9 include focus group results, and 5 include KII results (Table 1). The items assessed for each distribution varied according to what was distributed. Carbolice (handwashing) soap, laundry soap, and sanitary pads were assessed in all distributions. Shampoo and toothpaste were assessed in 6 and 7 distributions respectively. The full kit of durable items (including toothbrush, jerrycan, cup, water jug, hand soap case, lotta, broom and dustpan, children's potty, and female underwear) was assessed in one evaluation.



**Table 1** Post-distribution monitoring hygiene kit data summary, Rakhine IDP Camps

Camp	Distribution date	Monitoring date	Short/Long questionnaire	Methods <sup>1</sup>		Item assessed						Topics addressed								
				HH survey	FGD	KII	Handwashing soap	Laundry soap	Sanitary pads	Toothpaste	Shampoo	Other (durable)	Item handling	Top uses of money	Income/expenses	Debt	Negative coping mechanisms	Distribution	Items quality/quantity	Items needed/liked
KNP	Sep 2016	Dec 2016	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Nov 2016	May 2017	L	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Apr 2017	Dec 2017	S	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Nov 2017	Jul 2016		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PYG	June 2016	Sept 2016	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Aug 2016	Mar 2017		✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Feb 2017	Jul 2017	S	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Jun 2017	Nov 2017	S	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Aug 2017	Jan 2018	L	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
OTG	Jan 2018	Jul 2016		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Jun 2016	Sep 2016	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Aug 2016	Jul 2017	L	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Jan 2018	L	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Jan 2018	Jan 2018	L	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Notes: <sup>1</sup> With available results  
<sup>2</sup> Toothbrush, jerrycan, cup, water jug, hand soap case, lotta, broom and dustpan, potty, women's underwear, comb, nail cutter, bucket, basin KNP = Kyin Ni Pyin, PYG = Phwe Yar Gone, OTG = Ohn Taw Gyi, HH = household, FGD = focus group discussion, KII = Key Informant Interview



Overall, eight topics were addressed in more than half the documents (Table 1). Out of 13 surveys, six surveys included feedback on distribution satisfaction, six included item quality feedback, three included item quantity feedback, 13 included item handling, 12 included main uses of money in the household, nine included household income and expenses, seven included household debt, seven included negative coping mechanisms, and 10 included items needed or desired, including most valued items in five documents. Lastly, six documents addressed other topics such as MHH (four), accuracy of packaging (four), and cost of hygiene items or price fluctuation (six).

The percentage of female respondents was 39–88 per cent (Tables 2, 3) and was higher than male respondents in 9 of 12 documents reporting respondent gender. Results from the eight metrics – distribution, item quantity and quality, item handling, money, income/expenses, household debt, negative coping mechanisms, and desired products – are presented below, followed by MHH results.

Respondents expressed satisfaction with the distribution process, including 98 per cent of respondents in KNP, 91 per cent in PYG, and increasing over time from 79 per cent to 89 per cent in OTG. Concerns raised by respondents were long distances to distribution points, long waiting times, and not having gender-separate lines.

In KNP respondents were satisfied with item quality and quantity (94–99 per cent). In PYG, respondents were generally satisfied with item quality (71–88 per cent), except for shampoo, but asked for larger amounts of items (50 per cent satisfaction with quantity). In OTG, satisfaction on item quality and quantity varied depending on item (from 22 to 99 per cent), as respondents expressed dissatisfaction with the laundry soap and shampoo. Monitoring results were incorporated and a new laundry soap brand was used in the next distribution. Satisfaction with item quantity varied from 7 to 98 per cent, with more soap and pads requested. It is not clear if an insufficient amount was distributed for use, or if respondents wanted more items to be sold or used in future in case of distribution delays.

Over time in all three camps there was a decrease in the percentage of respondents that reported selling part of their kit, from 0–49 per cent to 6–8 per cent in KNP, from 40–70 per cent to 8 per cent in PYG, and from 20–42 per cent to 2–34 per cent in ONG, and concurrent increases in the percentage of respondents keeping all of their kit (Table 2, Figure 2). The percentage of respondents reporting selling all their kit was low across all surveys, varying across time and camps from a minimum of 0 per cent to a maximum of 21 per cent of households reporting selling all of a particular item included in the kit (Table 2). As can be seen in Figure 2, no one item was most commonly sold. Respondents reported in FGD or interviews selling soap and pads into the market knowing they could be repurchased, and respondent selling behaviour was attributed to being dependent on household income, distribution frequency and reliability, access restrictions, camp location, access to markets, and cost of products.

The reported main use of money in households was to 'buy food' (92 per cent), followed by healthcare (50 per cent), and firewood (67 per cent) (Table 2).

**Table 2** Summary of post-distribution monitoring results, by topic addressed (*part 1*)

Camp	Monitoring date	Female respondent (%)	Item handling			HH using/keeping items (%)	Most kept/used items		HH selling all items (%)	HH selling part of items (%)	Most sold items	Top uses of money (%)
			HH using/keeping items (%)	Most kept/used items	HH selling all items (%)	HH selling part of items (%)						
KNP	Dec 2016		43–97	Lotta jugs, nail cutters, cups	0–21	0–49	Shampoo, toothpaste, underwear, toothbrushes					Food (53), healthcare (29), education (16)
	May 2017	51	76–89	Soap, laundry soap, pads, shampoo, toothpaste	1–5	10–19	Pads, soap					Food (53), healthcare (29), education (31)
	Dec 2017	66	79–92	Soap	2–15	6–8	Pads					Food (98), healthcare (89)
	Jul 2016	majority	20–50	Pad, soap	6–12	40–70	Shampoo, toothpaste					Food (42), firewood (29), healthcare (6)
PYG	Sep 2016	39	32–51	Shampoo, pads	1–6	44–66	Soap, toothpaste					Food, firewood, healthcare, education
	Jul 2017	79	52–98	Toothpaste, pads	2–4	2–46	Soap, laundry soap					Healthcare (32), food (21), cloth (21)
	Nov 2017	71	92–95	Soap, laundry soap, pads	1	4–7	Laundry soap, pads					Food (99), firewood (84), healthcare (73)
	Jan 2018	78	92–100	Soap, laundry soap, pads	0	8	Soaps					Food (80), firewood (76), healthcare (67)
OTG	Jul 2016	majority	40–55	Pads, shampoo, laundry soap	7–18	20–42	Pads, toothpaste					Food (30), other (22), firewood (11)
	Sep 2016	67	42–66	Shampoo	1–14	26–50	Toothpaste, soap					Food (45), firewood (27)
	Jul 2017	70	90–94	Pads	7	2–34	Soap, shampoo					Food (98), healthcare (76), firewood (72)
	Jan 2018	88	69–84	Soap	1–8	–	Laundry soap, second soap					Food (96), healthcare (82), firewood (65)

Note: HH = households, KNP = Kyin Ni Pyin, PYG = Phwe Yar Gone, OTG = Ohn Taw Gyi. Healthcare includes services and medicines; results for PYG – Mar 2017 were not reported because only FGD notes data were available.

**Table 3** Summary of post-distribution monitoring results, by topic addressed (part 2)

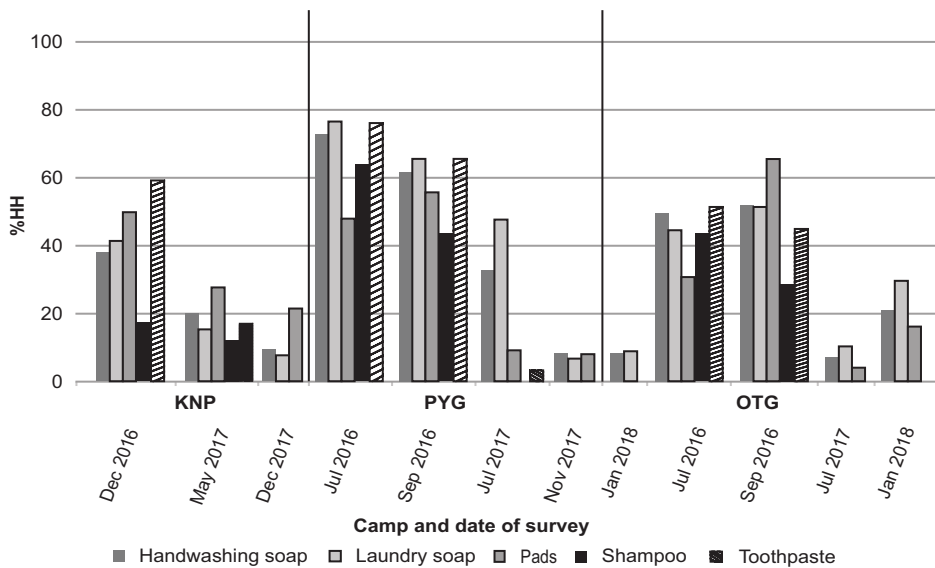
		Distribution		Items quality/ quantity		Income and expenses			Debt		Negative coping mechanisms		Items needed or desired	
Camp	Monitoring date	HH with distribution (%)	HH satisfied with item quality (%)	HH satisfied with item quantity (%)	HH with no income (%)	HH with in-kind income (%)	Main HH monthly expenses amount (\$) – HH pending the amount (%)	HH having a debt (%)	Main HH monthly debt amount (\$) – HH with that debt (%)	Main reason for debt	HH selling HK as coping mechanism (%)	Main negative coping mechanisms (because of lack of money)	Most needed items	Most liked items
KNP	Dec 2016													Jerrycans, basins, buckets
	May 2017	98	98–99	94–98	40	<36 (55)	52	11–36 (30)	Food	8	Borrowed food		Jerrycan, CWF brush, bucket	
	Dec 2017				25	3	36–71 (56)	48	11–36 (52)	Food, healthcare	8	Borrowed food		
	Jul 2016		Low shampoo										Handwashing soap	
PYG	Sep 2016												Handwashing soap	
	Jul 2017				17	4	36–71 (48)	37	11–36 (26)	healthcare	10	Borrowed food		
	Nov 2017				51		<36 (30)	63	11–36 (34)	Food, healthcare	6	Borrowed food, borrowed money		
	Jan 2018	91	71–88	50	34	17	36–71 (65)	60	36–54 (33)	Food	9	Borrowed food	Jerrycan, toothpaste, shampoo	

(Continued)

**Table 3** Continued

Camp	Monitoring date	Distribution		Items quality/ quantity			Income and expenses			Debt		Negative coping mechanisms			Items needed or desired	
		HH satisfied with distribution (%)	HH satisfied with item quality (%)	HH satisfied with item quantity (%)	HH with no income (%)	HH with in-kind income (%)	Main HH monthly expenses (\$) – HH pending the amount (%)	HH having a debt (%)	Main HH monthly debt amount (\$) – HH with that debt (%)	Main reason for debt	HH selling HK as coping mechanism (%)	Main negative coping mechanism (because of lack of money)	Most needed items	Most liked items		
<b>OTG</b>	Jul 2016		Low shampoo, laundry soap										Mosquito net, cosmetics	Handwashing soap		
	Sep 2016													Handwashing soap		
	Jul 2017	79	67–99	7–98	58	0	36–71 (33)	80	71–142 (38)	Food	8	Borrowed food, Relied on friends/ relatives	Jerrycan	Soaps, pads		
	Jan 2018				61	2	71–107 (34)	66	36–71 (65)	Food	14	Relied on friends/ relatives, borrowed food	Jerrycan, shampoo, toothpaste	Soaps, pads		

Note: HH = household; HK = Hygiene kits; KNP = Kyin Ni Pyin; PYG = Phwe Yar Gone; OTG = Ohn Taw Gyi; CWF = ceramic water filters. Results for PYG – Mar 2017 were not reported because only FGD notes data are available.



**Figure 2** Percentage of households selling all or part of the provided hygiene kit (HK) items, Rakhine

Firewood was mentioned in PYG and OTG, but not KNP, due to different access. Other expenses mentioned included education, buying clothes, and travelling between camps for events such as weddings.

Over time, the percentage of households with no reported income was 25–40 per cent in KNP, 17–51 per cent in PYG, and 58–61 per cent in OTG (Table 3). Across the three camps, the number of households reporting in-kind income was 0–17 per cent. The monthly expenditures per household ranged between <US\$36–71 in KNP and PYG, and \$36–107 in OTG, with a general increasing trend over time. Based on FGDs and KIIs, these trends were attributed to factors such as access, conflict, harvest seasons, restrictions on NGO activities and hiring, and cost of items in camps.

The percentage of households carrying debt varied from 48 to 52 per cent in KNP, 37 to 63 per cent in PYG, and 66 to 80 per cent in OTG (Table 3). The monthly debt amount was \$11–36 in KNP and PYG in 2017, \$36–54 in PYG in 2018, and \$36–71 in OTG in 2018. The top reasons given for debt were to buy food (6/7, 86 per cent) and healthcare (3/7, 37 per cent). The main household coping mechanisms for lack of money were to borrow food (7/7, 100 per cent), to rely on relatives/friends (2/7, 29 per cent), and to borrow money (1/7, 14 per cent). The percentage of respondents that declared they sold hygiene kit items as a coping mechanism averaged 10 per cent, and varied between 6 and 14 per cent (Table 3).

Handwashing soap was the most liked item in six of seven reports (86 per cent), followed by laundry soap and pads (Table 3). Jerrycan, basins, and buckets were mentioned as preferred items in the only analysed distribution where they were provided. Jerrycans were named as most needed items in four out of five reports

(80 per cent), shampoo and toothpaste in 2 (40 per cent, each), and ceramic water filter brushes, buckets, mosquito nets, and cosmetics in one (20 per cent, each).

The MHH topics, pad type and disposal, were discussed in female FGDs. Overall, women preferred disposable pads compared to reusable ones for privacy reasons, specifically identifying difficulties in washing and drying reusable pads without men seeing. Reusable pads or traditional cloths were accepted only in the absence of disposable pads. Women reported burying or disposing of pads in the environment as the waste collection system, if available at all, was not appropriate for pad disposal.

### *Summary analysis of post-distribution monitoring data in Kachin*

One document, a slide presentation, was identified summarizing PDM of hygiene kits in Kachin State (Harp and WASH Cluster, 2018). In this study, 881 household surveys and 280 FGDs were conducted across 10 townships from July to September 2018. Overall, 96 per cent of respondents were female. The average household income varied, from \$20 for IDPs in NGCA, \$43 for IDPs in GCA, and \$89 for non-IDPs. Results include the presence, handling, and use of soap and sanitary pads and household spending priorities.

Overall, 81 per cent of households in GCA had soap present, compared to 44 per cent in NGCA. Among households with soap, 88 per cent in GCA purchased it, compared to 51 per cent in NGCA. The median cost of body bar soap in GCA was \$0.2–0.25, compared to \$0.36 in NGCA. Results found that highest-income households in NGCA had lower soap presence than lowest-income households in GCA. In total, 59 per cent of households in GCA and 82 per cent in NGCA stated they had insufficient soap for all purposes (handwashing, laundry, bathing, dishwashing), particularly for washing clothes and bathing (46 per cent and 41 per cent, respectively). The document (Harp and WASH Cluster, 2018) reported that among households with observed presence of soap, there were no significant relationships between soap presence and typical vulnerability criteria such as presence of children, presence of young children, presence of teenage girls, gender of household members, or household characteristic such as size (no statistics reported).

Sanitary pads were the preferred MHH product among interviewed girls and women. Traditional cloths were reported as used by 2–6 per cent of the women, when pads were not available or among older women. Overall, 80 per cent of woman in GCA reported or were observed to have sanitary pads, compared to 32 per cent in NGCA. While 84 per cent of women in GCA and 39 per cent in NGCA reported purchasing sanitary pads in the previous month, around 50 per cent of women in GCA and 55–60 per cent of women in NGCA reported not having sufficient pads/cloths in the past three months. Women reported a MHH monthly cost of MMK 1,500 (\$1.07) in GCA and MMK 1,000 (\$0.71) in NGCA. The most common coping mechanism for not having sufficient pads was borrowing from others (43 per cent). Women reported that the lack of sufficient pads affected their mobility, daily activities, and mood, including feelings of embarrassment, lack of confidence, and shame.

### ***Menstrual health and hygiene evaluation in Rakhine***

One document summarizing the results of a pilot distribution of reusable pads, conducted by international organization Solidarités International, was identified (SI, 2016). In FGDs conducted two months after distribution, it was found that 92 per cent of women had their set of three Safepads. Five months after distribution, this number fell to 30 per cent. Additionally, between the first and second set of FGDs the percentage of women experiencing leakages increased (from 31 to 55 per cent); experiencing bad smells increased by eight percentage points (values not reported); and reporting Safepads as difficult to use increased (from 0 per cent to 52 per cent). Women reported problems with the low quality of the button fixing the Safepad to the underwear, and a lack of privacy that led to difficulties in washing and drying reusable pads.

### **Discussion**

Beginning in 2014, the Myanmar WASH Cluster developed a standardized strategy for distribution and monitoring of hygiene kits. This strategy was adopted by two states which successfully customized and evolved the strategy over time in response to monitoring results. In our analysis of 26 documents that met inclusion criteria, we noted that: despite the strategy, monitoring reporting was inconsistent, although the use of mixed methods was successful to elucidate results; in Rakhine, there were households selling hygiene kit items to meet basic needs and there was a reduction in the percentage of respondents who sold kit items over time; in Kachin, household income was associated with soap and sanitary pad presence; local factors (such as IDP mobility, market accessibility, item availability on markets, access to livelihoods and income) influenced hygiene kit distribution strategy; and women respondents preferred disposable sanitary pads due to privacy concerns.

Despite the national strategy for hygiene kit distributions and monitoring, we found a lack of consistency in reporting monitoring data. In particular: there were no provided reports or raw data on the evaluation of the various distributions in Kachin; only one organization provided PDM data in Rakhine; data was not provided for all distributions; and data were provided in different formats depending on the distribution (raw, analysed documents, spreadsheets, presentations) so metrics could not be standardized.

This lack of consistency limited analysis and data summarization. Strengths identified from this data set include that: the use of sequential mixed methods, including quantitative questionnaires and qualitative group discussion and interviews, generated broad results; and monitoring data was used to improve programming and the strategy over time. Ideally, standardized post-distribution monitoring should be comparable and used to improve and adjust hygiene kit composition and distribution more universally (Vaillancourt, 2016; Sphere Association, 2018). It is recommended not only to standardize data collection tools, but also data analysis and visualization tools, and to include raw and analysed data in reports to the WASH Cluster, which can then be summarized in one database. Therefore, we suggest the WASH Cluster define a common strategy



for reporting post-distribution monitoring results, including timing of data collection, methods and tools for data collection, and format for submission. We specifically recommend monitoring use, satisfaction, and resale of distributed products, and to consider moving beyond outcome measures to test the impact of hygiene kits on health and dignity.

In Rakhine, hygiene kits are a source of revenue, consequently, hygiene item need is not only determined by hygiene needs, but also economic needs (DRC, 2015); that is consistent with findings in other studies in Bangladesh and Lebanon (UNHCR, 2016; GTS, 2018). Over time, there was a decrease in reported sales of hygiene kit items. The cause for this is unknown; however, various factors can be postulated. For IDPs without access to livelihoods or markets, selling hygiene kit items is an important form of revenue for higher priority expenses such as food, healthcare, and firewood for cooking. Generally, respondents reported liking hygiene kit items and sold only part of the kit they did not immediately need (e.g. pads, if women are pregnant or not menstruating at the time), planning to buy them back in future in the market or from other households. Also, respondents reported not selling hygiene items because they were unsure when the next distribution might be. It could be hypothesized that more frequent distributions led to a decrease of reselling items. It could be postulated that as hygiene kits became smaller, with fewer items over time and unknown or less frequent distribution times, this trade-off between money and hygiene kit items led to more households choosing not to sell items.

The presence of soap and sanitary pads in households in Kachin was associated with household income and access to markets and livelihoods. This PDM informed the 2019 hygiene kit strategy, which aimed to target lower-income beneficiaries with in-kind, voucher, and cash approaches.

This result highlights the need to continue hygiene kit distributions, particularly to identified at-risk, low-income households, during protracted crises. This is particularly important for IDPs who do not have access to mobility, livelihoods, or markets.

Variations in Kachin hygiene kit strategy can be attributed to contextual differences between the two states. The affected population in Rakhine is Muslim, and, because they are stateless, they experience more limitations of movement and have less access to livelihoods (Mahmood et al., 2017). In Kachin, the affected population is Christian and Buddhist, and many live in urban church or monastery compounds. Kachin IDPs, particularly in GCA and urban areas, have livelihood and market access. IDPs living in rural and NGCA face more restrictions (JIPS, 2016).

Across all evaluations, disposable pads were preferred by women, out of habit and because of the lack of privacy for cleaning of reusable products. While disposable pads were sometimes sold for income, the distribution of disposable pads within hygiene kits provided women with dignity and prevented embarrassment, lack of confidence, and shame (Vanleeuwen and Torondel, 2018). Thus, disposable pads should be prioritized for inclusion in hygiene kits in IDP camps in Myanmar,

according to women and girls' preference, as indicated in the Sphere Standards (Sphere Association, 2018).

Limitations of this work include that we were limited to data reported by partners to the WASH Cluster and then on to Tufts University. We were not able to verify the data, which was likely incomplete, and was provided in different formats (some of which were open to analysis, such as raw data, some of which were not). We do not feel these limitations impact the results presented in this article. Further research on hygiene kit distributions, including systematic monitoring of use, including in populations on the move, and health and dignity impacts, is recommended. Specifically we would recommend to link MHH monitoring and data collection with hygiene kit distribution, and consider incorporating incontinence supplies distribution, monitoring, and data collection. Additionally, research on how to determine when to distribute kits compared with working with local markets on vouchers or cash distributions is recommended. As can be seen in this evaluation, vouchers/cash would not have been appropriate in Rakhine, due to lack of market access and movement restrictions, while in Kachin some people, particularly those on higher income, purchased items. As such some, but not all, protracted situations may need ongoing hygiene kit distributions. Additionally, in protracted crises with little market access, the distribution timing of durable and consumable kits should be considered, as durable items will need to be replaced over time.

## Conclusion

In conflict-affected Myanmar, the WASH Cluster developed a national hygiene kit distribution and monitoring strategy. While this strategy was successfully adopted and adapted for Kachin and Rakhine states, limitations were identified in receiving consistent monitoring data, precluding systematic analysis. Overall, hygiene kit distributions need to consider local context, including the relationship between household income and hygiene kit sales, and access to local markets and hygiene kit distributions. Programmatically, it is recommended to adapt hygiene kit distributions to local contexts, continue to distribute hygiene kits in protracted contexts to identified at-risk households, including (disposable) pads, and continue developing standardized strategy and monitoring tools, including a database for raw data and standardized analysis and visualization tools.

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