Economic and financing considerations of self-care interventions for sexual and reproductive health and rights

United Nations University Centre for Policy Research
2–3 April 2019, New York, United States of America

SUMMARY REPORT
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Sincere thanks to all the participants and speakers at the meeting who worked together to provide a rich set of contributions to support the development of this exciting and important work on self-care. All participants and speakers are listed in Annex 1.

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ABBREVIATIONS

DMPA  depot medroxyprogesterone acetate
HPV  human papillomavirus
SRH  sexual and reproductive health
SRHR  sexual and reproductive health and rights
STI  sexually transmitted infection
UHC  universal health coverage
UNDP  United Nations Development Programme
UNFPA  United Nations Population Fund
UNHCR  United Nations High Commissioner for Refugees
UNICEF  United Nations Children’s Fund
UNU-IIGH  United Nations University International Institute for Global Health
WHO  World Health Organization
BACKGROUND

Globally, nearly all 4.3 billion people of reproductive age will lack access in their lifetime to adequate sexual and reproductive health (SRH) services (1). This large unmet need for life-saving and life-shaping SRH interventions calls for innovative strategies beyond existing health systems. Self-care interventions provide new and as yet underused opportunities for individuals and communities to enact informed decisions regarding their health, and for countries to achieve universal health coverage (UHC) (2).

The World Health Organization (WHO) defines self-care as “the ability of individuals, families and communities to promote health, prevent disease, maintain health, and to cope with illness and disability with or without the support of a health-care provider” (3). Self-care spans the continuum of health care to include health-promotion methods and technologies; disease prevention and control; self-medication; care for dependent people; seeking hospital/specialist care when needed; and rehabilitation, including palliative care. In SRH, several self-care tools are already in use for fertility management (e.g. ovulation predictors, pregnancy tests, phone-based apps); contraception (e.g. barrier methods and oral contraception); maternal health (self-managed medical abortion); and diagnostic products for sexually transmitted infections (STIs; e.g. HIV self-testing, and self-sampling for human papillomavirus, HPV) (4).

Self-care is not a new concept but has recently received renewed focus in global health policy. The Astana Declaration on Primary Health Care (2018) specifically outlines goals to empower individuals, families and communities to optimize their health, as advocates for policies that promote and protect health and well-being, as co-developers of health and social services, and as self-carers and caregivers (5). Self-care can also help to accelerate the attainment of several global health targets, as well as WHO’s “triple billion” targets, whereby 1 billion more people benefit from UHC, 1 billion more are protected from health emergencies and 1 billion improve their overall health and well-being by 2023 (2,6).

1.1 WHO consolidated guideline on self-care interventions

The 2019 WHO consolidated guideline on self-care interventions for health: sexual and reproductive health and rights is a living document that will continue to be built up in subsequent versions as new evidence becomes available (3). It links to other guidelines (e.g. on HIV self-testing, self-management of abortion, and digital health interventions), and does not replace or reinvent existing guidance, such as on condom use. The areas of sexual and reproductive health and rights (SRHR) covered in the guideline reflect the 2004 WHO Global Reproductive Health Strategy (7), covering:

- improving antenatal, delivery, postpartum and newborn care
- providing high-quality services for family planning, including infertility services
- eliminating unsafe abortion
- combating STIs (including HIV), reproductive tract infections, cervical cancer and other gynaecological morbidities
- promoting sexual health.

The focus of the guideline is on interventions that are in transition or can be conceptualized as in transition, from facility-based provision, or involving higher levels of health-care provider delivery, to delivery in the self-care environment.
The target audience for this guideline includes national and international policy-makers, researchers, programme managers, health workers, including pharmacists, donors, and civil society organizations responsible for making decisions or advising on the delivery or promotion of self-care interventions. The secondary target audience includes product developers and people affected by the recommendations.

1.2 Evidence review and consultations
At the 2018 meeting on the ethical, legal, human rights and social accountability implications of self-care interventions for SRHR, experts discussed how self-care interventions might improve agency and autonomy among vulnerable populations (2). They also examined the factors that might add to an individual’s burden, or imply an abdication by the health sector of responsibility to provide high-quality services. The outcomes of this meeting as well as all the evidence reviews that informed the recommendations in the guideline were published in the British Medical Journal (8) and presented at the United Nations headquarters in April 2019.

As part of the evidence review process, the costs and financing of self-care interventions for health systems and users were highlighted as key considerations. These interventions have the potential to increase choice if they are accessible and affordable, and to improve the efficiency of service delivery. A review by Remme et al. (2019) looked at the evidence on:
• the user and health system costs of self-care interventions in relation to their benefits (efficiency);
• who pays for these services and interventions (financing); and
• who accesses self-care interventions (equity) (9).

The review found limited evidence on the costs, cost-effectiveness and financing aspects of self-care for SRHR, and most of the studies were from high-income countries. Nevertheless, important lessons were offered by core principles in health financing and economic analyses, as well as by examples of self-care interventions in other health areas, such as noncommunicable diseases.

The following key messages were highlighted in the review:
• self-care interventions may save money for users and the health-care system; so recommendations to integrate self-care tools into health systems should take a societal perspective;
• costs, benefits and financing of self-care need to be considered to determine the equity and efficiency of self-care;
• self-care interventions must be supported by other health system interventions so that people who are less able to manage their own care are not excluded; and
• blended financing, including public subsidy, private-sector financing, and direct user payment, is needed — especially for interventions that need little support from health-care providers.
1.3 Outline of meeting objectives and report
The WHO Department of Sexual and Reproductive Health and Research – including the UNDP-UNFPA-UNICEF-WHO-World Bank Special Programme of Research, Development and Research Training in Human Reproduction – and the United Nations University International Institute for Global Health (UNU-IIGH) convened a meeting of experts on the economic and financing considerations of self-care interventions for SRHR. The experts were selected based on past participation in the guideline development process, health economics/financing expertise, or their research on self-care interventions (see Annex 1 for the list of participants). The aim of the meeting was to discuss and debate the evidence base in order to identify implementation considerations and research priorities for self-care interventions in relation to the costs, cost-effectiveness and financing of self-care interventions for SRHR (see Annex 2 for the meeting agenda).
Evidence on the economic and financing considerations of self-care interventions for SRHR suggest that these have the potential to reduce various user and health system costs, and improve access for vulnerable groups, and choice for the socioeconomically better off. The design, delivery and implementation of self-care interventions are nonetheless contingent on contextual factors. Governments and health systems must remain accountable for the monitoring of the consequences and outcomes of implementing self-care interventions, providing the necessary support and links to care, mitigating any harmful unintended consequences, and ensuring that self-care interventions are delivered through equitable financing arrangements.

The meeting discussions extended the considerations in the review by Remme et al. (2019) on:
• costs and efficiency
• access, equity and uptake
• financing
• ecosystem and enabling environment (9).

2.1 Costs and efficiency
The use of self-care interventions can generate technical efficiency gains (the same outcomes for a lower cost through task shifting or home-based delivery) and productive efficiency gains (better outcomes for the same or acceptably higher costs).

2.1.1 Reduced user costs
Self-care interventions have been found to reduce user costs, including of transport, information-seeking, direct costs of self-care products, and of lost income or productivity in seeking facility-based health care. This was observed in the case of home pregnancy testing, self-managed medical abortion, self-injection of hormonal contraceptives and HIV self-testing. Evidence on self-injecting hormonal contraceptives in Senegal and Uganda, and HIV self-testing in Malawi, Zambia and Zimbabwe, clearly demonstrates savings in user time and opportunity costs (10–14) (see Box 1).

2.1.2 Reduced provider costs
There is a dominant narrative around self-care that suggests that it can be a means to reduce health system costs by shifting tasks to users and caregivers and by shifting care outside of formal health-care facilities. There is evidence indicating that self-care interventions could reduce provider costs under certain circumstances – namely where it can improve links to care, and reduce complications and the need for hospitalization. This is particularly relevant for self-management of interventions related to pregnancy and chronic conditions. However, the empirical evidence suggests that self-care interventions may cost the health system more to deliver initially, given the need for appropriate health system support and user education. Indeed, their effectiveness often hinges on links to care and complementary support from the health system. Cost savings for the health system are more likely to be realized from downstream reductions in medical costs.

Given its potential to improve access and to be scaled up, self-care interventions could lead to economies of scale, which would reduce the average costs per person reached. Greater use of technology and data-enabled self-care options is expected to further promote such cost savings.

When trying to reach the most marginalized, vulnerable populations, self-care interventions may involve diseconomies of scale, meaning that the costs per person reached may increase. At this saturation or tipping point, options to integrate or to bundle multiple self-care interventions could be considered as an additional opportunity to expand access, destigmatize certain services and generate economies of scope (lower shared costs through integrated delivery).
BOX 1: COSTS OF SELF-INJECTING CONTRACEPTION AND HIV SELF-TESTING IN SUB-SAHARAN AFRICA

Costs of self-injecting contraception in Senegal and Uganda

The costs of self-injecting contraception (subcutaneous depot medroxyprogesterone acetate, DMPS-SC) were compared with those of health-worker-administered intramuscular DMPA in Senegal and Uganda (10). Direct medical costs (of the contraceptives, health worker time, medical supplies and management of side-effects) and non-medical costs (user time and travel costs) were compared over 12 months between three delivery strategies: (i) facility-based administration, (ii) community-based administration and (iii) self-injection. In all countries, the direct non-medical costs were lowest for the women who were self-injecting contraceptives. Costs were most sensitive to the travel distance, and the training approaches used.

**Comparative costs of injectable contraception in Senegal and Uganda**

<table>
<thead>
<tr>
<th>Senegal</th>
<th>Facility-based (DMPA-IM)</th>
<th>$6.00</th>
<th>Self-injection (DMPA-SC)</th>
<th>$8.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uganda</td>
<td>Facility-based (DMPA-IM)</td>
<td>$4.00</td>
<td>Community-based (DMPA-SC)</td>
<td>$8.00</td>
</tr>
<tr>
<td></td>
<td>Self-injection (DMPA-SC)</td>
<td>$6.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DMPPA: depot medroxyprogesterone acetate; IM: intramuscular; SC: subcutaneous
Source: adapted from di Giorgio et al., 2018 (10)

**User and health service costs for HIV testing in Malawi (13, 14)**

The costs of HIV testing in Malawi were estimated through a recall-based survey of user costs and an analysis of provider costs. User costs were sensitive to the location of testing, with community-based testing found to be less likely to generate user costs than facility-based testing. Loss of income from travel and long waiting times was the largest user cost domain, and men incurred higher loss of income than women (estimated as the opportunity costs from time spent away from productive activities).

Although HIV self-test kits cost approximately US$ 2 per kit in several low- and middle-income countries, this is still about double the standard cost of HIV rapid diagnostic kits in many parts of Africa. While community-based (door-to-door) distribution cost the health system more than facility-based testing, it involved negligible user costs and also increased uptake among men in particular — a key population with an HIV testing gap.

**Comparative costs of HIV testing in Malawi**

<table>
<thead>
<tr>
<th></th>
<th>Provider costs</th>
<th>User costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community-based HIV self-testing (All)</td>
<td>$8.15</td>
<td></td>
</tr>
<tr>
<td>Facility-based testing (Men)</td>
<td>$5.03</td>
<td>$3.81</td>
</tr>
<tr>
<td>Facility-based testing (Women)</td>
<td>$5.03</td>
<td>$1.83</td>
</tr>
<tr>
<td>Facility-based testing (All)</td>
<td>$5.03</td>
<td>$2.45</td>
</tr>
</tbody>
</table>

Source: adapted from Sande et al., 2018 (13) and Mangenah et al., 2019 (14), and presented by F. Terris-Preksholt (2019)
2.1.3 Targeting efficiency
For self-diagnosis interventions related to infectious diseases, there is the additional consideration of efficient targeting. The objectives of introducing self-care interventions would be twofold: to increase access to diagnostic services, and to increase the detection of positive cases for linkage to care. For the general population, self-care interventions may be less cost-effective per case detected, but they could lead to larger impacts and efficiency if used to target unmet need among high-risk populations.

This tension between targeted and wide-scale use is evidenced in HIV self-testing, where extending access to the general population could cost more per positive case identified than more focused targeting among populations at higher risk of HIV, who are less likely to present for provider-based testing (12,15). It is important to note that the impact of self-initiated testing for HIV and other STIs depends on the subsequent linkage to care, which remains as much of a concern for self-testing as for provider-initiated testing (16,17).

Another example is HPV self-sampling, which has been found to cost more to deliver in France and the Netherlands than a recall intervention or conventional cytological screening given the extra medical consultation fees, postal fees and self-sampling device costs (18). However, self-sampling had higher participation and detection rates, leading to similar or lower costs per extra woman screened and also per cervical lesion detected.

2.1.4 Cost-effectiveness
Although there may be cases where self-care could be cost-saving in the long run, the current evidence points towards an argument of productive efficiency, whereby self-care may cost more but at the same time is expected to generate better outcomes, and so ultimately to be cost-effective (19–21).

Given the different trends in the user and provider costs of self-care interventions, compared with self-care interventions provided in formal health-care facilities, it is particularly important to take a societal perspective when considering cost-effectiveness. An exclusive focus on health-care provider costs could be misleading. For example, self-injection of hormonal contraception in Uganda has been cost-saving from a societal perspective, as a result of savings in women’s time and travel costs, but from a health-care perspective, it has been more costly than facility-based care (11).

Further analytical considerations that can drive the variation in the cost-effectiveness of these interventions include:

- level of support by health system
- delivery method
- patient characteristics (subgroup, level of risk, socioeconomic status, geographical location)
- time horizon of the analysis
- costs of user side-effects or complications
- valuation of user’s time in accessing health care
- use of health professional time for patient consultations or service provision
- cost of product disposal to individuals or health system.

These variations have implications in terms of intervention effectiveness, quality, costs, reach and implementation potential. Further research is needed to explore and identify the characteristics and domains that increase the cost-effectiveness of models of delivery of self-care interventions and other technologies, such as digital health and mobile technologies.

2.2 Financing considerations
2.2.1 Balancing self-financing and cost-sharing
The major concern around financing for self-care interventions is the risk that it will mean self-financing – with costs shifting away from the health system and onto users. Out-of-pocket expenditures could change depending on the relative costs of seeking facility-based care, the price of self-care products and who ultimately pays for them. If cost savings from seeking health care exceed the price of self-care commodities, out-of-pocket payments could be reduced.

Potential sources of financing for self-care interventions include users/patients, governments, external donors, third-party payers and the private sector. A mix of payers is often involved in the financing of health interventions within a health system, through direct out-of-pocket payments, public subsidies, external development assistance, and/or some form of contributory risk-pooling mechanism.
In many low- and middle-income countries, public-sector financing is constrained by the limited available resources and small risk pools. In SRHR, the following modes of supply- and demand-side financing have been documented:

- community financing and community-based health insurance
- conditional and unconditional cash transfers
- out-of-pocket payments or user fees
- results-based financing
- voucher subsidies to clients, and reimbursements for health-care workers
- social marketing and franchising (22).

Some areas of SRHR, such as family planning and STIs, including HIV, have historically been funded by governments or international donors. Donor financing has often been delivered through vertical programmes and accompanied by fragmentation, duplication and a lack of coherent financing for horizontal health system programming. However, external financing is flattening or reducing in these areas, and while many governments have some scope to increase health financing, there is a need to look at the scope for innovation in financing.

Lessons from the early subsidization of condoms and other contraceptives highlight the need for a total market approach across public, socially marketed and commercial sectors, to ensure a sustainable supply of commodities and optimal access for all population segments (23). There appears to be scope for differentiated financing models that include public subsidization for the poorest, while allowing for privately marketed commodities to be targeted at the better-off (24). The use of self-care interventions may require self-financing in some settings and populations. The reality of many health systems is that many of them already depend on high out-of-pocket health spending. Globally, over US$ 1 trillion are spent every year on out-of-pocket health expenditure (25) – this dwarfs all external financing.

There is a need to bring together these regressive out-of-pocket expenditures into equitable financing mechanisms that provide financial protection. Innovations in mobile money could provide an opportunity for this (see Box 2).

**BOX 2: MOBILE MONEY APPS AND HEALTH ACCESS IN KENYA**

M-Pesa is a mobile-money platform launched in 2007 in Kenya that enables mobile phone customers to safely store, receive and transfer funds between users using a ring-fenced account that is linked to mobile phone numbers and accounts. Agents such as local shops, petrol stations and some local branches of banks mediate the registration and conversion of physical currency to digital money and vice versa. More than 95% of households outside Nairobi have at least one M-Pesa account. There are around 110 000 agents in Kenya – more than 40 times the number of bank ATMs in the country. At first, only customers of the initiator mobile network (Safaricom/Vodafone) were able to use M-Pesa. In 2017, all telecom companies that offered mobile money services agreed to enable the exchange of digital money across providers (26).

Some of the success that has led to the uptake and growth of M-Pesa is the simplicity of setting up accounts and using the platform, affordability, and high national rates of mobile phone use. The approach of the government and the Central Bank of Kenya to being open to the innovation is also widely cited as one of the success factors of the programme – despite local banks advocating its regulation (26).

M-Pesa has been used indirectly in access to health care, such as through its use in nongovernmental organization settings to transfer emergency funding for transport to health-care facilities, and in health services for the establishment of health savings accounts, such as the maternity smart card allowing women to save for antenatal, maternity and postnatal care (27). Access to M-Pesa is not equitable, however, with women, poor and non-educated people still disproportionately less likely to use and to benefit from the technology (28).

M-Tiba (part of M-Pesa) is a specialized e-wallet or fund that enables people to save, borrow and share money specifically for health-care access. This platform is also used by donors and insurers to offer health-financing mechanisms such as vouchers, managed funds and health insurance policies. Health spending using this platform is confined to a provider that is part of the M-Tiba network, but there are currently about 1800 providers across the country. Specific populations that have benefited from M-Tiba include people living in slums and poorer rural populations (29).
2.2.2 Universal health coverage and essential benefits packages

Given growing commitments to UHC as the principle framework for access to health services and health system financing, it will be important to understand how self-care interventions can be integrated into UHC packages or essential benefits packages. The reality is that several provider-based SRH interventions are not covered under current UHC benefits packages, making it less likely that the additional self-care options would be integrated in the near future. (see Table 1). Services and interventions that are not covered by these benefits packages may still be available in the private health-care market and will primarily be paid for at the point of care – such out-of-pocket costs have equity implications.

Table 1: Access to financing of sexual and reproductive health and rights in five Asian countries

<table>
<thead>
<tr>
<th></th>
<th>Bangladesh Shasthyo Surokkhsha Karmasuchi (SSK)</th>
<th>Indonesia Jaminan Kesehatan Nasional (JKN)</th>
<th>Mongolia Social Health Insurance (SHI)</th>
<th>Thailand Universal health coverage (UHC)</th>
<th>Viet Nam Social Health Insurance (SHI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family planning</td>
<td>No</td>
<td>Yes</td>
<td>Limited</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Emergency contraception</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Menstrual regulation</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Cervical cancer screening</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Sexually transmitted infection diagnosis</td>
<td>Yes</td>
<td>Yes</td>
<td>Partial</td>
<td>Yes</td>
<td>Limited</td>
</tr>
</tbody>
</table>

Source: HERA, 2017 (23)

2.3 Access, equity and uptake

Inequities in health-care access arise when there is a disparity in who pays for, who provides and who is willingly able to use health technologies and services. Access to SRHR is disproportionately difficult for many marginalized and vulnerable populations, including adolescents. Different models of delivery are thus needed for different settings, especially for those with limited existing resources and infrastructure.

Access to and uptake of SRHR interventions are constrained by financial barriers that intersect with sociocultural, gender and geographical factors (24). Self-care interventions could contribute to relieving some of these demand-side barriers, particularly for vulnerable and hard-to-reach groups who do not frequently engage with the health system. HIV self-testing, for example, could extend the reach of diagnosis for men, due to its convenience (see Figure 1).

Figure 1: Taking HIV testing services out of facilities to reach men in Zimbabwe

Source: Mangenah et al. (2017) (30)
Similarly, HPV self-sampling has been found to be highly acceptable and feasible in marginalized and vulnerable populations, including migrants and refugees, women of low socioeconomic status, older women, indigenous women, and sex workers (31). Women were more likely to self-test and post the test kits back than to act on reminder letters to attend in-clinic/lab testing. Across countries and cultures, the acceptability of HPV self-sampling has been linked to costs and users’ abilities to collect samples correctly.

When designing interventions, it is important to consider people’s preferences to ensure they will want to use the services, and behavioural economics can provide useful insights. Behavioural interventions can improve the effect and uptake of self-testing without costing too much. These behavioural nudges can be delivered in a timely manner, are relatively easy to implement, and they can respond to social norms to make self-testing more attractive.

Some self-care interventions may exacerbate inequities by increasing access for the socioeconomic better-off. The current evidence base for STI self-sampling evaluates distribution models that require Internet and postal systems, which may not be feasible in many low- and middle-income countries, or may privilege groups within countries with a higher socio-economic status. Alternative door-to-door models are being tested, with innovative cross-subsidization mechanisms (see Box 3).

**BOX 3. HOPE PERU’S FINANCING AND DELIVERY MODEL FOR HPV SELF-TESTING**

Launched in May 2019, HOPE Peru is a public health social enterprise. An early phase of marketing HPV self-testing (careHPV), the project is based on four key pillars:

1. low-cost, sensitive molecular HPV tests;
2. self-collected vaginal samples;
3. the engagement of women in the community (“HOPE ladies”) to teach other women about cervical cancer and how to obtain and use the HPV test;
4. information technology for the online sale of kits; to track product processes, deliveries and samples; to organize women in the community (HOPE ladies); to communicate results (through SMS text messages) and reminders for clinic visits; and to provide Internet-based resources (digital messaging) and a hotline (phone consultations).

The retail model involves online orders and the postal delivery of kits. The social model for marginalized populations involves training and engagement with women from the communities to disseminate information and distribute screening kits door-to-door in their local communities. Digital platforms are used for payment of the subsidized costs.

careHPV is designed to be self-administered by women, enabling the sampling at home or in other private settings. The samples can either be picked up from homes or users can deposit them in collection boxes placed in commercial areas available 24 hours a day, 7 days a week.

The results of the tests are sent via SMS text messaging within a week, including appropriate referrals for health care, as needed.

A private philanthropic financing model is being trialled. The tests are being sold for 120 Peruvian sol (around US$ 36), such that women from higher-income backgrounds are buying the kits at a cost up to a third higher, to subsidize access for women from a background of lower socioeconomic status. Different levels of subsidy are arranged based on population and location.
THE SELF-CARE ECOSYSTEM AND AND ENABLING ENVIRONMENT

The introduction of self-care interventions in low- and middle-income countries is likely to be more challenging than in high-income countries, which generally have better-functioning health systems. Weak governance, health-care provider resistance, constrained procurement and lower availability of interventions are likely to pose implementation challenges.

For innovations in self-care to be adopted and used effectively, several factors will need to be considered, and enablers will need to be in place. Countries considering the introduction of these self-care options for SRHR, or seeking to better integrate and promote them within their health systems, should consider the broader ecosystem within which these products and services would be placed. This ecosystem will determine the cost, efficiency, access, uptake and financing implications in each given context.

3.1 Patient-centred approaches and community engagement
For most self-care interventions to remain safe, to maintain the quality of care and to enhance access, users need to be informed and to have the knowledge to use self-care products effectively. User knowledge and education should therefore be a key component of the delivery of self-care by health systems, with different levels of targeted support.

Evidence suggests that the health-care provider time spent on this education and support component can increase the cost of self-care interventions – but this investment will also increase their effectiveness.

The education can take different forms, recognizing different levels of health literacy and different channels of delivery. Pharmacists would be an important cadre to take on this support role, as a key point of contact for accessing self-care products.

In addition, community systems are expected to be particularly effective in reaching users and promoting informed uptake. For example, community connectivity among sex workers in Jamaica promoted better knowledge of self-care tools, such as for post-exposure prophylaxis against HIV.

Community engagement and delivery models would also be less costly than facility-based models in many cases, and could better build trust in the systems supporting introduction of self-care interventions. Indeed, the availability of self-care products free of charge in public health facilities may not be enough to ensure uptake by people who need the products, as observed with abortion services in many countries in the Asia-Pacific region.

3.2 Service delivery and continuum of care
The introduction of self-care interventions within a health system should at the very least consider whether a continuum of care is in place to meet the ensuing health-care needs. Self-diagnosis products should not be introduced if the health system is not able to provide treatment for people who test positive and need to be linked to care. HPV self-sampling needs the availability of treatment for cervical cancer and pre-cancer lesions, and HIV self-testing needs the availability of reliable antiretroviral therapy without stock-outs. Such factors affect the demand for and the uptake of self-care interventions.

Similarly, the delivery infrastructure for many of these tools relies on a functioning postal system and a good technological infrastructure for Internet-based ordering options and the return of results. Digital platforms and information systems have huge potential as a means to leapfrog to greater access to health care, but they may also exacerbate inequities in access as a result of the so-called digital divide.
3.3 Provider engagement and motivation
A paradigm shift is needed for actors within health systems to enable agency and trust for individual users, thereby empowering them as self-carers. Health-care providers play a central role in driving health-care behaviours, and directly influence the specific health interventions taken up by users. Provider payment systems, which tend to follow a fee-for-service structure, are likely to directly disincentivize the uptake of self-care interventions. Individual providers and professional associations can enable the introduction and promotion of self-care technologies if they consider these tools as valuable and non-harmful for patients. The effective integration of self-care interventions into health-care delivery will need the active engagement of providers, in-service training in self-care and patient-centred care, and an explicit consideration of provider incentives.

3.4 Governance and regulatory alignment
National or subnational laws, regulations and guidelines are important determinants of the availability and use of self-care interventions for SRHR. Injectable contraception used to be accessed easily across Latin America, for example, but its use is now penalized in several of the region’s countries.

Self-care interventions may be more efficient when targeted at certain high-risk groups (specifically for self-diagnosis of infectious diseases). The legislative feasibility of this targeting will vary by setting and is likely to be legally and politically challenging. Some countries have increased their targeting of HIV testing services based on objective criteria, such as geographical location and prevalence.

As with the integration of any health technology into health systems, the pricing, delivery and procurement strategies for self-care will need to be considered in implementation and adoption. Interactions between public and private institutions in product innovation, sales and delivery are likely to influence the end value, costs and outcomes for the payers. Negotiations for differential pricing across contexts and settings, or for pooled procurement strategies, may bring prices down.

3.5 Humanitarian settings
The delivery and financing of self-care during humanitarian crises or in settings affected by them has the potential to answer the severely unmet, long-term SRHR needs that have accumulated during crises. A minimum initial service package (MISP) for SRH in crises was developed by the Inter-Agency Working Group on Reproductive Health in Crises, most recently updated as the Inter-agency field manual on reproductive health in humanitarian settings (32). It includes many self-care interventions for contraception, abortion care and HIV and other STIs. In such times or settings, the unit costs of interventions are higher, domestic financing is often unavailable and an enabling ecosystem to facilitate delivery and provide the necessary infrastructure may be absent.

The global population of forcibly displaced people increased by 2.3 million in 2018 to 70.8 million individuals who were forcibly displaced worldwide as a result of persecution, conflict, violence or human rights violations (33). Many are hosted in low- and middle-income countries, within national contexts and health systems that are already experiencing resource constraints. There is often severe underfunding of all health services for populations in acute and protracted crises, with limited funding often not sustainable over the course of many humanitarian crises. Of the world’s 25.9 million refugees in 2019, over half are under the age of 18 (33). Yet proposals for adolescent SRH through humanitarian funding streams made up less than 3.5% of all health-related proposals between 2009 and 2012, and most remained unfunded (34).

Traditional funding for humanitarian emergencies is insufficient, unsustainable and predominantly provided by high-income countries. Current funding instruments overwhelmingly consist of post-emergency external assistance provided to the United Nations and international nongovernmental organizations. Refugee crises are generally protracted; the average refugee remains so for more than 10 years (35). Different models of financing need to be considered, such as private, multilateral, nongovernmental organization-arranged or community-organized insurance, cash transfers, vouchers, and so on (36). In some cases, the United Nations High Commissioner for Refugees (UNHCR) has been successful in integrating funding for displaced persons into national health insurance structures of host countries. UNHCR has also implemented cash transfers for health programmes in refugee contexts, including for maternal health care for refugees in Egypt and Jordan from the Syrian Arab Republic (37).
4.1 Implementation tools
The meeting recommended and discussed the development of a briefing note or implementation tool with key implementation considerations for countries to take into account alongside the WHO guideline on self-care interventions for SRHR. In addition to the identified cost, financing and equity considerations, this tool would need to include an overview of considerations in terms of ecosystem readiness to integrate self-care interventions for SRHR. The WHO building blocks or the Ouagadougou Declaration framework were suggested as organizing frameworks (38, 39).

Some initial readiness criteria and questions were raised during the group discussions, as follows.

- **Community participation:** Will users have an informed choice of self-care interventions? How can community-engagement and community-support structures be leveraged to support self-carers? How can general public communications channels and school curricula be used for health literacy, empowerment and encouragement so that users actively engage in self-care? Are social accountability mechanisms in place?

- **Service delivery:** Is a continuum of care available and are health services linked? What are the expected bottlenecks and possible solutions to them along the care cascade (from self-sampling, self-screening and self-diagnosis, to self-treatment and self-management)? What are the complementary health-system requirements along the continuum of care and the shift in responsibilities?

- **Human resources for health:** Are providers motivated to support self-care, and are their incentives aligned? How can current provider motivations be realigned to enable task shifting and self-care? Is there a potential for perverse incentives that drive counterproductive provider behaviour and/or a loss of patient options? Does in-service provider training include self-care and define the needs of intermediaries or community agents?

- **Leadership and governance:** Does national regulation align with the use of self-care interventions for SRHR? Is the private sector regulated at the appropriate level to distribute and deliver self-care interventions? Is there regulation of self-care apps, data privacy and the use of big data for health?

- **Health information systems:** Is there capacity to manage data to inform planning (and potentially targeting), as well as to ensure care and treatment follow-up of case identification?

It may be useful to develop technology-specific checklists for health-system readiness, as well as tools that are adapted to humanitarian settings (e.g. costing tools).

4.2 Learning from and documenting relevant case studies
During the meeting, several self-care interventions for SRHR were discussed that had been more or less successfully introduced across several countries and settings. The economic, financing and implementation consequences of these interventions could provide useful learning on what worked, and what failed and why – both in terms of specific SRHR self-care tools and in terms of delivery models and platforms.

- **Successful case studies (in certain settings):**
  - home pregnancy tests;
  - male condoms;
  - ovulation predictor kits;
  - self-management of medical abortion (specifically how stigma has been addressed in settings where it is legal).
• Less successful case studies:
  - female condoms;
  - menstrual cups;
  - self-examination for breast cancer and testicular cancer.
• Delivery models:
  - diabetes and hypertension self-monitoring and self-management;
  - community agents as mediators to improve user uptake;
  - schools as entry points and platforms for health literacy and user education.

4.3 Research agenda
To further build a case for self-care adoption, the experts agreed that concerted efforts were needed to fill knowledge gaps, including on:
• collection and analysis of data on unmet needs and use/uptake, disaggregated by factors such as gender and socioeconomic status;
• analysis of health effects and costs over the long-term;
• willingness-to-pay studies;
• raising community voices and co-creating knowledge through qualitative research with health-care providers and community health workers on how and when self-care could work;
• understanding product development, manufacturing costs and disposal/waste management.

Integration of self-care into national health financing and priority-setting
• How can self-care be incorporated into national health financing schemes?
• What cost-effective self-care interventions could be included in essential benefits packages (using local cost-effectiveness thresholds)?
• How can resource tracking (of sources, agents and implementers) be set up and sustained for self-care products?
• When have health-system cost savings led to the pro-poor reallocation of resources? Can self-care free up resources within facilities to allow health-care workers to do higher-skilled tasks?

Contextualized local assessment and the scaling up of programmes for self-care
• What kind of institutional capacity do countries need to build up to appraise evidence on new technology?
• What are the lessons from practice on the potential conditions to enable successful local adoption and scale-up?
• What supportive or coupled infrastructure and dynamics are needed within the ecosystem to implement interventions for successful uptake and health outcomes?
• What information and communications technologies and platforms are needed for data-enabled targeting?
CONCLUSIONS

Self-care interventions can increase individual choice and autonomy over their SRH as well as their overall health and well-being. Provided as an additional approach to formal health-care services, they can contribute to more efficient and better-targeted health systems, and better health outcomes at individual and community levels. However, there is limited evidence on their costs, cost-effectiveness and financing. Most studies are from high-income settings, and several documented health service delivery models may be less relevant in low-resource settings. Even in high-income countries, the evidence regarding the populations who are in more vulnerable situations, such as indigenous and migrant populations, is limited.

There is a need for a better understanding of the elements in countries’ healthcare ecosystems that could enable or impede the effective introduction and delivery of self-care interventions, and of how these could be equitably financed and leveraged to reduce, rather than exacerbate, inequities in access.

User education and community engagement are critical to support implementation, and also to overcome the acceptability issues and stigma that may limit uptake. Strategies are needed to address provider- and supply-side bottlenecks, incentives and behaviours.

Blended financing models that take a total-market approach and take advantage of private-sector delivery could be important to expand access across population segments. Importantly, there is need for innovation in financing models to move out-of-pocket health spending into more efficient risk-pooling, and for the better leveraging of smart technologies such as digital payments, automated verification and anomaly detection, telemedicine, task shifting to individuals and communities, and decentralized pharmaceutical distribution.

Seeking innovations that increase value in health services in addition to providing greater efficiencies in health – in areas such as procurement, management, service integration and staffing – could propel self-care interventions to becoming one of the main sustainable, acceptable and financially viable solutions for the future of health.

NEXT STEPS

The meeting identified that the next steps needed to support considerations for self-care included the following:

• The development of a briefing note with implementation considerations for countries to use alongside the consolidated guideline on self-care interventions for SRHR.
• The publication of a journal series on the health systems perspectives including on economics and financing of self-care for SRHR that will document case studies of self-care interventions that have worked or failed, and that will lay out a research agenda.
REFERENCES


# ANNEX 1: Meeting participants

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Institution</th>
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<tbody>
<tr>
<td>Professor Pascale ALLOTEY</td>
<td>Director</td>
<td>United Nations University International Institute for Global Health (UNU-IIGH)</td>
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<td>Bill &amp; Melinda Gates Foundation</td>
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<td>Pillar Lead and Research Fellow</td>
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<td>Dr Fern TERRIS-PRESTHOLT</td>
<td>Associate Professor in Economics of HIV</td>
<td>London School of Hygiene &amp; Tropical Medicine, United Kingdom</td>
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<tr>
<td>Dr Peter WAISWA</td>
<td>Associate Professor of Health Policy, Planning and Management, Team Lead</td>
<td>Makerere University, Uganda</td>
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<tr>
<td>Dr David WILSON</td>
<td>Global Lead for Decision and Delivery Science, and Global HIV/AIDS Programme Director</td>
<td>The World Bank</td>
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<tr>
<td>Ms Tian ZHOU</td>
<td>Intern</td>
<td>WHO</td>
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## ANNEX 2: Meeting agenda

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<thead>
<tr>
<th>Day/Time</th>
<th>Agenda</th>
<th>Location/Speaker</th>
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<tr>
<td>Tuesday 2 April</td>
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<tr>
<td>10:00–11:30</td>
<td>Launch of <em>The BMJ</em> supplement on self-care interventions for sexual and reproductive health and rights (SRHR)</td>
<td>All invited to attend Event held at United Nations headquarters building, Conference room 11</td>
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<tr>
<td>12:30–13:30</td>
<td><strong>Lunch</strong></td>
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<tr>
<td>13:30–14:00</td>
<td>Welcome and objectives Round of introductions</td>
<td>Chair: Pascale Allotey, United Nations University International Institute for Global Health (UNU-IIGH) Manjulaa Narasimhan, World Health Organization (WHO)</td>
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<tr>
<td>14:00–14:30</td>
<td>Guideline development process and conceptual framing</td>
<td>Manjulaa Narasimhan, WHO</td>
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<tr>
<td>14:30–15:00</td>
<td>Review on key economic and financing considerations of self-care</td>
<td>Michelle Remme, UNU-IIGH</td>
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<tr>
<td>15:00–15:30</td>
<td><strong>Coffee/tea break</strong></td>
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<td>15:30–17:00</td>
<td>Financing considerations from a payer perspective (users, governments, donors) Reflections on how self-care for SRHR can be integrated into health systems and universal health coverage (UHHC), particularly in low- and middle-income countries</td>
<td>Chair: Manjulaa Narasimhan Dominic Nkhoma, Ministry of Health, Malawi David Wilson, The World Bank Sai Jyothirmai Racherla, The Asian-Pacific Resource &amp; Research Centre for Women (ARROW)</td>
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<td>Wednesday 3 April</td>
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<td>8:30–9:00</td>
<td>Breakfast</td>
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<tr>
<td>9:00–9:10</td>
<td>Overview of Day 1</td>
<td>Chair: Michelle Remme</td>
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<tr>
<td>9:10–10:30</td>
<td>Costs and efficiency of self-care</td>
<td>Maria Panagioti, University of Manchester</td>
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<td></td>
<td>- What happens to user and health system costs?</td>
<td>Fern Terris-Prestholt, London School of Hygiene &amp; Tropical Medicine</td>
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<td>- When does self-care increase efficiency by improving outcomes?</td>
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<td>- How does this differ by type of self-care intervention (self-awareness, self-diagnosis, self-management)?</td>
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<td>10:30–11:00</td>
<td>Coffee/tea break</td>
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<tr>
<td>11:00–12:30</td>
<td>Financing and equity of self-care</td>
<td>Chair: David Wilson</td>
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<td>- Who pays when care is shifted to users?</td>
<td>Peter Waiswa, Makerere University</td>
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<td>- How can benefits packages and UHC financing mechanisms incorporate self-care?</td>
<td>Patricia Garcia, Cayetano Heredia University</td>
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<td>- How can governments balance self-financing and financial protection?</td>
<td>Carmen Logie, University of Toronto</td>
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<td>- Who stands to benefit most from self-care interventions, and how to optimize their impact on equity of health care?</td>
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<td>- What are the implications in humanitarian settings?</td>
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<td>12:30–13:30</td>
<td>Lunch</td>
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<tr>
<td>13:30–14:30</td>
<td>Small group discussions</td>
<td>Chair: Manjulaa Narasimhan, WHO</td>
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<td>14:30–15:30</td>
<td>Key recommendations for guideline implementation</td>
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<tr>
<td>15:30–16:00</td>
<td>Coffee/tea</td>
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<td>16:00–16:30</td>
<td>Next steps</td>
<td>Pascale Allotey, UNU-IIGH</td>
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<td>Closing</td>
<td>Manjulaa Narasimhan, WHO</td>
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