Paper Prepared By:

Digital Public Goods Alliance, Digital Square, UNICEF Health and Information Communication Technology (ICT) Divisions

Understanding the Relationship between Digital Public Goods and Global Goods in the Context of Digital Health

April 8, 2021

The Digital Public Goods Alliance is a multi-stakeholder initiative which aims to accelerate the attainment of the sustainable development goals in low- and middle-income countries by facilitating the discovery, development, use of, and investment in digital public goods. The Secretariat of the Digital Public Goods Alliance is co-hosted by the Norwegian Agency for Development Cooperation (Norad) and UNICEF and governed by an Interim Strategy Group consisting of: iSPIRT; The Government of Norway; The Government of Sierra Leone; and UNICEF.

Many staff, Community of Practice Members and allies of the DPGA generously contributed ideas to this paper.

The paper was written by Lucy Harris and Liv Marte Nordhaug.

Understanding the Relationship between Digital Public Goods and Global Goods in the Context of Digital Health

Table of Contents

Introduction

With more than 95% of the global population living in areas connected by a mobile-cellular network[1], the opportunity for digital solutions to address health needs and accelerate the attainment of the sustainable development goals by 2030 has never been more possible. And the need is urgent.

Leveraging open source offers opportunities to rapidly scale state-of-the art technologies and make relevant local adaptations of digital health solutions.

Recognising this, and the urgent challenge brought on by the COVID-19 pandemic, the Community of Practice (CoP) for Health, convened by the Digital Public Goods Alliance (DPGA) and co-chaired by UNICEF Health, is seeking to support countries to identify and advocate for open source technologies that can be used for immunization delivery management.

The CoP sees the highest potential impact for digital health solutions that are both digital public goods (DPGs) and global goods. This alignment is particularly important as a mechanism to complement and extend existing efforts such as COVAX, WHO ClearingHouse and Digital Square to identify digital public goods/global goods for immunization delivery management.

Defining Digital Public Goods and Global Goods

Digital Public Goods

Digital public goods (DPGs) are defined by the UN Secretary-General, in the Roadmap for Digital Cooperation, as "*open source software, open data, open AI models, open standards and open content that adhere to privacy and other applicable laws and best practices, do no harm, and help attain the Sustainable Development Goals.*"

This definition has been translated into a 9-indicator open standard by the DPGA. This standard requires DPGs to demonstrate: relevance to the SDGs; use of an approved license; clear ownership; platform independence; documentation; a mechanism for the extraction of non personally identifiable information; adherence to privacy and applicable laws; adherence to standards and best practices; and a commitment to do no harm. The DPG Standard has been designed to be relevant for all DPGs, regardless of sector.

Global Goods

While there is no authoritative definition of global goods, the traditional usage[2] is an extension of an established economic definition of global public goods, "*a good that has the three following properties:*

---

[1] *ICT Facts and Figures 2016*, International Telecommunications Union.
[2] *Global public good*, Wikipedia.

- *It is non-rivalrous. Consumption of this good by anyone does not reduce the quantity available to other agents.*
- *It is non-excludable. It is impossible to prevent anyone from consuming that good.*
- *It is available more-or-less worldwide.*"[3]

Global Goods in Digital Health

Looking at global goods within the health context, two prominent definitions are:

Digital Square's [What Are Global Goods Wiki](#) which defines global goods as *"A mature digital health software [that] is software that is Free and Open Source Software (FOSS), is supported by a strong community, has a clear governance structure, is funded by multiple sources, has been deployed at significant scale, is used across multiple countries, has demonstrated effectiveness, is designed to be interoperable, and is an emergent standard application."[4]*

USAID's [A Vision for Action in Digital Health](#) describes global goods as "*including content (knowledge products) and software tools, which frequently are open-source, adaptable, and reusable to meet the diverging needs of various geographic or thematic contexts.*"[5]

Comparing Definitions

Relevance to the SDGs

Each of these definitions addresses the three core properties of global goods: non-rivalry, non-excludability, and worldwide availability, with some variation in the specific requirements. However, digital public goods (DPGs) also require relevance to the attainment of the Sustainable Development Goals (SDG).

By looking exclusively at global goods in the context of health we can see health global goods as relevant to the attainment of SDG *Goal 3: Ensure healthy lives and promote well-being for all at all ages*[6], and therefore addressing the SDG requirement of DPGs.

Incorporating Best Practices and Doing No Harm

The DPG definition explicitly addresses questions related to doing no harm and incorporating best practices. Within the DPG Standard, "do no harm" is divided into three sub-categories with corresponding criteria that are assessed. These include: 1) data privacy & security; 2) inappropriate and illegal content; and 3) protection from harassment.

While "do no harm" is not explicitly mentioned in the definitions of global goods, adherence to the [Principles for Digital Development](#) and security best practices are a part of the evaluation frameworks for Digital Square Global Goods and include "do no harm" components.

---

[3] *[Defining Global Goods](#)* Kaul, Inge, Isabelle Grunberg and Marc A. Stern.
[4] *[What are Global Goods](#)*, Digital Square.
[5] *[A Vision for Action in Digital Health](#)*, USAID.
[6] *[Goal 3: Good Health and Well-being](#)*, the United Nations Sustainable Development Goals.

Digital Health Global Goods as a Subset of Global Goods

Unlike DPGs, global goods are not inherently digital. However, digital goods (software) are prominently represented amongst global goods due to their potential for global scale. Since digital technologies tend to be non-rivalrous by nature, one individual's use of a digital product does not limit its utility to someone else. Additionally the use of open source licensing can ensure that no one is excluded from using/reusing a good.

Open Source as a Fundamental Requirement

The definitions of DPGs and Digital Square's definition of global goods explicitly requires projects be open source defined as use of an approved license[7], clear ownership, documentation, platform independence, and extractable (non-personally identifiable) data. While the USAID definition of global goods uses the term "frequently" in front of open source, we can understand that given the additional requirements it would be functionally impossible for a digital health global good to be proprietary and meet this definition. Therefore, digital health global goods can be expected to meet the digital public good requirement for being open source.

Digital Health Global Goods as Mature Digital Public Goods

If we consider digital health global goods as a subset of global goods, we can further classify digital health global goods as mature digital public goods. Within definitions of global goods for digital health there is broad alignment on the need for global goods to demonstrate maturity through indicators such as:
- **Scale:** Implemented by a large number of parties/deployed at scale/used by multiple countries.
- **Funding:** By multiple parties/sustainable.
- **Evidence of Effectiveness:** Demonstrated effectiveness/evidence based/emergent standard.

This concept of maturity is further detailed in the [Digital Square - Global Goods Maturity Model](#) which was developed with input from the digital health community. In contrast, the DPG definition, by design, has no maturity requirement. Therefore, any solutions that otherwise address the DPG Standard may be considered DPGs.

This difference creates an opportunity to describe digital health global goods as a mature subset of digital public goods.

Conclusion

Having a clear, shared articulation of the relationship between global goods in the digital health context and mature digital public goods is extremely useful. Not only does it allow for clarity and consistency in communication, it also facilitates

---

[7] Projects must demonstrate the use of an approved open license. For Open Source Software, we only accept [OSI approved licenses](#). For Open Content we require the use of a [Creative Commons license](#) while we encourage projects to use a license which allows for both derivatives and commercial reuse ([CC-BY](#) and [CC-BY-SA](#)), or dedicate content to the public domain ([CC0](#)); we also accept licenses which do not allow for commercial reuse ([CC-BY-NC](#) and [CC-BY-NC-SA](#)). For data we require an [Open Data Commons approved license](#). *You can find [the full license list here](#).*

alignment and collaboration within and across digital health and digital public goods initiatives.

In future iterations of the Global Goods Guidebook, Digital Square will note which global goods are DPGs, and which use cases have been approved through the WHO Clearinghouse. The DPG Registry will also note which DPGs are Digital Square approved global goods.

We imagine in the future, those wishing to fund[8] or otherwise support digital health global goods, may be able to use the DPG Standard as a practical prerequisite. Leveraging the DPG screening process could eliminate the need for multiple programs to check licenses or review documentation on the same project. This approach allows programs to extend, rather than duplicate, one another.

In recognition of this opportunity, the Digital Health CoP, convened by the Digital Public Goods Alliance, is working to apply the combined standards for DPGs and global goods to assess promising short-listed projects of high relevance for immunization delivery management. At the outset of this assessment these health solutions will be digital public goods and global goods, shared through multiple catalogues and systems with governments who are requesting open solutions to immunization delivery challenges.

Resources

- Digital Public Goods Alliance DPG Standard, digitalpublicgoods.net/standard
- Digital Public Goods Alliance DPG Registry, digitalpublicgoods.net/registry
- Digital Square Global Goods Guidebook, digitalsquare.org/global-goods-guidebook
- Digital Square Global Goods Maturity Model, wiki.digitalsquare.io/index.php/Global_Goods_Maturity
- Principles for Digital Development, digitalprinciples.org
- The Principles of Donor Alignment for Digital Health digitalinvestmentprinciples.org
- WHO Clearinghouse, innovate.who.int

---

[8] *The Principles of Donor Alignment for Digital Health*, Digital Investment Principles.