Conference Report

Planet.Health: An Ecosystem Approach to Imagine and Coordinate for Planetary Health Futures

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Abstract: Planet.Health addresses imagination and coordination challenges for planetary health through innovative approaches to social organising. This report presents the findings from the inaugural Planet.Health event in 2022, including the Planet.Health unconference. An unconference is a participant-driven event format that provides flexibility for emergent ideas and connections. In this (un)conference report, we share the challenges, achievements, and lessons learned during the initial year of activities in the leadup to and following the Planet.Health unconference event. We also discuss how the intersection of web3 and planetary health—a major focus of the first year—provides an alternative lens for envisioning, innovating, and coordinating beyond conventional social and institutional frameworks. We explore the potential impact of web3 technologies and decentralised social, economic, and financial networks and highlight the implications of these approaches for addressing planetary crises and supporting a flourishing human–environment relationship. As a new contribution to the planetary health field, this work emphasises the importance of building decentralised systems to foster creative actions and inspire global engagement for planetary wellbeing. The report concludes with some practical insights on how we begin to build and sustain decentralised social networks, including a discussion of the benefits and limitations of these approaches.

1. Introduction

Action to tackle complex planetary health crises is urgently needed. Transformation has not occurred at the pace or scale necessary to prevent cascading anthropogenic harms to Earth systems, let alone support widespread human and environmental flourishing [1–3]. This is underpinned by the failure of collective imagination and coordination [3,4]. On the one hand, there is a need to fundamentally reimagine our relationship with the planet through renewed moral, spiritual, social, cultural, and economic systems [3,5]. On the other hand, there is a need to coordinate rapidly and at a scale to enact solutions [6].

Planet.Health is an attempt to address imagination and coordination challenges for planetary health. Planet.Health was founded in early 2022 by a group of global citizens who were interested in planetary health, emerging technologies, and the arts. We recognised the need for linked-up thinking to address the root causes of planetary crises by

drawing on a plurality of modalities, different ways of knowing and learning, creativity, and experimentation.

Planet.Health has grown into a platform for facilitating collective vision and translocal mobilisation [7] for human and environmental flourishing. Initiatives such as Project Earthrise [8] and the Planetary Health Alliance [9] have made great progress towards a global movement for planetary health research and action. Planet.Health builds on this, drawing on a plurality of traditional and technological tools to enhance imagination and coordination for planetary health. Diverse approaches such as the creative arts [10], blockchain technologies [11], artificial intelligence (AI) and augmented/virtual reality (A/VR) [12], traditional modalities such as breathwork and meditation [13], community currencies and localised economies [14], bioregionalism [15], and community mobilisation [16] represent promising means to transform our relationship with the planet and unlock new possibilities for planetary health. Through experimenting with these strategies, Planet.Health aims to develop new ways of social organising for shared action towards the common good.

Given its early stage, this report is an opportunity to reflect on the opportunities and challenges of a new decentralised initiative such as Planet.Health, including communication, funding, and participation challenges. The fields of health, arts, technology, and community mobilisation tend to have radically different approaches. For that reason, we planned a 'Discovery' phase to enable participants to find common ground. Another challenge was a lack of funding opportunities for unorthodox initiatives. The conception and realisation of the event largely relied on voluntary work, as well as on the sponsorship of a handful of pioneer organisations. Finally, efforts were required to ensure balanced participation and representation of different groups, particularly partners from low- and middle-income countries.

In this (un)conference report, we share the findings from the first year of Planet.Health across three phases: online learning (discovery), an in-person incubator event (chrysalis), and decentralised community-building (emergence). The focus of Planet.Health in 2022 was to bring together experts from the fields of web3 and planetary health, including those on the frontlines of health and climate injustice. We first discuss how web3 may provide an alternative infrastructure to imagine, innovate, and coordinate for planetary health outside the constraints of traditional social and institutional structures. We then discuss the Planet.Health events and their key findings. We conclude with practical insights on how we can continue to build a decentralised global response to planetary health.

2. Why Web3?

Web3 can provide an alternative lens through which to consider planetary health afresh [11,17]. Web3 can be thought of as the third iteration of the World Wide Web, incorporating a range of socio-technological innovations such as blockchain technologies [18,19]. Web3 denotes a new phase for the Internet that shifts ownership, agency, and value into the hands of individuals and away from centralised institutions [18–20].

As a key part of the web3 landscape, blockchain technologies enable secure, decentralised, and coordinated actions rapidly and at scale [18,21]. A blockchain is a distributed ledger of data that, through its distributed design, is immutable and transparent [20,22]. Blockchain has disrupted traditional models across many sectors, including health (e.g., supply chains, research and development, and medical records), finance (e.g., decentralised finance, DeFi), education (e.g., administration, certification, delivery platforms), and the energy/environment space (e.g., open energy markets, circular economies, carbon offset trading) [11,18,23–25]. Blockchain innovations are not without their limitations and have been criticised for facilitating 'decentralised reproduction of capitalist class power,' market monopolisation, the energy use of 'proof of work' chains, and the rapid growth of decentralised networks beyond the reach of traditional regulatory and enforcement frameworks [22,26]. The social environment and biases of those who build the technology—often those in privileged positions—are critically important in determining the intended or unintended impacts of blockchain applications but are not often interrogated or challenged [26].

Despite these limitations, blockchain infrastructure remains a promising alternative for supporting new ways of social organising. It has enabled new approaches based on decentralised ecosystems of peer-to-peer collaboration [25]. This provides an opportunity to rethink some fundamental tenets of how we coordinate, decide, and denote value beyond our current economic paradigm [19,27,28]. Recently, a wave of initiatives has emerged that harness these new ways of social organising and focus on addressing global sustainability challenges. ReFi (Regenerative Finance)projects use techniques such as token-based economies, impact verification and tokenisation, peer-to-peer collaboration, and forms of direct and deliberative democracy to support the creation of public goods and value diverse forms of living capital [29]. The dWeb principles, practiced within a subset of the Web3 ecosystem, call for a focus around: Technology for Human Agency; Distributed Benefits; Mutual Respect; Humanity; and Ecological Awareness [30].

Scholars are quick to point out that technology in isolation is not a panacea and that if blockchain is to achieve regenerative objectives, it must build democratic and redistributive economies, move beyond the commodification of the environment towards regenerating it, and facilitate international solidarity without imposing rigid values [22]. ReFi projects have largely targeted climate change and biodiversity loss but have yet to center human health through a planetary health lens [11,29].

Through Planet.Health, we saw the potential for bringing web3 and planetary health communities of practice together to address this gap. Regardless of whether we use web3, considering the principles of a new system allows us to utilise a different set of tools to question the legacy systems that drive poor health and environmental damage and to unlock collective imagining of what is possible in planetary health.

3. Planet.Health Events

In 2022, Planet.Health comprised three phases: discovery (a series of virtual events focused on shared learning, community building, and upskilling on planetary health and blockchain), chrysalis (a 3-day in-person incubator event), and emergence (building a shared platform for ongoing collaboration and action).

3.1. Discovery

The Discovery phase of Planet.Health centred on a series of 'unlikely conversations' at the intersections of planetary health and blockchain. Across four online panels in Autumn 2022, we brought together 14 experts who attempted to find common ground between blockchain, planetary health, and lived experience of the health impacts of climate change. Experts came from a range of backgrounds, including law, community mobilisation, medicine, research, philanthropy, science, technology, religion, arts, ecology, education, and economics, and had projects based in Australia, France, Germany, India, Kenya, Lebanon, Mexico, Peru, Portugal, United Kingdom, and the United States. The conversations focused on four central themes: commonalities between blockchain and planetary health, community building across blockchain and planetary health, governance across blockchain and planetary health, and practical use cases. The conversations focused on the points of convergence in support of human and planetary flourishing.

Key learnings from this phase included: how blockchain technologies can revolutionise knowledge production and dissemination for science and health; how the transparency and accountability features of web3 enable a new way to write the rules for effective community building; how building new forms of economic incentives on the blockchain can reorient the way we collectively value common resources and more effectively account for externalities [31]; how more participatory and nimble organisational structures, such as decentralised autonomous organisations (DAOs), can emerge to dismantle specific problems; how consideration of the contextual individual and local community needs must be central to any web3-enabled planetary health actions; and how subsidiarity [32] may help solve certain planetary health challenges.

3.2. Chrysalis

The Planet.Health unconference was a three-day immersive event at the Château du Feÿ in Burgundy, France, from 21–23 October 2022. The objective of this event was to consolidate shared learning and begin to build a community of practice and mutual support. There were 40 participants from a variety of backgrounds who might otherwise rarely interact: senior global health economists, UN system representatives, founders of community-based health organisations, leading scientists on climate change and health, experts on blockchain technology and governance, blockchain start-ups, mixed media artists and activists, ecovillage builders, and many others who shared a common desire to work towards planetary health goals and were curious about the role that blockchain technology could play in achieving them. Conscious attempts were made to facilitate participation from groups usually less represented in such spaces, including those from low- and middle-income countries.

As important to the content was the form of the gathering. The event was styled as an unconference: a participant-driven meeting that acknowledges the collective wisdom in the room and thus leaves space for emergence, curiosity, and innovation [33]. Through the event, Bateson's concept of 'warm data' was centred: "transcontextual information about the interrelationships that integrate a complex system, as well as interwoven complex systems" [34]. By bringing together grassroots communities, policy makers, data scientists, academics, and builders—participants could put together the pieces of 'warm data' drawn from lived experience and professional backgrounds and move towards a collective, deeper understanding of problem spaces and solutions. It was also important to give space and time to alternative ways of knowing and relaying information; plenary sessions, shorter lightning talks, and breakout rooms sat alongside embodied practices, forest walks, and unstructured time to connect, relate, and share.

Three thematic groups emerged based on the participants' interests: communities, values, and governance. The thematic groups were collectively defined using crowdsourced ideas. All participants had an opportunity to reflect on challenges and contribute suggestions for focus groups, which were visually grouped in real time. The thematic groups were then debated and refined. Conference participants then opted into a group for the duration of the unconference. The 'communities' group grappled with interlocked health, climate, and livelihood challenges of communities, particularly in Kenya. The 'value' group began to consider how the positive externalities of actions to support flourishing human and planetary health could be better valued. The 'governance' group considered how decisions could be made where relational ties might be lacking and how to move beyond the embedded limitations of traditional institutions. Together, these thematic groups developed different knowledge bases relevant to achieving planetary health through the blockchain.

3.3. Emergence

The emergence phase focused on building a shared platform for ongoing collaboration and action. To develop insights from the first two phases, identify solutions, and coordinate our actions across institutional and geographic distinctions, we explored different organisational structures.

The first stage focused on articulating a shared vision. We used a process called hyperstition [35]. Instead of starting with the current reality and building forwards based on existing constructs, hyperstition reverses this logic by starting with an ideal future scenario and working backwards towards the present through abductive logic, thereby shaping a group's attention and awareness towards potential pathways they can collectively be more perceptively attuned to [35]. This circumvents the limitations of 'current trajectory' ideas and provides a new lens through which to see planetary health afresh in how it is measured, valued, organised, and deployed. In our future best-case scenario, we imagined a world where social and economic systems are designed to uphold the health of people and the planet and enable human and non-human flourishing. Health is not simply a singular outcome but instead is recognised as a relational measure that connects humans

and our environment. Imagining a world like this as a starting point for change allows a radically different approach to imagining, planning, acting, and celebrating, together.

The second stage focused on linking the vision to an organisational structure. Planet.Health takes an ecosystem approach, where diversity of people and plurality of perspectives is key to our functioning. In addition to registering Planet.Health as a non-profit, we thought of using the blockchain to further design its modalities of operations and share power and decision-making through a DAO structure, (see Box 1 for more information on DAOs). DAOs are a nascent, internet-first structure that facilitates decentralised, community-led decisions and coordination. DAOs have been seen to overcome institutional and geographic limitations by providing Internet-enabled, peer-to-peer coordination mechanisms, which facilitate nimble and scalable social organising. The DAO ecosystem is fast-growing, with over 500 DAOs starting in 2022 [36] and an estimated market capitalisation of tens of millions of dollars [37]. DAOs have facilitated a range of positive social impacts, from raising over $8 million in aid for Ukrainian war relief (Ukraine DAO) to disbursing over $3 million of universal basic income (UBI) (Impact Market DAO) [38].

Box 1. Building a Decentralised Autonomous Organisation (DAO)

What is a DAO?

A DAO stands for a Decentralised Autonomous Organisation. A DAO represents a type of 'minimum viable organisation' structure built on the blockchain that enables a transnational group of individuals to unite behind a common objective, pool resources, and coordinate decisions. A DAO uses a decentralised, typically non-hierarchical structure that negates the need for centralised leadership and gives power to its community members through a set of automated rules built into its protocol [38].

DAOs in the social impact space tend to operate on the principles of decentralised power, collective decision-making, and transparency [36]. Their key characteristics include distributed teams, decentralised governance, shared leadership, co-creation and co-ownership, a flat, concentric structure, an online platform rather than in-person offices, and the organisation of work around streams and pods [36].

Some considerations for DAO building

At the outset, DAO members agree on core values that can be encoded into the system, such as who participates, how decisions are made, and activities that the DAO will support. Automating these functions can reduce bureaucratic inefficiencies and potential corruption.

To begin a DAO, one must define:

- The type and structure of the organisation (closed/open, local/global, who does what, and how decisions are made),
- An incentive structure for participation in the network,
- The way that resources are distributed,
- The online interface, and
- Establish the treasury and community.

Practically speaking, a DAO can be established by a group of people with a shared mission, shared funding, and access to the Internet. Much more information about the practical aspects of building a DAO is available online [39–42].

Cabraal [39], in writing 'For DAOs, with love,' identifies a set of six organising principles for effective decentralised organisational building: a compelling shared mission; a membership base with agency; support to build ventures; a central structure and financial commons; space for relationships; and shared ambition. A shared mission is something at the centre of the organisation that compels everyone to show up and feel tangibly aligned. For us, our mission is to support planetary health futures and strengthen the Planet.Health community. The membership base of the DAO should be carefully calibrated; it is crucial to strike a balance between a smaller group that fosters strong relationships and a larger group that brings a diverse range of perspectives and expertise. For us, we will begin with a core group of around 40 individuals from the Planet.Health event. Next, there is a need for support to build ventures; a DAO is a space for creativity and entrepreneurship, and this must be practically encouraged. At Planet.Health, we envisage supporting an

ecosystem of activities—from translocal community action to fundraising. Activities should be supported by a transparent structure and financial commons, with real structural and legal shared ownership by the group. Planet.Health is currently entirely volunteer-run, and developing a transparent structure for shared resources is a priority. A DAO must also make space for relationship-building and trust. Doing enjoyable activities together builds a social fabric that is invaluable to supporting the DAO function. At Planet.Health, this looks like a co-created unconference of talks, workshops, musical and spoken word jam sessions, sharing of food, co-hosting parties, walks in nature, and more. When all these factors come together, there is the potential to create a platform for greater shared ambition [38].

4. Discussion

As "the master's tools will never dismantle the master's house" [43], there is a need to develop new strategies and structures to address the root causes of planetary crises. Web3 technologies, such as blockchain, provide a set of tools for transnational coordination, co-production, and creativity. Building upon a foundation of peer-to-peer collaboration and employing mechanisms that negate the need for centralised actors, new forms of coordinated action for social impact can emerge. In other words, blockchain infrastructure allows us to build new systems for change based on new forms of social contracts.

DAOs are an example of this, being increasingly used as a decentralised organisational structure to coordinate for social and environmental impact [44]. Despite their potential impacts, DAOs are not without limitations. Without a centralised management team and often built from a largely volunteer base, DAOs can face governance and administrative challenges such as low voter participation, difficulty in coordination, and limited capacity for administration [45,46]. Incentivising and rewarding sustained participation in DAOs have been addressed through different forms of tokenisation, financial rewards, and subscription models [45]. Participation in DAOs is also predicated on technological access and literacy. It is essential to recognise that marginalised communities or individuals with minimal Internet access may face barriers to entry. To ensure that DAOs are inclusive and accessible, partnerships with local organisations can facilitate the participation of diverse populations. One of the more serious challenges of a DAO is the lack of legal and regulatory clarity about the organisational structure, insofar as they operate outside of national legal and tax frameworks [45,46].

Technology aside, decentralised networks have been a mainstay of offline community mobilising for decades, if not centuries. For example, Direct Action Networks (DANs), built on principles of decentralisation and emergent priority setting, have played a central role in the global justice movement [47]. Recently, localised actions connected through decentralised transnational networks have been recognised as important strategies for achieving planetary health objectives [48]. Translocalism refers to a composite of place-based social movements that are linked up in a decentralised manner, sharing knowledge, resources, and practices in a 'network of networks' [49–51]. Decentralised, translocal movements create spaces of agency, solidarity, and critical reflection and are recognised as powerful strategies for transforming social norms [48,49]. Translocal health networks have been able to effectively respond to the localised impacts of interlocking planetary health crises such as COVID-19, environmental degradation, and socioeconomic inequity [48].

Implications and Limitations

Planet.Health is building a community of practice through diverse online and offline activities in an attempt to address imagination and coordination challenges for planetary health. The implications of the Planet.Health event for the wider planetary health community can be thought of in relation to imagination and coordination challenges. To unlock collective imagination, Planet.Health encourages a range of creative tools to envisage and build a better shared future. For example, tools such as meditation and breathwork, alongside VR and personalised AI, can help individuals to undertake deep reflection and embody their vision for planetary health [52]. This is underpinned by the process of hyperstition,

whereby a future 'best-case scenario' can be co-created and put into practice through reverse induction [35]. To address coordination challenges, Planet.Health is exploring new ways of transnational organisation, including through a decentralised transnational organisational structure. The implications and limitations of DAOs have been discussed above. Planet.Health also opens up new possibilities for the web3 space, with opportunities to think about how to bridge from 'ReFi' and environmental projects into health and vice versa. Ultimately, Planet.Health hopes to support more effective coordination across both fields to build healthier ecosystems for health.

Through the discovery, chrysalis, and emergence phases, potential opportunities for future research and action emerged. From a research perspective, both planetary health and blockchain are nascent fields. There is a growing body of literature that addresses planetary health *or* blockchain from an academic perspective, but very little has been done at the intersection of the two fields. This is a limitation, but the gap in the literature highlights an area of potential research development. From an implementation perspective, there are a range of opportunities for practical planetary health actions to adopt or be supported by blockchain technologies. With the growth of web3 social-impact initiatives, there is an opportunity for expanding this to focus on planetary health, i.e., the inter-relationship between human, non-human, and environmental health and flourishing. This may be through adapting governance and resource mobilisation models, building upon open-source technologies, or better representing co-benefits of interventions to reflect social, environmental, and health impacts. Currently, health initiatives on the blockchain largely remain limited to high-resource healthcare applications without consideration of wider socio-political and ecological determinants. Issa and colleagues reviewed the potential applications of blockchain technology to planetary health challenges and identified possible inroads across data, financing, identity, medicines and devices, and research. Further, this review articulated the shared principles from which to build meaningful research and initiatives: equity, decentralisation, accountability, and complexity [11].

Whilst the Planet.Health events of 2022 opened new possibility horizons, they did not come without a number of limitations. Firstly, attempting to bridge two distinct 'worlds' meant that we had difficulty in articulating our cause and attracting resources; this is being addressed through hybrid fundraising and organisational contribution strategies in 2023. Secondly, ensuring truly transdisciplinary dialogue is difficult and requires time and space to unpack many concepts and vocabularies. Giving more time for these voices and perspectives to emerge will be key for future activities. Thirdly, we were cognizant of participation barriers such as gender, nationality, and technological confidence. Although attempts were made to address this (for example, offering scholarships to people who wouldn't otherwise be able to join), there is much work to be done to be fully inclusive. We are exploring ways to host gatherings in partner LMICs, as well as developing an onboarding strategy that allows participants to gather baseline knowledge and uphold values of diversity and inclusion.

While web3 offers one possible lens, the future of planetary health will depend on a range of approaches that support and inspire new ways of thinking and doing. Planet.Health attempts to weave a plurality of tools—old and new—together, with a focus on bringing online and offline spaces closer through 'propinquital loops'. Propinquity refers to the state of being close to something or someone [53]. In the digital space, propinquity is an orientation to relationships, dialogue, exchange of ideas, and engagement with stakeholders [54,55]. A propinquital loop signifies an effective connection between online and offline spaces through the sharing of meaningful activities across both realms [55].

5. Conclusions

The world urgently needs new ways of coordinated action built on a shared imagination of what is possible. Whether facilitated by web3 or not, considering how to design and build with these technologies unlocks new ideas for planetary health action at scale. The Planet.Health community formed around three phases: discovery (a series of virtual

events focused on shared learning, community building and upskilling on planetary health, and blockchain), chrysalis (a 3-day in-person incubator event), and emergence (building a shared platform for ongoing collaboration and action).

The central event, an unconference, focused on three key themes: communities, values, and governance. Translating these insights to action through a decentralised global structure allows us to overcome certain institutional and geographic constraints, but it also comes with its own set of challenges, including empowering participants to contribute meaningfully, supporting community-based approaches, and transforming rather than perpetuating power structures. Effective decentralisation relies on six organising principles: a compelling shared mission; a crowd with agency; support to build ventures; a central structure and financial commons; space for relationships; and shared ambition.

No one thing will ever be a panacea for planetary health; the Planet.Health platform experiments with new ways of social organising to knit together unlikely collaborators worldwide through shared imagination and coordination mechanisms. This has the potential to enable new ways of being and doing for flourishing planetary health futures.

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