Good Health Pass

A Safe Path to Global Reopening

February 9, 2021

The Good Health Pass Principles have been endorsed by the following organizations:

These organizations, representing a broad cross section of the ecosystem, share a common understanding of the opportunities and challenges of "good health passes". They endorse the Good Health Pass Collaborative principles and commit to working constructively and collaboratively to develop a blueprint for organizations to adopt and implement in 2021.

To learn more about this cross-sector effort, see a full list of supporters, and to join the effort, please visit our website at www.goodhealthpass.org.

The Good Health Pass Collaborative is a global collaboration of health, travel, technology, government, and civil society organizations to develop a blueprint for privacy-protecting, user-controlled, globally interoperable, and universally accepted digital health pass systems.

Abstract

Governments around the world have adopted various restrictions on mobility and public gatherings to prevent the spread of the COVID-19. While necessary and appropriate to protect public health, the economic consequences – especially on travel and tourism industries – have been staggering.

The largest immunization campaign in history is underway. But the rollout to date has been slow and unequal. With many countries still unable to procure vaccines, it will take years to vaccinate the world's 7.9 billion people. This underscores the importance of continued, widespread testing as an essential public health tool that must continue alongside vaccination to ensure an equitable return to public life.

Recent COVID test results are already required at some airports and international borders. And, faced with competing demands to restore mobility and economic activity and protect public health, governments, employers, educational institutions, airlines, sports and event venues, and others are considering proof of a recent negative test or vaccination as a condition of access.

Existing paper-based credentials (e.g., the "yellow card," the U.S. Centers for Disease Control and Prevention COVID-19 vaccination certificates, and COVID test results from labs) are easy to lose, unnecessarily expose sensitive personal information, and are prone to fraud and counterfeiting – particularly when the stakes are so high. By contrast, digital health credentials can be printed or stored on an individual's mobile phone, enhance user privacy, and "bind" an individual's identity to a test result or vaccination certificate to enable real-time fraud-resistant digital verification.

Because numerous companies around the world are racing to market with digital health credential solutions, it is unlikely that one solution will be implemented globally. Thus, **it is vitally important that solutions are designed for interoperability – both with one another and across institutional and geographic borders.** This can only be achieved through a set of open standards to which all digital health pass systems must adhere. Failing to address interoperability could undermine acceptance, adoption, and ultimately, the utility of digital health passes.

Efforts to develop these systems have been largely driven by and for the travel and tourism industry. However, the immense complexity of facilitating cross-border travel means that digital health pass systems developed for this purpose must engage an entirely new ecosystem of stakeholders, including governments, and the travel, health, and technology sectors.

We recognize that several efforts – each addressing components of this challenge – are already underway.

The Good Health Pass Collaborative is not intended to supplant these efforts but rather to help weave them together and facilitate collaboration. By identifying the various areas where convergence around open standards is required – and filling gaps where they exist – the Good Health Pass Collaborative will provide the structure and coherence necessary for these ongoing efforts to fulfill their promise.

This paper – outlining a set of principles and a call to action – is a critical first step toward standards for what we call "good health passes." When we talk about digital health passes that are "good," we mean that they align with these principles and that they are **privacy-protecting, user-controlled, interoperable**, and **widely accepted** for international travel, and more.

We also recognize that technology is only part of the solution. It is necessary but insufficient without the policies that support its ethical implementation. We hope that the principles outlined in this paper – which emphasize personal privacy and security, user-control, and interoperability – will also provide useful guidance for policymakers as they consider legislation and regulations related to digital health credentials.

As our next step, we will collaboratively develop and release a blueprint for how we expect to get there. We invite policymakers, companies in the health, technology, and travel sectors, and civil society organizations to join in this effort to restore mobility and restart the global economy – and ensure that equity, privacy, and other civil liberties are protected in the process.

Opportunities and Challenges

Global efforts to develop and distribute vaccines for COVID-19 have advanced at an amazing pace, primarily as a result of an unprecedented collaboration between governments and the private sector. Today, we are at the dawn of the largest immunization campaign in the history of humankind.

"Now this is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning."

-Winston Churchill

The global nature of the pandemic – and the necessity of vaccinating a sizable portion of the world's 7.9 billion people – means that testing will remain an essential public health tool for the foreseeable future.

Because of the scope, scale, and severity of the pandemic, governments, airlines, employers, educational institutions, event venues, and others are considering taking the once unthinkable step of conditioning access to certain venues or services on the basis of COVID and/or vaccination status.

While such steps may be necessary to prevent the virus's spread, they inevitably create an environment ripe for fraud – with potentially deadly consequences. Airlines are already reporting cases of counterfeit test results being presented for travel, and the incidence is expected to increase dramatically as requirements shift from test results to proof of vaccination.

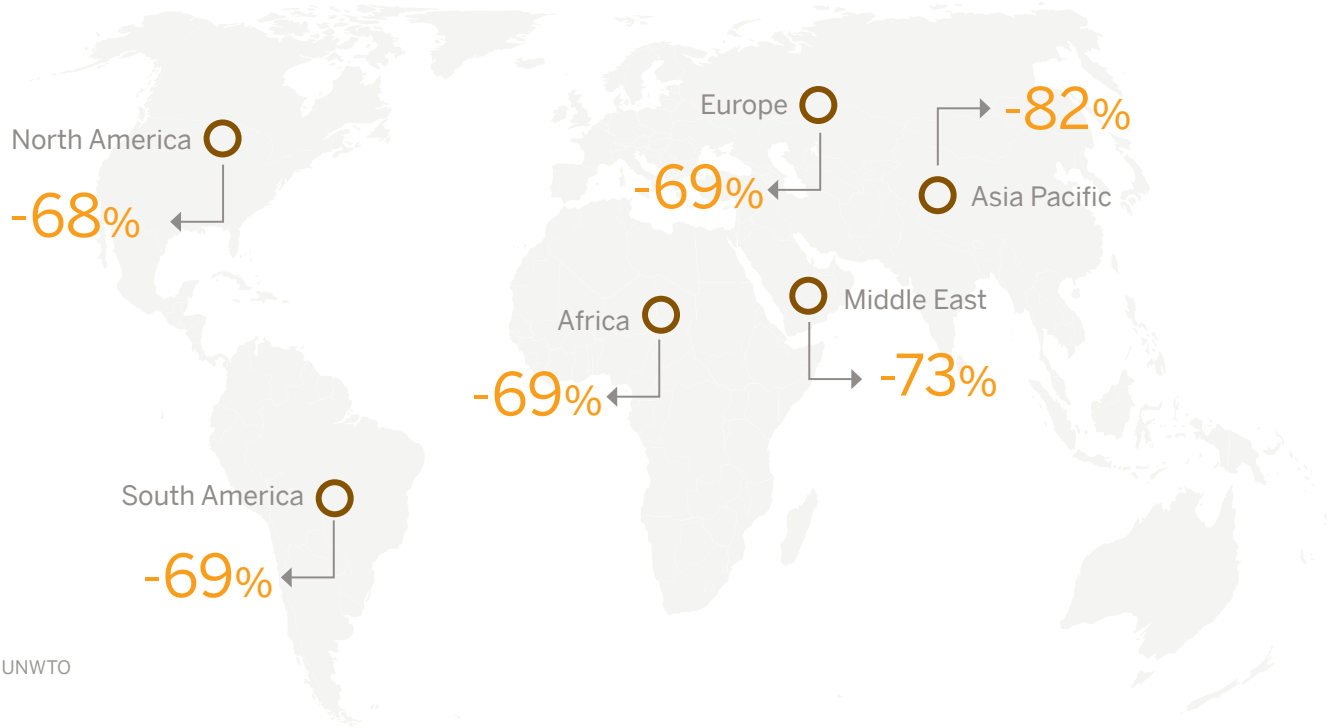
Digital health pass systems – that combine identity credentials and health credentials (test results and vaccination certificates) – will make it faster and easier for airlines and border control officers to verify an individual's COVID-19 status while reducing the potential for fraudulent results and preventing misuse of personal health data.

While the COVID-19 pandemic has impacted every segment of the economy, no sector has been hit as hard as travel and tourism. Representing 10% of global GDP[1], the industry is experiencing its single greatest shock since the terrorist attacks on September 11, 2001. The numbers are simply staggering.

- Between January and October (2020), international tourist arrivals were down 72%[2];
- In 2020, the airline industry was expected to lose upwards of $118.5 billion USD with additional losses expected in 2021[3]; and
- Losses in the international travel and tourism industry are sending shockwaves through all sectors of the economy, with estimated aggregate losses in excess of $2 trillion USD[4].

The resumption of travel is important to the global economy, at large, and may be of particular import to small and medium businesses.

International Tourist Arrivals (January to October 2020)



Source: UNWTO

1. World Travel and Tourism Council (WTTC): April 2020. https://wttc.org/Research/Economic-Impact#:~:text=In%202019%2C%20Travel%20%26%20Tourism's%20direct,10%20jobs%20around%20the%20world
2. World Economic Forum (WEF): January 2021. www.weforum.org/agenda/2021/01/covid-19-vaccines-travel-airlines-international-international-travel-tourism/
3. International Air Transport Association (IATA), November 2020: https://www.iata.org/en/pressroom/pr/2020-11-24-01/
4. United Nations World Tourism Organization (UNWTO), December 2020: https://www.unwto.org/impact-assessment-of-the-covid-

As a step toward restoring global travel, numerous organizations have begun developing and piloting digital health pass systems for test results, which we expect will ultimately be extended for proof of vaccination. We applaud the rapid, thoughtful work of these organizations in responding to the monumental challenge at hand.

COVID test results are already being required at many airports and international borders. While the WHO currently recommends against requiring proof of vaccination for travelers - citing concerns around vaccine availability and the need for more evidence of their efficacy in reducing transmission - this may change based on future availability of vaccines and further studies on transmission of and protection against emerging strains. In the interim, countries may make their own decisions about requiring vaccination as a condition of entry and we may even see countries requiring both proof vaccination and proof of testing. It is not, however, inconceivable that the International Health Regulation (IHR-2005) – which establishes the vaccinations countries may require as a condition of entry – might eventually be amended to include COVID-19 vaccinations once they are more broadly available.

One thing is clear: in this race to market it is unlikely that a single solution will be implemented universally – or even across the entire travel industry.

Instead, we expect – and fervently hope – that a variety of solutions will offer choices, both for the public as well as for implementers (e.g., governments, airlines, employers, educational institutions, event venues, etc.). Choice benefits users, who can choose a solution that feels intuitive to them, and promotes inclusivity, as no single solution will be universally appropriate.

While an open market has a number of benefits, it does create a

need for these solutions to be designed for **interoperability** – both with one another and across institutional and geographic borders. Technical and organizational interoperability can only be achieved through the creation of a common set of open standards to which all digital health pass systems must adhere, including standards for national lab and vaccinator accreditation and identity binding and authentication.

Recognizing this, the World Health Organization (WHO) recently launched the Smart Vaccination Certificate Consortium to establish such standards and issue guidance to member countries on the specific deployment of digital vaccination certificates. We look forward to supporting the outcomes of this important work, which has relevance not just for COVID-19 vaccinations, but also for global routine immunization programs.

At the same time, other initiatives including the Vaccination Credential Initiative (VCI) and COVID Credential Initiative (CCI, part of the Linux Foundation Public Health) are working towards technical interoperability. Additionally, CAPSCA, a cross-sectoral program managed by the International Civil Aviation Organization (ICAO) and supported by WHO, has launched a multi-stakeholder effort to develop a global framework for COVID-19 test credentials including standardization of documentation, interoperability of systems and exchange of data.

But without immediate collaboration to ensure that clear standards are applied across both vaccination and test certificates, there is a significant risk of fragmentation. A failure to address interoperability – both technical and organizational – could undermine acceptance, adoption, and ultimately, the expected public health and economic benefits of digital health pass systems.

There is no question that international travel is critically important to the global economy. But this should not be taken to suggest that travel is the only – or even the most important – use case for digital health passsystems.

On the face of it, restoring international travel could be seen to benefit only the privileged few. However, given the devastating impact on the travel and tourism industries – and those who work in them – the benefits are indeed far broader. And, if we are able to successfully address interoperability and achieve broad acceptance of digital health pass systems for cross-border travel – with all of its technical and jurisdictional complexities – then we can apply the learnings to a far broader range of applications that will be relevant to everyone.

The Good Health Pass Collaborative is not intended to supplant the efforts already underway, but rather to help weave these efforts together and facilitate collaboration. By identifying the various areas where convergence around standards is required – and filling gaps where they exist – the Good Health Pass Collaborative will provide the structure and coherence necessary for these ongoing efforts to fulfill their promise.

This paper – outlining a set of principles and a call to action – is a critical first step toward standards for what we call "*good health passes*"; passes that are privacy protecting, user-controlled, interoperable, and universally accepted for international travel and more.

Unpacking the Challenge

Cross border travel presents one of the most complex of all possible use cases for digital health pass systems, requiring extensive collaboration across multiple sectors and countless jurisdictions.

Credentials must also be able to work entirely in digital form, whether presented in person (like a mobile boarding pass) or online (such as when booking via an online travel site). They also need to be available in a secure physical form (e.g., a QR code, etc.) for those without access to a digital device—or who want the option of using both. Standards are also necessary to determine the authenticity and integrity of the credential and bind the presenter to the claim with the required level of assurance.

The challenge is so multifaceted, in fact, that no single company, industry, or government can possibly address it alone. Achieving organisational and technical interoperability between, and broad acceptance of, credentials will require a new ecosystem of participants to come together – and quickly.

Digital health credential systems for international travel must satisfy four primary requirements:

Cross-border	Solutions must work at airports, airlines, ports-of-call, and borders worldwide and comply with international and local regulations.
Cross-industry	Solutions will require the collaboration of the travel, health, governments, and technology sectors.
Secure & Privacy-protecting	Solutions must comply with all relevant security, privacy and data protection laws and regulations, must be developed embedding Privacy by Design, and must be able to bind the presenter of the credential to the credential itself at the required level of assurance.
Frictionless	Solutions must seamlessly integrate into testing and travel processes, thus enhancing and streamlining the experience for individuals and airlines alike. Solutions must not add new material costs for travelers. Optimally, validation processes will be contactless to maintain or enhance hygiene.

The closest analog is the e-passport. E-passports solved the problem of trusted travel across international borders. Developed to adhere to rigorous international standards, they are now universally accepted as proof of identity and citizenship. By standardizing the credential that passengers carry when they travel, and ensuring that credentials are strongly bound to individual travelers, e-passports enabled every country to apply its own rules and policies for acceptance.

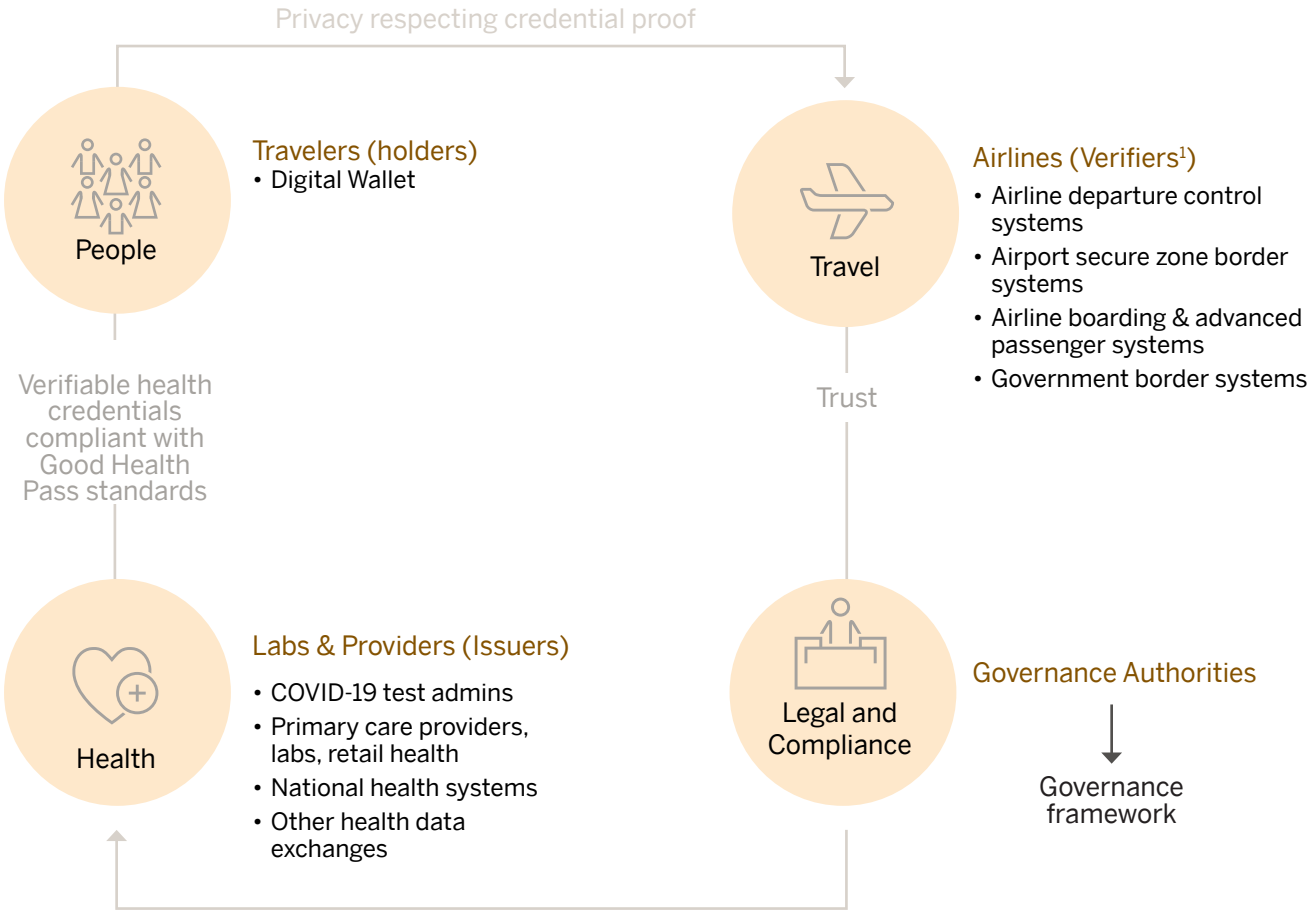
But it took 50 years to develop the International Civil Aviation Organization (ICAO) standard for e-passports. The COVID pandemic – and accompanying economic realities – create an urgent need for standards to guide the development of digital health credentials and associated systems for good health passes.

This effort will require collaboration across a new global ecosystem of actors with varying degrees of familiarity with one another. Below are the roles expected from each actor:

- **Governments:** to set policies for national and international travel;
- **Health sector:** to deliver testing and vaccination services and data in accordance with these policies;
- **Travel sector:** to implement the policies, based upon available data, within its own framework of operational processes; and
- **Technology sector:** to respond and deliver solutions to meet these needs – with speed and at scale.

These four sectors must collaborate in a digital trust ecosystem.

Good Health Pass Digital Trust Ecosystem



1. This could include other travel verifiers (i.e. train or bus operators, car rental agencies, or hotels) or verifiers in other vertical markets where acceptance is needed.

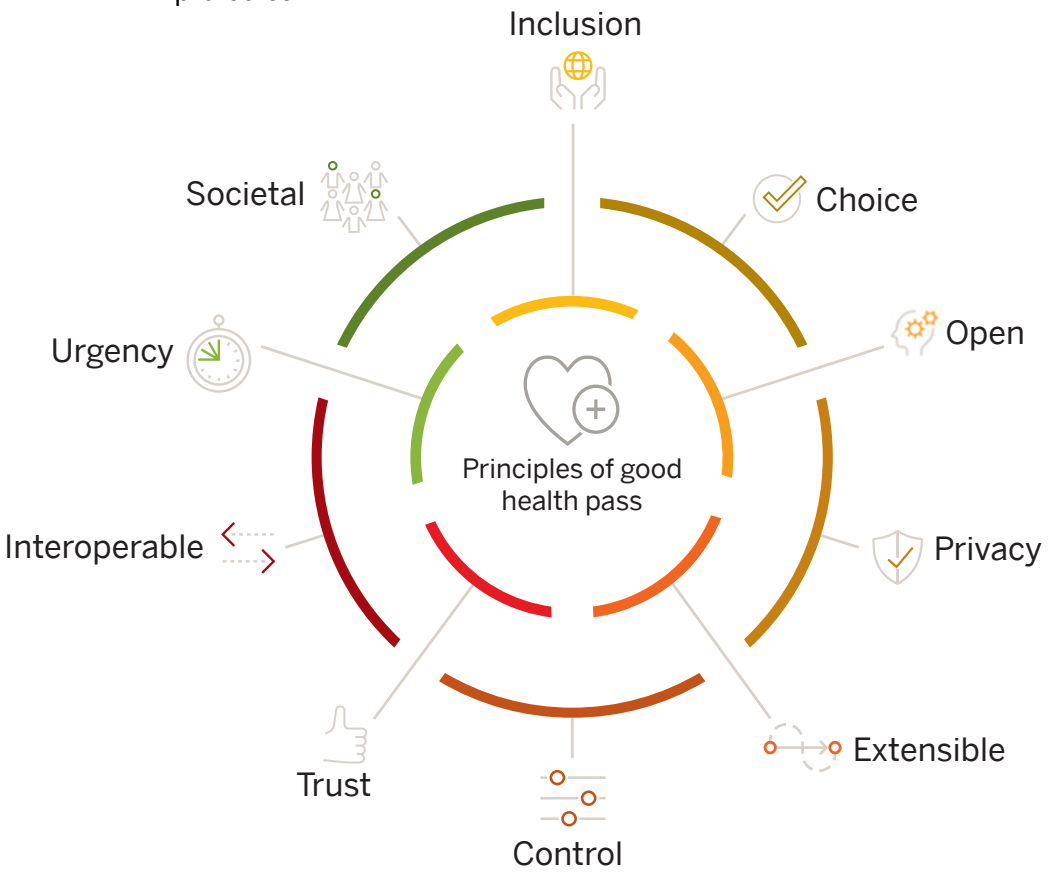
Good Health Pass Principles

The Good Health Pass Collaborative has established the following principles as a critical first step toward an interoperable, trusted framework and ecosystem for the issuance, use, and management of COVID-19 test and vaccination credentials for international travel. These principles seek to define what is necessary for a digital health pass system to be considered a "good health pass".

Digital health pass systems are of little utility if they are not trusted and accepted, both by individuals and by relying parties (e.g., airlines, border control agencies, etc.). By gaining alignment behind these principles, we hope to ensure that the operational needs of the airline industry, airport operators, border control agencies and public health agencies are met, while simultaneously creating an environment conducive to building public trust and adoption.

We also acknowledge that digital health pass systems are being considered for a wide range of other purposes, including for return to workplaces, schools and universities, sports and event venues, and more. While the advisability of such uses is beyond the scope of this paper, the principles were designed to be extensible to other applications, as needed.

To date, there has been little in the way of official guidance to define the range of permissible use cases for digital health pass systems. We are looking to policymakers to determine under what circumstances individuals may be requested – or even required – to provide proof of a recent test or vaccination and we strongly encourage that such considerations place particular emphasis on ensuring that equity and inclusion, privacy, fundamental human rights, and other civil liberties are protected.



Privacy & Data Security	Good health pass solutions must be designed and implemented to enhance privacy, support data minimization and auditability, and be compliant with relevant data privacy regulations. Solutions should not contribute to the creation of new centralized data stores of sensitive personal information.
User Control	Good health pass solutions must allow individuals to own and control their health and identity credentials. They must provide transparency over how user data is collected, used, and shared. Individuals must be able to determine where, when, with whom, and for what purposes their data is shared.
Choice & Consent	Use of a good health pass should be voluntary and consent-based. Those who do wish to use one should have a choice between a range of available solutions and using them on a mobile device, a secure physical form (e.g., a QR code, etc.), or both.
Trust	Good health pass solutions must be trusted. They must be designed, implemented, and operated to the highest standards for privacy, security, integrity, and transparency. Trust frameworks that govern these relationships are required and should incorporate input from public and private sector stakeholders, including – to the extent feasible – civil society organizations that focus on equity and digital privacy.
Inclusivity	Good health pass solutions must be designed to equitably serve everyone, including those who may be identity, socially, financially, digitally, or otherwise excluded. Alternative mechanisms should be available that offer a similar level of verifiability (e.g., paper-based credentials with printed digital signatures).
Open Standards	Solutions must adhere to broadly accepted open standards and be built upon open technology to contribute to transparency, compatibility, interoperability, and extensibility across the ecosystem and to prevent vendor lock-in.
Interoperability	Good health pass solutions must be interoperable across institutional, sectoral, and geographic boundaries.
Extensibility	Principles and standards developed for good health pass solutions to address the various complexities of international travel will be readily adaptable – and extensible – to other use cases for COVID-19 pandemic recovery and for seamless travel.
Social Responsibility	Good health passes address a variety of social and economic issues that impact everyone. These efforts should align with the principles outlined in the UN Global Compact for corporate social responsibility.
Urgency	The COVID-19 pandemic continues to spread at an alarming rate, leaving human and economic devastation in its wake. While standards-development processes typically move slowly, a cross-sector effort is urgently required to bring good health pass solutions to market in 2021 and to scale globally – with the same urgency applied to vaccine development.

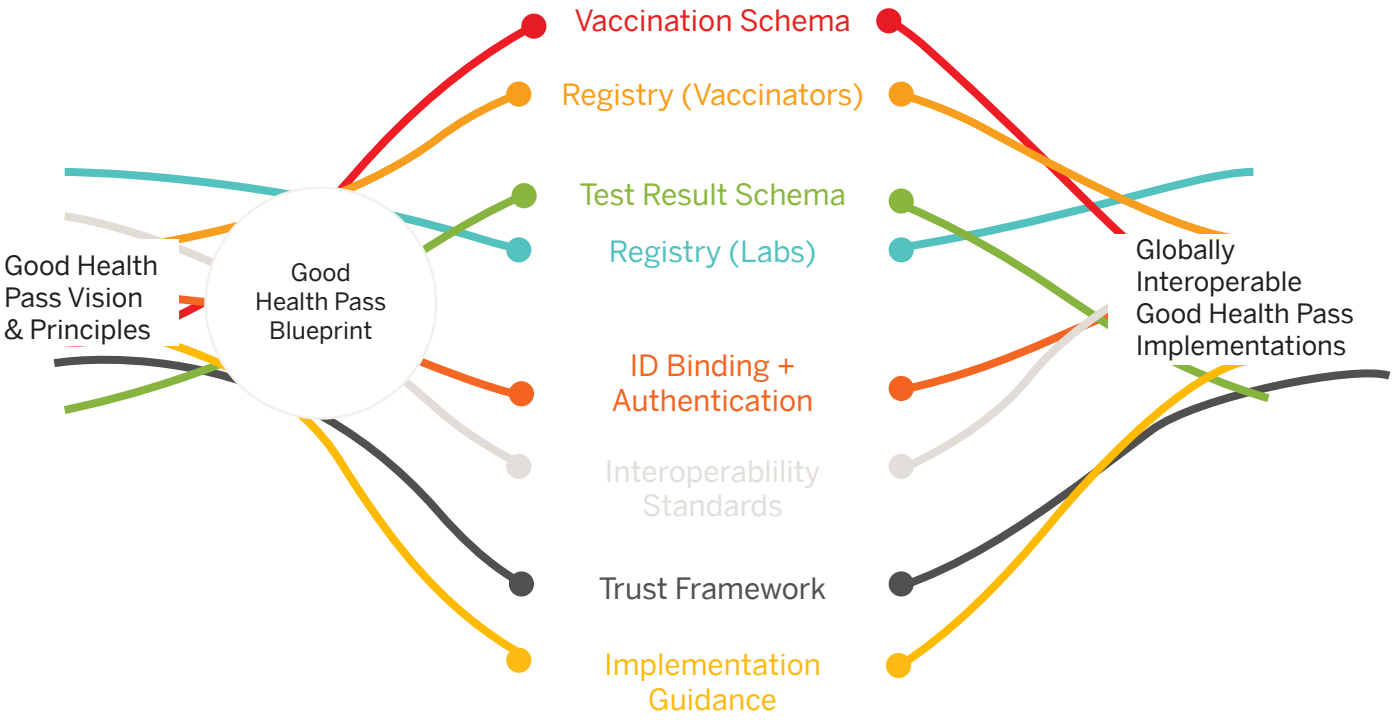
Call to Action

It took 50 years to develop an internationally accepted standard for e-passports. In the midst of the most calamitous pandemic of the last century, we do not have the luxury of time.

The Good Health Pass Collaborative was established to create a blueprint for a trusted, widely recognized, and interoperable ecosystem of digital health pass systems that offer our best hope for restoring international travel and restarting the global economy.

We recognize and applaud the outstanding work already underway by organizations such as the WHO Smart Vaccination Certificate Working Group, the Vaccination Credential Initiative (VCI), and COVID Credential Initiative (CCI) – plus the standardization activities within the travel industry and identity technology community.

The Good Health Pass Collaborative is not intended to supplant these efforts, but rather to help weave these efforts together and facilitate collaboration. By identifying the various areas where convergence around standards is required – and filling gaps where they exist – the Good Health Pass Collaborative will provide the structure and coherence necessary for these ongoing efforts to fulfill their promise.



Success in this endeavor will demand unprecedented focus, coordination, and collaboration among an entirely new ecosystem of players that includes policymakers, government agencies (e.g. public health and border control agencies), and organizations in the health, travel, and technology sectors. We look forward to working collaboratively with our partners to navigate our way toward that brighter future.

What You Can Do

1	Endorse	Confirm your or your organization's endorsement of the Good Health Pass Collaborative principles at goodhealthpass.org.
2	Engage	Join the Good Health Pass Collaborative – as an individual or as an organization – and participate in a working group to help define and adopt the 'Good Health Pass Ecosystem Blueprint'.
3	Educate	Companies and individuals can help educate policymakers, government, and civil society organizations about the need for good health passes to restore mobility and economic activity, promote equity, and protect privacy and other civil liberties. Policymakers, in turn, can help educate their colleagues and constituents about the need for good health passes – both individually and by supporting funding for public information campaigns. Public information campaigns are an opportunity for collaboration and trust building between government and civil society organizations.