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CHACUN À SON GOÛT : HARMONIZING TRAVEL MEDICINE PRACTICE WORLDWIDE

At the 19th Conference of the International Society of Travel Medicine (CISTM19), global inconsistencies in travel medicine were addressed in the second plenary session [1]. The session catalogued regional differences in clinical practices and called for more structured international alignment, while acknowledging the realities of diverse risk profiles, regulatory hurdles, and cultural norms.

Moderated by Dr. Prativa Pandey (CIWEC Hospital, Kathmandu, Nepal) and Prof. Christina Coyle (Albert Einstein School of Medicine, NY, USA), the session featured speakers Prof. Lin Chen (Harvard University, MA, USA) and Prof. Christoph Hatz (Swiss Tropical and Public Health Institute, Switzerland), who discussed the variation in clinical approaches to pre-travel vaccination and malaria chemoprophylaxis, 2 central pillars of travel medicine.

Prof. Chen opened the session with a comprehensive comparison of vaccine practices between North America and Europe. She noted that even among experienced travel medicine specialists, recommendations and behaviors diverge widely. «When I compare what I do in Boston with my colleagues in Switzerland or the UK,» she said, «I realize that there are quite a few disparities, which are not always justified by the evidence base.»

Among the most significant discrepancies are in typhoid, Japanese encephalitis, and rabies vaccination recommendations. In the United States, Prof. Chen explained, there is a preference for the injectable Vi polysaccharide vaccine for typhoid. In contrast, some European countries favor the oral Ty21a vaccine. While both have efficacy data supporting their use, the divergence likely reflects regulatory approval status, availability, and local prescribing habits. She also noted that newer Vi-conjugate vaccines, widely used in endemic settings, are not yet licensed for travelers in many Western nations, contributing further to inconsistency.

Japanese encephalitis vaccine schedules also vary widely. «The US gives 2 doses of IXIARO spaced 28 days apart, with the 2nd dose at least 1 week before travel,» she said. «But in some European countries, accelerated schedules are used routinely, even for last-minute travelers, which the US FDA hasn't approved.» The inconsistency extends to indications as well: some countries recommend Japanese encephalitis vaccine for relatively short rural exposures, while others restrict it to prolonged or high-risk stays.

Rabies vaccination is another area of significant divergence. «In the US,» Prof. Chen noted, «the move to 2-dose pre-exposure vaccination is being adopted more slowly. Europe is ahead in embracing the shortened zero and 7-day schedule for pre-exposure prophylaxis, which is already recommended by the World Health Organization (WHO).» However, even within Europe, national guidance does not align perfectly. «France, for example, continues to use a 3-dose schedule despite the WHO's update,» she added. «It's not just about science,» she added. «These inconsistencies are influenced not only by science but also by infrastructure and regulatory inertia.»

Shifting the discussion to malaria chemoprophylaxis, Prof. Hatz addressed the challenge of aligning international recommendations. «Malaria is one of those topics where clinicians have very different thresholds for risk,» he said. «Americans are more aggressive; most travel medicine providers in the US will prescribe prophylaxis for even short trips to moderate-risk areas. Europeans tend to be more conservative.»

This divergence, he explained, reflects different public health traditions, epidemiological interpretations, and views on patient autonomy. In Switzerland, for example, a traveler going to rural India for 1 week in winter might be advised that the malaria risk is low and that standby emergency treatment is sufficient. «In the US, the same traveler might walk out with atovaquone/proguanil,» Prof. Hatz said. «There is no universally correct approach. Rather, differences reflect varying thresholds for acceptable risk.»

Prof. Hatz argued that a key obstacle to harmonization is the fragmented nature of current travel health guidance. The Centers for Disease Control and Prevention (CDC), WHO, and various European public health bodies issue overlapping and sometimes conflicting guidance. "A coordinated global platform is lacking, one that could synthesize emerging data and reconcile divergent guidelines," he said. «The International Society of Travel Medicine (ISTM) could play a greater role here.»

He also raised questions about the accuracy and relevance of malaria risk maps used to guide prophylaxis decisions. «Some maps still color all of West Africa red,» he said, «but if you look at current data, the risk in many urban areas is actually very low. Risk mapping must be evidence-responsive and reflect real-time epidemiological changes." Prof. Hatz also commented on variations in post-travel care. «Post-travel management varies signifi-

cantly between regions,» he said. «This can lead to both undertreatment, such as unnecessary antibiotics, and missed diagnoses, such as delayed-onset malaria."

During the panel discussion, both moderators pressed the speakers on whether true harmonization is feasible or even desirable. Dr. Pandey reflected on her experiences in South Asia. «Travelers coming to Nepal get very different advice depending on whether they saw a doctor in New York, Zurich, or Sydney," she said. This could undermine confidence in locally appropriate medical advice.

Prof. Coyle noted that harmonization should not come at the expense of flexibility. «Harmonization should not mean 'one-size-fits-all.' We need a shared foundation but flexible application,» she said. Prof. Chen supported this perspective. «Exactly. Harmonization should be about standardizing risk communication and scientific interpretation, not forcing uniform decisions. Context matters.»

Both speakers pointed out the importance of real-world data in improving travel medicine practices. «We need post-marketing surveillance and travel clinic registries to capture what's working,» said Prof. Chen. «Clinical trials provide the framework, but real-world outcomes often tell a different story.»

Prof. Hatz echoed the importance of real-world data and highlighted the limitations of training. «In Europe, travel medicine is not a board-certified specialty. Many general practitioners give travel advice with little training. There is a clear need to incorporate travel health into undergraduate and postgraduate medical training, not just continuing education.»

The speakers also addressed the growing role of the internet and patient expectations. «Patients increasingly read online and want shared decision-making,» said Prof. Coyle. «They ask why their friend in Canada got different vaccines. Our role is to clarify the evidence base, and its limits, while guiding decisions collaboratively.»

As the session drew to a close, the panel touched on broader public health challenges that will shape the future of travel medicine. Climate change, they agreed, is a major force reshaping the geography of infectious diseases. «We are seeing dengue in southern Europe and chikungunya in the Americas,» said Prof. Hatz. Risk mapping and clinical guidance must evolve alongside global epidemiological shifts. Prof. Chen added that travelers are increasingly venturing to remote locations with limited access to healthcare. «That changes the risk calculus,» she said. «We need agile, globally informed guidance.»

Prof. Hatz concluded with a call for nuance. «It's about recognizing when divergence reflects appropriate tailoring, and also when it's a result of outdated guidelines or regulatory lag.»

Dr. Pandey closed the session with an invitation: «Let's continue the conversation across borders. Our travelers depend on us not just to give vaccines or pills, but to guide them through complexity.»

The panel emphasized that greater coordination, transparency, and evidence-sharing can enhance the quality and consistency of travel medicine worldwide. The panelists agreed that the ISTM is well placed to take a leadership role in fostering global dialogue. «ISTM could facilitate a working group to publish consensus guidance,» suggested Prof. Chen. The goal would not be to override national guidelines but to provide a global reference point, synthesizing current evidence and clarifying where variation is justified.

Pandey P and Coyle C (moderators). Chacun à son gout: harmonizing travel medicine practice worldwide. Plenary Session 2, 19th Conference of the International Society of Travel Medicine (CISTM19), May 11-15, 2025, New Orleans, LA, USA.

Session 2: Tues 13 May 09.00 - 10.30 PLENARY 2: Chacun à son goût: harmonizing travel medicine practice worldwide

MODERATORS: Prativa Pandey (Nepal) and Christina Coyle (USA)

SPEAKERS: Lin Chen (USA): Differences in travel vaccine practice across the oceans

Christoph Hatz (Switzerland): International harmonization of malaria chemoprophylaxis

CISTM19 (19 th Conference of the International Society of Travel Medicine), New-Orleans, United States, May 11-15, 2025

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EPIC JOURNEYS IN TRAVEL MEDICINE

The 4th plenary session of the 19th Conference of the International Society of Travel Medicine (CISTM19) delivered a powerful reminder of why travel medicine is uniquely positioned at the intersection of clinical care, global equity, and human resilience [1]. Co-chaired by ISTM President Prof. Anne McCarthy (University of Ottawa, Canada) and Prof. Lin Chen (Harvard University, MA, USA), featured two exceptional clinician-storytellers whose personal and professional trajectories defy convention: Prof. Eli Schwartz (Sheba Medical Center, Israel), and Dr. Emmanuel Taban (South Africa Mediclinic Midstream Hospital, South Africa), author of the book «The Boy Who Never Gave Up».

Unlike sessions centered on clinical updates or emerging pathogens, this plenary recast travel medicine through a humanistic lens, showcasing narratives rooted in lived experiences. Their stories, one settled in a voluntary descent into the depths of the Amazon and the other in a forced escape from civil conflict in Sudan, contrasted in context but converged on the shared values of adaptability, improvisation, and a commitment to service despite adversity.

Learning at the Tuichi River

Prof. Schwartz began: "I was 26, it was 1981. I had just finished medical school. I had absolutely no qualifications," he said. He sent out over 30 letters to embassies around the world, offering himself as a volunteer doctor. Most ignored him. One responded. "It was the Bolivian ambassador in Tel Aviv. He said, 'We can send you to Rurrenabaque.' I had no idea where that was. But it sounded exotic. I said yes."

Rurrenabaque is a small town on the edge of the Bolivian Amazon, accessible at the time only by river or a treacherous jungle airstrip. Prof. Schwartz found himself in a remote hospital with no running water, minimal electricity, and no diagnostic support. "I didn't even have a stethoscope for the first 2 weeks," he admitted.
What followed was a crash course in clinical pragmatism. "There were no labs. No X-rays. You relied on observation and instinct," Prof. Schwartz said. He managed tetanus, severe malaria, trauma, and infections with little more than basic supplies. "It was there that I truly learned to listen to patients; not just their words, but their symptoms, their context, their community."

His most formative experience came when he joined a Belgian zoologist on an expedition up the Tuichi River, deep into the Madidi jungle. Armed with only a canoe and a hand-drawn map, they ventured into territory inhabited by remote indigenous groups. "There was no GPS. No satellite phone. It was just us, the river, and the rainforest."

They capsized once. They lost supplies. They negotiated access to remote communities. And they became the first Westerners some of these communities had ever seen. "One group looked at us in disbelief. They had only heard of white men from stories," Prof. Schwartz said. "In the Amazon, you learn to manage risk without eliminating it. You act with incomplete information. That's what we do in travel medicine too."

"There was a lot of New World leishmaniasis, which I had never seen before. I knew the name, I had read about it in the book, but now I was treating patients with ulcers, with mucocutaneous involvement. It was a very eye-opening experience." He continued, "I had to make decisions without any lab confirmation, just on clinical appearance and patient history. We had no PCR, no cultures, not even proper slides. But you learn to recognize those ulcers."

Upon returning to Israel, Prof. Schwartz brought this sensibility into his work. He became a leader in parasitology, refugee health, and emerging infectious diseases. Yet, decades later, he credits the Tuichi River with teaching him the core principles of medical judgement. "Everything I've done since, whether in Israel, India, or Africa, was shaped by that year. You don't forget the feeling of diagnosing meningitis without a lab, or suturing a machete wound by flashlight," he said. "These are not skills from a lecture hall. They're earned, moment by moment, when you have no other choice."

Medicine as a means of survival

Although Prof. Schwartz traveled by choice, Dr. Taban's journey was one of forced displacement. Born in South Sudan during an era of intense political repression, Taban's early life was shaped by violence. At the age of 14, he was arrested by the government under suspicion of being a rebel sympathizer. "They tortured me. A child. I didn't even understand why," he told the audience. "But I knew I had to escape."

Taban fled across the border into Eritrea, then moved through Ethiopia, Kenya, and ultimately to South Africa. At every stage, he fought for survival, often living without legal documents, income, or family support. "At times, I was homeless. I worked as a cleaner. I slept on the floor.

I begged to go to school."

What stood out in his account was not just the hardship, but his unwavering determination to access education. He eventually convinced a Catholic missionary school in Kenya to admit him in exchange for janitorial work. "I cleaned toilets during the day, and I studied by candlelight at night," he said.

Upon reaching South Africa, he completed his secondary education and secured a place in medical school. But even as he advanced through medical training, the trauma of his past remained present. "I was not just learning to save lives. I was learning to justify mine."

Now a pulmonologist and critical care specialist, Dr. Taban works across several hospitals in Gauteng Province. During the COVID-19 pandemic, he challenged prevailing guidelines that discouraged bronchoscopy in infected patients due to the risk of aerosolization. "People were dying, and we didn't know why," he said. "So I did bronchoscopies myself. I needed to see what was happening in the lungs."

What he found surprised many: extensive mucous plugging and inflammatory debris, which could be addressed through lavage. His findings contradicted early assumptions that most deaths were due to diffuse alveolar damage alone. He published his observations and trained colleagues in safe bronchoscopy techniques, helping to change practice in several South African centers [2].

Dr. Taban has since been recognized nationally, but he remains deeply critical of structural deficiencies in African health systems. "Our people don't die because the disease is untreatable. They die because the road to the hospital is broken. Because there's no oxygen. Because we waited too long."

He called on clinicians and global health actors alike to think beyond short-term fixes. "You can donate a machine. That's easy. But are you training a technician? Are you fixing the power grid? That's the hard work that makes a difference."

Implications for the field

Prof. McCarthy closed the session by summarizing that although both speakers' stories began in vastly different circumstances, their actions showed that medicine is not merely about protocols; it's about responding in real-time to a dynamic and often unpredictable world. For Prof. Schwartz, this meant inventing solutions in the absence of infrastructure. For Dr. Taban, it meant pushing forward in the absence of safety or support. "What we've heard today are stories of courage and clinical insight that arise under pressure. They remind us that the real-world practice of medicine, especially in global health, requires more than knowledge. It requires judgment, cultural fluency, and the ability to act when the rulebook falls short."

Prof. Chen added that their examples illustrate the importance of global solidarity. "These physicians didn't just adapt to their environments; they committed to them. That's what global medicine is about: not flying in, but staying in."

Audience members, many of whom had spent years in global health practice, responded with extended applause and numerous follow-up questions. Several asked about burnout and sustainability. "How do you keep going after trauma?" one delegate asked Dr. Taban. His answer was candid: "You don't forget. But you focus on who you can help next. That's how you survive. That's how you make it meaningful. It's not about one doctor doing heroics. It's about creating an ecosystem where quality care is the norm, not the exception."

"Medicine doesn't always happen in clinics," Prof. Schwartz added. "Sometimes it happens under a tree, in the rain, with no tools but your hands and your head. Even today, many rural clinics operate without lab tests, without imaging. You have to make decisions without certainty," he ended.

1. McCarthy A and Chen L (moderators). Bon voyage: tracing epic journeys across continents. Plenary Session 4, 19th Conference of the International Society of Travel Medicine (CISTM19), May 11-15, 2025, New Orleans, LA, USA.
2. Taban EM, et al. Afr J Thorac Crit Care Med. 2020;26(4).

Session 4: Thurs 15 May PLENARY Bon voyage: tracing epic journeys across continents

MODERATORS: Anne McCarthy (Canada) and Lin Chen (USA)

SPEAKERS: Eli Schwartz (Israel): Back from the Tuichi (the Amazon rainforest)
Emmanuel Taban (South Africa): The boy who never gave up (Southern Africa)

Congrès CISTM19 (19th Conference of the International Society of Travel Medicine), New-Orleans, Etats-Unis, 11 15 mai 2025.
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VACCINE DECISION-MAKING IN THE ERA OF PERSONALIZED TRAVEL MEDICINE

At the 3rd plenary session of the 19th Conference of the International Society of Travel Medicine (CISTM19), held in New Orleans, the field of vaccine decision-making was placed in the spotlight [1]. Moderated by Prof. Elizabeth Barnett (Boston Medical Center, MA, USA) and Prof. Miguel Cabada (University of Texas Medical Branch, TX, USA), the session featured 2 dynamic voices in travel medicine: Dr. Sarah McGuinness (Monash University, Australia), who spoke about empowering travelers with decision support tools, and Dr. Luis Furuya-Kanamori (University of Queensland, Australia), who addressed quantifying risks versus benefits of vaccines.

Decision-support tools

Opening the session, Dr. McGuinness began with a personal story that she said had "changed the way I thought about vaccination forever." She introduced the audience to Mario, a patient who presented to the hospital emergency department with fever, seizures, and a contorted posture that signaled a classic but tragically overlooked diagnosis: tetanus. "If only he'd been vaccinated against tetanus," she said. "His suffering, his family's suffering, would have been prevented." Mario's story became a springboard for Dr. McGuinness to re-examine her clinical approach, not only to individual patient care, but to broader public health messaging. "We can't take for granted that people are going to be up to date and informed about vaccines," she warned. "It really put me on a personal mission to educate and create awareness."

That mission introduced her to digital tools and behavioral science. Dr. McGuinness argued that vaccine decisions are not purely rational. Drawing on Daniel Kahneman's dual-process theory [2], she explained, "System 1 is driven by emotions and intuition… System 2 is more rational and deliberate. We spend most of our time in system one."

To counter impulsive, emotionally-driven decision-making, especially under the influence of social media, Dr. McGuinness advocated for communication strategies and decision aids that "help patients engage with system 2 thinking."

She explored 2 behavioral models in detail: the COM-B framework (Capability, Opportunity, Motivation, Behavior) [3] and the WHO's Behavioral and Social Drivers (BeSD) model [4]. These helped clarify the many intersecting variables that impact vaccination decisions, from access and cost to perceived disease risk and social influence. Dr. McGuinness pointed out that cognitive biases also play a major role. "Negativity bias, confirmation bias, optimism bias, present bias; these can all push someone away from making a rational health decision," she said.

In the context of travel medicine, she noted, these challenges are amplified. Travel vaccines are often elective, costly, and time-sensitive. "Providers must prioritize based on time constraints, budget, and individual traveler needs."

Understanding travelers' vaccine choices

Citing data from a 2022 survey of over 1,200 Australian travelers, Dr. McGuinness found that the top driver for vaccine uptake was a healthcare provider's recommendation [5]. Yet paradoxically, fewer than half of travelers recalled being asked about their personal concerns or preferences. "This highlights the structural challenges of travel consultations," she explained. "Time is limited, and there's a lot to cover."

To bridge this gap, her team developed a patient-centered decision aid for Japanese encephalitis (JE), a disease with low incidence but high consequence. "We chose JE because of the complexity: high vaccine costs, differing vaccine types, and evolving risk patterns." Developed through co-design workshops with travelers and clinicians, the tool walks users through 4 steps: learning about the disease, comparing options, considering their personal situation, and identifying next steps [6]. The tool includes user-friendly visuals and personalized input fields.

One of the most surprising findings? "People wanted stories. Personal experiences were more persuasive than statistics. They help people reflect on their own values and risk tolerance." She cautioned that stories must be used responsibly. "Not all narratives are equal. When people feel uncertain, they don't want to debate. They want clarity. A well-crafted story can instruct as well as inspire."

Dr. McGuinness made a point that the decision aid is not a replacement for clinical conversation but a complement. "Both travelers and providers emphasized that the tool should enhance, not replace discussions. It should help people prepare, ask better questions, and make informed choices."

Support systems to quantify risk and benefit

Following Dr. McGuinness, Dr. Furuya-Kanamori, a clinical epidemiologist, presented the data-driven backbone of decision support: risk-benefit modeling. Using a real case posted to the ISTM TravelMed forum, in this case of a 70-year-old woman traveling to Niterói, Brazil, he demonstrated the challenges of heterogeneous clinical decision-making. “Same data, same scenario, yet half the clinicians would recommend yellow fever vaccination, and half wouldn’t,” he said. “That’s a problem.”

To standardize and support such decisions, Dr. Furuya-Kanamori turned to clinical decision support systems (CDSS), integrating 3 key elements: data, models, and user interface. He emphasized that decision-making in travel medicine is inherently a balancing act: low-incidence but high-impact diseases like JE and yellow fever must be weighed against rare but serious vaccine side effects and contextual factors like cost, duration of travel, and traveler values. “We need to move from static, one-size-fits-all guidelines to scenario-based, personalized recommendations,” he argued.

Dr. Furuya-Kanamori described how his team uses probabilistic modeling techniques, particularly Bayesian networks, as a way to integrate multiple sources of evidence and simulate outcomes under different scenarios. “Conditional probabilities are intuitive to clinicians,” he said, “but we’re not good at quantifying them. These models can help.”

In one example, his team used over 30 data sources to build a JE risk-benefit calculator that factors in destination, season, urban vs. rural exposure, age, gender, vaccine safety data, and more [7]. The backend processes complex matrices, but the frontend presents users with simple visuals: “What’s your risk of disease with versus without the vaccine?” and “What are the side effects?” This web-based calculator, available at www.VaxiCal.com, is free and designed for both clinicians and travelers.

Dr. Furuya-Kanamori then offered a glimpse into the future: AI-powered systems that integrate real-time outbreak data (e.g., from GeoSentinel), patient electronic records, and mobile tracking data. “Imagine adjusting vaccine recommendations dynamically based on your itinerary, health history, or an outbreak that began last week,” he said. “This is where we’re heading.”

He acknowledged that barriers remain, particularly around data integration and stakeholder collaboration. “This will require a collective effort across ISTM groups,” he noted. “But the future is bright for personalized travel medicine.”

The path forward

Both speakers converged on a shared vision where both clinicians and travelers have improved conversations through better tools, communication strategies, and shared decision-making. As Dr. McGuinness put it, “Vaccines don’t save lives. Vaccination does. And vaccination is a behavior, one that must be chosen.”

She concluded by returning to Mario, her original patient. “He spent 25 days in the ICU. He recovered. But in a world where he’d been up to date with the tetanus vaccine, he would have finished his day in the garden, slapped on a band-aid, and got on with his life.”

Her final message: “Meet people where they are, speak to what matters to them, and you can transform missed opportunities into meaningful ones.”

1. Barnett E and Cabada M (moderators). De rigueur: reflections on vaccine decision-making. Plenary Session 3, 19th Conference of the International Society of Travel Medicine (CISTM19), May 11-15, 2025, New Orleans, LA, USA.

2. Kahneman D, Klein G. Am Psychol. 2009;64(6):515-26.

3. Cane J, et al. Implement Sci. 2012;7:37.

4. WHO’s Guideline on Behavioural and social drivers of vaccination: https://www.who.int/publications/i/item/9789240049680. Accessed 7 July 2025.

5. McGuinness SL, et al. J Travel Med. 2023;30(4):taad056.

6. McGuinness SL, et al. Infect Dis Health. 2025; in press.

7. Lau CL, et al. J Travel Med. 2023;30(7):taad113.

TECHNOLOGY-DRIVEN TRANSFORMATION IN TRAVEL MEDICINE

The opening plenary session of the 19th Conference of the International Society of Travel Medicine (CISTM19), held in New Orleans on May 12, 2025, focused on the field's re-orientation toward technology [1]. Chaired by Prof. Gerard Flaherty (University of Galway, Ireland; ISTM President 2023–2025) and Ms. Karen Goraleski (Executive Director, International Society of Travel Medicine, GA), the session addressed how digital infrastructure, including secure vaccine certificates and mobile health (mHealth)-enabled epidemiology, can better support clinicians, researchers, and travelers. The session featured presentations by Dr. Remko Schats, founder and CEO of Enigma Global eHealth (The Netherlands), and Dr. Andrea Farnham, an epidemiologist at the University of Zurich (Switzerland). Their talks explored complementary aspects of digital integration in travel medicine: identity verification and real-time health data monitoring.

Digitizing the yellow card

Dr. Schats presented the issue of digitalizing the WHO International Certificate of Vaccination or Prophylaxis (ICVP), more commonly known as the Yellow Card. He began by acknowledging the familiarity of the document to travel medicine providers: "It's probably the most widely carried, handwritten paper document in global public health," he said. "And yet, it remains virtually unchanged since its inception."

The aim of Dr. Schats's project, developed in collaboration with the WHO and Dutch authorities, is not merely to digitize the ICVP for convenience, but to implement a secure, interoperable, and globally accepted digital standard. "It's a move toward verifiable digital identity for health, using cryptographically signed data that travels with the user, rather than being stored in centralized databases," he said. The proposed system is based on the SMART Health Card framework, an open standard that enables vaccine records to be encoded as QR codes that can be verified offline. "The design principle is simplicity and portability," he explained. "The traveler holds the data on their phone. It's signed by the issuing authority. And anyone with a scanner can confirm authenticity, without needing to call a registry or access the internet."

The advantage for clinicians is immediate: reduced uncertainty when interpreting handwritten or foreign-language vaccination records. "No more guesswork. No more faxes to embassies. Just a secure QR code that proves which vaccine was given, when, and by whom," Dr. Schats said.

However, he was quick to point out that the barriers to adoption are no longer technical, but political and institutional. "We need cross-jurisdictional cooperation," he said. "We need ministries of health, immigration authorities, and international organizations to agree on data elements and validation procedures."

Dr. Schats acknowledged the legacy of the COVID-19 pandemic in accelerating digital credentialing for health. "During the pandemic, we saw what was possible. Digital vaccine passports were rolled out in dozens of countries within months. That experience shows us the potential, but it also showed us the pitfalls, namely data silos, lack of interoperability, and confusion at borders."

The model Dr. Schats proposes avoids centralized data storage, sidesteps many of the surveillance concerns raised during the pandemic, and puts control in the hands of the traveler. "It's important to distinguish between digital empowerment and digital surveillance," he said. "Our design leans heavily toward the former."

Real-time symptom tracking with mHealth tools

While Dr. Schats' presentation focused on infrastructure and documentation, Dr. Farnham addressed a different challenge: understanding traveler health as it unfolds, rather than retrospectively. Her presentation, based on ongoing field studies, evaluated the use of mHealth applications for real-time data collection on traveler symptoms and exposures.

"Most of what we know about traveler morbidity comes from post-travel surveys," Dr. Farnham began. "These are constrained by recall bias, limited participation rates, and delays in data collection and analysis. mHealth allows us to collect data as the events happen, in situ."

Dr. Farnham and her team developed and deployed a mobile app, called ITIT (Is There Illness in Transit?), that prompts travelers to report symptoms such as fever, cough, gastrointestinal disturbance, or rash daily during travel. Users are also asked to log location, travel activity,

and exposure-related behaviors.

“What we found was encouraging,” she said. “Even with a minimal daily input of only about 30 seconds per user, we achieved over 70% compliance over trips lasting up to 3 weeks. Participants were more engaged when they understood the public health value of the data.”

Preliminary findings from more than 600 users show that common symptoms like traveler’s diarrhea and upper respiratory complaints are underreported in retrospective surveys. “People forget symptoms that resolve within a day or 2. But from a public health perspective, those short-lived illnesses may still indicate exposure or cluster formation,” Dr. Farnham explained. She sees this type of surveillance not as a substitute for clinical evaluation, but as an adjunct to population-level monitoring. “We’re not diagnosing. We’re capturing syndromic data. But in large numbers, that data gives us signals, signals that can inform policy and alert us to potential outbreaks.”

Dr. Farnham highlighted 1 use case in particular: a cluster of travelers on a Nile cruise who reported gastrointestinal symptoms within a 3-day window. “We could see the geographic and temporal overlap immediately. That’s actionable intelligence for travel medicine and public health authorities.”

Beyond surveillance, the app is being trialed as a longitudinal research tool. Users may continue symptom reporting for several weeks after returning home, enabling monitoring of delayed onset symptoms and return-travel transmission risks.

On the question of privacy, Dr. Farnham was direct. “We collect only what is needed. The data are anonymized, encrypted, and never sold or shared beyond the research team. User trust is central.”

She sees opportunities for future versions of the tool to incorporate diagnostic integration, such as pairing symptom reports with wearable sensor data or rapid test results. “That’s down the line, but it’s feasible,” she said. “And it’s where mHealth could become a diagnostic partner, not just a reporting tool.”

Extending the clinical conversation beyond departure

In the panel discussion that followed, Prof. Flaherty and Ms. Goraleski invited the speakers to address the practical implications of their work for clinicians in travel medicine settings. Prof. Flaherty began by situating the presentations within the broader shift toward continuous, rather than episodic, care models. “We have long treated travel medicine as a pre-departure consultation,” he said. “But the tools we’ve heard about today suggest we can extend our influence into the journey itself, and even the return phase.”

One clinician in the audience asked how travel clinics, often operating with limited time and high patient turnover, might realistically incorporate digital tools. Dr. Schats responded by discussing the role of standards. “If digital certificates are interoperable and universally recognized, their use simplifies clinic operations. Less paperwork, fewer phone calls, more certainty.”

Dr. Farnham addressed clinician hesitancy around recommending apps. “Providers don’t want to suggest tools that are buggy, invasive, or poorly designed,” she said. “That’s why co-design with clinicians and user testing are critical. If it doesn’t fit into the clinical conversation, it won’t scale.”

Dr. Goraleski raised the issue of equity. “We must ensure that digital tools do not exacerbate existing disparities,” she said. “What happens to the traveler without a smartphone? Or with limited digital literacy?” Dr. Farnham agreed. “We’re very conscious of this. While mobile penetration is high, it’s not universal. Our solution must include paper-based or assisted options. Digital cannot be the only pathway.”

Schats added that the privacy-preserving nature of offline-capable tools is particularly relevant for underserved or marginalized populations. “Digital ID solutions must not require constant connectivity or central tracking. That’s how we ensure both access and trust.”

The entire panel agreed that travel medicine is headed toward a model of digitally supported, real-time, and participant-driven care and research. The transition from paper to digital, from episodic to continuous, and from reactive to anticipatory practice is underway. Yet, technology is a means, not an end. “It’s not about the app or the QR code,” said Dr. Schats. “It’s about the ability to protect travelers and public health more efficiently.” Dr. Farnham repeated this sentiment in her closing remarks. “Digital tools won’t solve every problem. But they offer us more timely, accurate, and scalable ways to understand what’s happening, when, where, and to whom.”

1. Flaherty G, and Goraleski K (moderators). Rendez-vous with novel technologies: digital and mobile health in travelers. Plenary Session 1, 19th Conference of the International Society of Travel Medicine (CISTM19), May 11-15, 2025, New Orleans, LA, USA.

Monday May 12 09.00 - 10.30 PLENARY 1

Rendez-vous with novel technologies: digital and mobile health in travelers

MODERATORS: Gerard Flaherty (Ireland) and Karen Goraleski (USA)

SPEAKERS: Remko Schats (The Netherlands): e-Health in travel medicine: Example of the WHO International Certificate of Vaccination or Prophylaxis

Andrea Farnham (Switzerland): Assessment of travelers' morbidity through m-Health based surveys