Perspectives on the Sustainable Implementation of a National Adverse Event Detection Framework

Synthesis of the roundtable

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Panelists:

- **Prof. David W. Bates,** Harvard Medical School, Boston, USA
- **Prof. Dr. Alessandro Ceschi,** Ente Ospedaliero Cantonale (EOC), Bellinzona; Università della Svizzera Italiana, Lugano
- **Dr. Marie Mean,** University Hospital of Lausanne (CHUV)
- **Prof. Dr. Balthasar Hug,** Lucerne Cantonal Hospital (LUKS)
- **Prof. Dr. David Schwappach,** Institute for Social and Preventive Medicine (ISPM), University of Bern
- **Prof. Dr. Guy Haller -** Geneva University Hospital (HUG) and Federal Quality Commission (FQC)
- **Dr Christian von Plessen, PD-MER -** Unisanté & General Directorate of Health of the Canton of Vaud
- **Emanuelle Bortolin -** Alliance Care, Curacasa

Introduced by **Dr. Marie-Annick Le Pogam** (Unisanté) and moderated by **Veronica Petrencu, PhD** (Unisanté)

Summary

The roundtable was convened to explore sustainable ways to enhance, automate, and scale adverse event (AE) detection across Swiss healthcare settings. It brought together diverse perspectives from research, clinical care, caregiving communities, patient advocacy, policy, and system governance, with the common goal of shaping a practical, evidence-informed national approach to detecting and learning from patient harm.

Discussions began with a reflection on missed opportunities and expectations for a national framework, before progressing into three core themes: methodology and innovation—which detection tools and infrastructures are most appropriate and scalable; implementation in clinical settings—how to ensure legitimacy, acceptance, and usefulness for clinicians and patients; and governance and strategic orientation—how responsibilities, financing, and long-term sustainability should be organized. The meeting concluded with a review of areas of consensus, ongoing tensions, and take-home messages to guide future action.

Overall, participants noted that Switzerland stands at a critical transition point. The country has strong academic expertise and growing infrastructure capacity. Yet it also faces fragmentation, cultural barriers, and governance misalignments, which hinder systematic progress. Moving forward will require aligning technical innovation with regulatory frameworks, sustainable financing, and meaningful engagement from clinicians, patients, and policymakers.

Missed opportunities and expectations for a national AE detection framework

Participants agreed that current detection systems capture only a fraction of the harm that occurs. While Swiss electronic health records hold extensive clinical data, they are not fully exploited for safety monitoring. Direct reports from patients—who often surface psychological harm, communication failures, and diagnostic delays—remain underused. Because undocumented events are invisible to current methods, the system risks overlooking harms that matter most to patients and families.

Primary care representatives stressed that legitimacy depends on professional endorsement and visible benefits for clinicians, with feedback relevant to daily practice—not administrative burden. Nurses, home-care providers, and patient advocates called for strong speak-up culture and structural patient involvement, especially in community settings where professionals often work alone.

Pharmacology and pharmacovigilance experts emphasized the need for real-time, actionable insights, supported by strong interoperability across hospitals, outpatient care, registries, and national databases. The framework should evolve from reactive reporting toward proactive risk detection and early intervention, including the use of AI-based pattern recognition.

Methodology & innovation

Electronic data collection remains essential for scalability, but a hybrid model—automation to flag potential events paired with clinical review to confirm and contextualize them—is needed to ensure reliability. Switzerland already has strong infrastructures such as clinical data warehouses and integration initiatives, yet governance, data sharing rules, and clarity on roles remain underdeveloped. To fully embrace innovation and automated AE detection, a strong JUST culture, supported by an effective Critical Incident Reporting System, is required. Such a culture fosters openness, learning, and shared responsibility, enabling cohesion between healthcare providers and patients. It also protects clinicians as potential second victims and ensures that detected events are not only managed safely but also transformed into powerful teaching opportunities for medical and nursing students and residents.

AI and advanced automation are seen as enablers but not solutions on their own. Although AI can efficiently summarize complex records and identify patterns, concerns persist about accuracy, accountability, and automation complacency. Because AI adoption is advancing faster than safe collaboration models, governance must establish explicit human-AI roles and safeguards.

A robust national strategy will require multi-source data integration, including unstructured clinical notes analyzed through natural language processing (NLP), and closed feedback loops run through coordinated national structures. This ensures that learning returns to the front line and that harm can be prevented—or addressed more effectively—before it escalates.

Implementation in clinical practice

Fear of blame remains one of the largest barriers to adoption. Panelists emphasized the importance of building a safe culture focused on collective learning, supported by interprofessional case reviews and dedicated safety teams—avoiding both punitive responses and normalization of error.

Primary care leaders expressed concern that outpatient care risks exclusion from national progress. Digital maturity remains uneven; health records are often local and fragmented; and many clinicians still shoulder the financial burden of upgrading systems. Without standardized and interoperable EHRs, primary care cannot fully contribute to national safety learning—nor benefit from AI-powered early detection.

Home and long-term care present further challenges, as harm often develops slowly and becomes visible only after hospitalization. Systems must be able to detect these latent and diffuse safety issues. Across all settings, participants stressed that digital tools must support—not overload—frontline staff, providing actionable solutions rather than disruptive alerts.

Co-construction with patients and families

Panelists supported deeper structural involvement of patients in designing indicators, communication tools, and national registries. A two-step approach was recommended: first, strengthen literacy among patients and caregivers about quality and safety systems; then, co-define what harms matter most—including psychological and relational harms that current systems rarely capture.

However, hospitals are built around professional roles, and integrating patient voice requires operational change, since patients do not have a formally recognized role in clinical structures. Institutions must therefore create appropriate mechanisms that value lived experience while balancing patient-preferred honesty with organizational communication constraints.

Governance and strategic orientation

Responsibility for a national AE detection framework is shared across the Swiss health system. Healthcare institutions are responsible for implementing operational processes and driving local improvement. Cantons provide regulatory oversight and include quality requirements in service contracts. At the national level, the Confederation and the Federal Quality Commission define standards, allocate funding, and ensure overall coordination.

National reporting networks can accelerate learning, but current participation remains uneven. Mandatory participation is increasingly recognized as necessary for representativeness, though

coercion without engagement risks superficial compliance. Ethical and legal uncertainties persist regarding data access—especially Switzerland's reliance on opt-in consent.

Financing patient safety is ultimately cost-saving, but requires upfront investment. Funding models must reward quality improvements while supporting organizations with greater challenges and avoiding perverse incentives. Cantonal representatives noted frustration with fragmented initiatives and stressed the need for stronger national-local coordination and reduced duplication.

Areas of consensus

The panel identified several strong areas of consensus that could serve as early priorities for national alignment. These include increasing public awareness of patient safety risks, establishing strong feedback loops that drive learning at all levels, and co-designing the framework with patients and all professional groups. Participants also agreed on the need to standardize digital health data to support scalability, to deploy AI and automation in ways that genuinely assist clinicians, and to position quality and safety as core elements of professional practice rather than optional tasks.

Tensions and open questions

Despite this common ground, key uncertainties remain, notably around whether sustainable change will come from putting pressure or not. The balance between voluntary and mandatory participation is still contested, as is the question of how to ensure meaningful engagement if requirements become compulsory. There are also concerns about the scope and timing of a national rollout, given current limitations in detecting psychological and undocumented harm. Finally, stronger coordination between national and cantonal levels is needed to prevent duplication, fragmentation, and gaps in implementation.

Final reflections

Panelists agreed that a national AE detection framework in Switzerland is no longer a question of *if* but *when and how*. Success will rely on meaningful feedback, sustained culture change, and responsible digital transformation. Economic evidence demonstrating the cost–benefit of safety interventions will be vital for long-term political and financial support. Above all, patient safety must remain a professional and ethical imperative—a shared commitment rather than a compliance task.