Realigning the National Health Data Repository: A Call for Local-First Implementation

Author: Dr. Mike Muin

The Core Position

The National Health Data Repository (NHDR) stands at a crossroads. Mandated under the Universal Health Care Act as the authoritative repository of health data, the NHDR can either become the informational backbone that enables integrated health systems—or it can devolve into another fragmented, top-down reporting burden that undermines the very UHC principles it was meant to support.

My position is clear:

The NHDR must be reimagined and implemented as a network of networks, prioritizing local health system empowerment and creating genuine clinical value before attempting national aggregation.

This is not merely a technical preference. It is a fundamental alignment of information architecture with the legal, financial, and operational realities of how the Philippine health system actually works under the UHC Act.

Why This Matters: The UHC Context

The Universal Health Care Act represents the Philippines' commitment to ensuring all Filipinos have equitable access to quality, affordable health care services. The law establishes Province-wide and City-wide Health Systems (P/CWHS) as the integrated service delivery model, operationalized through Health Care Provider Networks (HCPNs) that coordinate patient care from primary care facilities through to tertiary hospitals.

The NHDR was created to serve as the informational backbone of this system. But there's a critical question: ***Will the NHDR be designed to enable these local integrated systems to function effectively***, or *will it operate as a separate national data collection exercise* that bypasses the health system structures UHC creates?

The answer to this question will determine whether UHC succeeds or fails in its implementation.

Three Arguments for Local-First Implementation

Argument 1: Accountability Resides Where Service Delivery Happens

The Legal Framework

The UHC Act establishes clear accountability relationships:

- Health Care Provider Networks are responsible for delivering the continuum of care
- HCPNs must coordinate patient referrals and ensure continuity across care levels
- Contracted HCPNs are legally required to establish patient records management systems with interoperable electronic medical records capable of real-time information-sharing
- Province-wide and City-wide Health Systems manage the Special Health Fund, pooling resources from both DOH and PhilHealth
- Provincial and City Health Boards have statutory authority over health facilities and are the legally designated stewards of integrated health systems

The Practical Reality

Consider the pregnant woman moving from prenatal care at a rural health unit to delivery at the district hospital and back to postpartum care. Or the diabetic patient referred from the city health center to the city hospital for specialist care. Or the emergency patient arriving unconscious whose medical history is scattered across three facilities.

These **care coordination workflows**—the ones that literally save lives—occur predominantly **within a single P/CWHS** because that is how referral networks are geographically and administratively structured under the UHC Act.

The Fundamental Misalignment

When the NHDR is structured to extract data from individual facilities directly to a national repository without first enabling local network exchange, it creates a fundamental disconnect. Facilities are required to submit data upward for national purposes while remaining unable to share information horizontally with the very HCPN partners they are contractually accountable to for coordinated patient care.

This is not just inefficient—it reverses the accountability flow established by law. **Data submission goes to where there is no direct service delivery accountability**, while the entities legally responsible for patient outcomes cannot access the information they need.

My Position

If legal accountability for service delivery, fund management, and patient care coordination resides at the P/CWHS level under the UHC Act, then operational health information exchange capability should also be established at this level to enable these entities to fulfill their mandated responsibilities.

Data must first serve those who are legally responsible for patient outcomes.

Argument 2: Sustainable Financing Requires Local Value Creation

The Financing Structure

The UHC Act establishes two distinct financing streams that converge at the P/CWHS level:

- **Population-based services** (health promotion, disease surveillance, environmental health) are funded by DOH through tax revenues and contracted to P/CWHS
- **Individual-based services** (clinical consultations, diagnostics, treatment) are funded by PhilHealth through premium contributions and contracted to HCPNs

Both streams are pooled and managed through the Special Health Fund governed by Provincial and City Health Boards.

The Pattern from Implementation Experience

Health information systems that deliver **tangible operational value at the point of use** achieve higher adoption rates and sustainability. When clinicians can access patient histories during consultations, when nurses can transmit laboratory results electronically, when referral coordinators can track patient movement across facilities—these users become system advocates and champions.

Conversely, systems perceived primarily as data extraction tools for external reporting create work burden without providing local benefit, generating user resistance and sustainability challenges.

The Business Case

When HIE infrastructure delivers tangible local value supporting P/CWHS operational mandates, the business case for Special Health Fund investment becomes rational. Provinces and cities can justify investing in HIE capability because it directly improves their ability to fulfill their legal mandate to deliver integrated services and manage pooled resources effectively.

The system supports both revenue streams: better documentation for DOH population-based contracts and more accurate claims processing for PhilHealth individual-based service payments.

The Risk of Misalignment

When the NHDR is structured primarily for national data aggregation without clear local operational benefit, it risks becoming an unfunded mandate. The national government tells local facilities: "Submit your data to our national repository," but provides no budget for computers, internet connections, staff training, or system maintenance.

Meanwhile, national resources flow to building the national database infrastructure rather than enabling local systems that deliver direct clinical value.

Without demonstrable local value proposition, Special Health Fund investment in data infrastructure becomes difficult to justify to Provincial and City Health Boards, and long-term sustainability remains uncertain.

My Financing Policy Position

SHF investment in local HIE capability that serves P/CWHS operational needs should be the primary financing model, with national data aggregation emerging as a derivative benefit rather than the sole justification for investment.

This aligns financing with value creation and ensures sustainability. Local systems that make doctors' work easier and patients safer will be maintained and improved. National reporting systems that create burden without local benefit will be resisted and eventually fail.

Argument 3: Implementation Must Follow UHC's Developmental Logic

The Maturity Framework

The UHC Act and its implementing rules establish the Local Health Systems Maturity Levels (LHS ML) framework with progressive stages, explicitly recognizing that health system integration is a developmental process requiring methodical progression:

- **Stage 1 (Preparatory)**: Focus on readiness, baseline assessment, and planning. The Information Track requires conducting baseline assessment, gaps analysis, and identification of investment needs for health information management and ICT systems.
- **Stage 2 (Organizational)**: Focus on system development and capacity building. The Information Track requires establishing health information management and ICT development plans and implementing functional EMR systems capable of submitting reports to DOH and PhilHealth. Critically, this is when planning for the NHDR begins, focusing on establishing national health data standards for interoperability.
- **Stage 3 (Operational)**: Focus on full operationalization. The Information Track requires validated EMR systems that link PCPNs to secondary and tertiary care providers, compliance with national health data standards for interoperability,

and the NHDR operational as the single point of submission.

The Logical Sequence

Notice the developmental logic: **local systems first**, then planning for national integration, then federation into the national repository once local functionality is proven.

The Reversal Problem

Implementing national data submission requirements before local exchange capability is functional reverses this developmental logic. It asks facilities to report upward before they can communicate horizontally with HCPN partners. It **prioritizes national policy needs over the clinical care coordination needs** that the UHC Act mandates HCPNs to fulfill.

This is like requiring a child to run before they can walk—it ignores the natural developmental sequence and sets the system up for failure.

My Position on Sequencing

NHDR implementation strategy should explicitly align with LHS ML maturity progression rather than imposing uniform national submission requirements regardless of local system readiness.

- **Stage 1 alignment**: National efforts concentrate on establishing data standards, interoperability specifications, and certification processes (SCIV)—enabling local units to plan their systems with clear requirements
- **Stage 2 alignment**: Priority on establishing functional HIE capability within HCPNs and across P/CWHS boundaries where local systems prove value through improved care coordination
- **Stage 3 alignment**: When local systems are functional and delivering operational value, national aggregation through federation becomes both technically feasible and politically sustainable

The NHDR governance and implementation timeline should explicitly measure success based on local HCPN functionality metrics before intensifying national aggregation requirements.

Four Policy Recommendations

Based on these three arguments, I advocate for four specific policy positions:

Recommendation 1: Establish NHDR Architecture as a Federation of Local HIEs

The NHDR should be explicitly conceptualized and implemented as a **network of networks** rather than a single centralized repository with direct facility connections.

What this means in practice:

- Primary data exchange architecture operates at the P/CWHS level, enabling HCPN members to share patient information, coordinate referrals, and support care delivery within their natural service delivery networks
- National data aggregation occurs through federation of these local exchanges, with P/CWHS systems submitting consolidated data to the NHDR after serving local operational needs
- The NHDR serves as the integration hub for standardized data from autonomous but interoperable local systems, **not as the primary destination** for individual facility submissions

Why this approach works:

This respects the principle that accountability and information capability must be co-located. Just as P/CWHS have authority over their health facilities and responsibility for health outcomes, they must have operational control over the information systems that support those functions.

Recommendation 2: Reorient NHDR Governance Toward Local Service Delivery Enablement

Current NHDR governance emphasis on national data submission and reporting requirements must shift toward empowering and enabling service delivery capabilities at the local level.

What this requires:

- DOH and PhilHealth governance frameworks that explicitly prioritize local HIE functionality over national reporting convenience
- Success metrics focused on clinical and operational outcomes (referral completion rates, medication reconciliation accuracy, emergency information availability) rather than just data submission timeliness
- Investment priorities that channel resources toward P/CWHS HIE infrastructure and capacity building before national data center expansion
- Regulatory requirements that mandate HCPN information exchange capability as a core network function, not just data submission compliance

The fundamental shift:

Stop treating the NHDR as primarily a national reporting mechanism. **Health information exchange exists first to improve patient care**. National surveillance, research, and policy planning are important but derivative purposes that must not drive architecture in ways that undermine local clinical value.

Recommendation 3: Align Financing Policy With Local Value Creation

PhilHealth and DOH financing policies must recognize that sustainable health information exchange requires investment where value is created.

Specific policy mechanisms needed:

- Clear policy guidance that P/CWHS may and should invest Special Health Fund resources in HIE infrastructure and operations as a core function supporting both DOH and PhilHealth contracting requirements
- PhilHealth contracting and payment policies that explicitly recognize HIE capability as a quality indicator and network readiness requirement, creating financial incentives for investment
- DOH technical assistance and capacity building support focused on helping Provincial and City Health Boards plan, finance, and govern their HIE systems using SHF resources
- Elimination of financing structures that treat NHDR compliance as an unfunded mandate while channeling resources to national-level infrastructure

The sustainability model:

When local health systems can invest SHF resources in HIE capability that delivers tangible operational value and supports both revenue streams—DOH population-based contracts and PhilHealth individual service payments—sustainability becomes built-in rather than perpetually problematic.

Recommendation 4: Immediately Cease Investment in Bypass Architectures

DOH and PhilHealth must immediately cease planning and investment in NHDR architectures where individual health facilities report directly to national repositories while remaining unable to exchange data with their HCPN partners.

Why this architecture fails:

- It disconnects information flow from service delivery accountability relationships
- It creates data extraction burden without local operational benefit
- It forces facilities to report upward before they can coordinate horizontally
- It undermines rather than enables the integrated health systems UHC mandates

Redirect all investment toward:

- Empowering P/CWHS to establish functional HIE capability within their HCPNs
- Ensuring HCPN members can exchange patient information in real-time to support referrals, consultations, and care coordination
- Building local capacity for data governance, system operation, and privacy protection
- Establishing clear pathways for P/CWHS systems to federate into the national NHDR once local functionality is proven

The correct roadmap:

The operational roadmap must **prioritize local exchange capability first**, with national consolidation following as a secondary stage once the foundation is functional.

Conclusion: The Choice Before DOH and PhilHealth

The National Health Data Repository can and should be the informational backbone of Universal Health Care in the Philippines. However, achieving this potential requires fundamental alignment of NHDR governance, financing, and implementation with the actual structure of the health system UHC creates.

Path 1: Continue the current trajectory

Continue down the path of centralized national data collection that treats facilities as data sources for national purposes, disconnected from their service delivery accountability and starved of resources for local functionality.

This path will fail. It has failed in every health system that has attempted it. It will generate user resistance, create unfunded mandates, and ultimately produce a national database filled with incomplete, inaccurate data submitted grudgingly by facilities that see no benefit.

Path 2: Embrace the network-of-networks approach

Embrace a network-of-networks approach that **empowers P/CWHS to build HIE capability that serves their HCPNs first**, finances it sustainably through the Special Health Fund, governs it through Provincial and City Health Boards where accountability resides, and federates these local systems into a truly national repository built on a foundation of local value and capability.

This path will succeed. It aligns with how health systems actually work. It creates value where accountability resides. It builds sustainability through local benefit. It respects the developmental logic of health system integration.

Only the second path aligns with UHC principles. Only the second path will succeed.

Health Care Provider Networks operating within Province-wide and City-wide Health Systems are where accountability for service delivery resides. These are the units that coordinate patient care, manage pooled resources, and answer for health outcomes. Health information exchange must be designed to serve these units first—delivering clinical value, supporting operational coordination, and enabling evidence-based management at the level where decisions are made and services are delivered.

National data aggregation, surveillance, research, and policy planning are valuable objectives. But they must be achieved through federation of well-functioning local systems, not through extraction architectures that bypass local needs in pursuit of national reporting efficiency.

It is time to realign NHDR implementation with UHC implementation reality.

The legal framework is clear. The financing structure is established. The maturity model provides the roadmap. What is needed now is the political will to implement the NHDR in a way that truly enables Universal Health Care rather than undermining it.