

GOVERNANCE & PARTICIPATION TEAM, UNDP VIET NAM

# USE OF NEEDS-INFORMED INNOVATION FOR DEVELOPMENT (NI<sup>2</sup>D):

## A Case Study of Reducing Corruption Risk in Medicines Procurement in Viet Nam



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## ACKNOWLEDGEMENTS

The Stanford Biodesign methodology has been modified for use in innovating for sustainable development by Dr. Chris McBrearty, the technical lead on this project and the author of this report. This report has received valuable inputs from Ms. Sabina Stein, Assistant Resident Representative and Head of Governance & Participation at UNDP Viet Nam, and Ms. Do Thuy Van, Programme Analyst at UNDP Viet Nam. The UNDP team is grateful for the engaged participation of leadership and staff at the National Centralised Drug Procurement Centre and the Hanoi Department of Health. Financial support for completing this work has been generously provided by Norad through the global UNDP project ‘Anti-corruption for peaceful inclusive societies (ACPIS)’.

## DISCLAIMERS

The viewpoints expressed in this report are those of the author and do not necessarily represent those of UNDP, Norad or the Ministry of Health of Viet Nam.

## FOREWORD

Ensuring transparency, accountability, and reducing corruption are essential elements in building a stronger, more resilient public sector. Nowhere is this more critical than in the healthcare system, where integrity in processes such as medicine procurement can directly impact the lives and well-being of citizens. The values of transparency and accountability are not only a matter of financial integrity but also of public health, ensuring that essential medicines are delivered efficiently and equitably.

This report highlights the progress Viet Nam is making in tackling these challenges through digital innovation. By introducing tools like the Medicine Reference Price Calculation Software we are seeing how technology can play a pivotal role in reducing human error and standardising data. This digital shift not only increases efficiency but also reduces the risk of corruption, making the system more accountable and reliable.

At UNDP Viet Nam, we believe that the integration of technology is a key enabler for advancing good governance and strengthening public trust. Through projects like this, it is possible to lay the groundwork for a healthcare system that prioritises integrity, builds public trust, and strengthens the foundations of a more transparent, sustainable future.

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## 1. INTRODUCTION

From 2022 to 2024, UNDP Viet Nam supported the National Centralised Drug Procurement Centre in Viet Nam with digitalisation of their processes with an aim of strengthening governance and improving transparency and integrity in public health procurement. This case study demonstrates key lessons learned and the value of applying a novel approach to innovation to development challenges.

Innovation has dramatically transformed societies and economies, with rapid advances in digitalisation having significant potential to accelerate Sustainable Development Goal (SDG) progress. Digitalisation has been recognised by UNDP[1] and others as a key enabler of development. While recognising the opportunity of innovation, we also need to always be innovating in our approach to development, learning from other sectors and other successes. One such success has been the use of **'needs-informed innovation'** for medical technology innovation. This methodology, particularly associated with Stanford Biodesign,[2] involves a systematic and user-centred approach to identifying, understanding, and addressing unmet needs in healthcare. The goal is to develop innovative and practical medical technology solutions that have a meaningful impact on patient outcomes. Since inception, the Stanford Biodesign needs-informed innovation methodology has shown remarkable success, with development of medical technologies which have been used to care for millions of patients.

However, until now, use of this needs-informed innovation methodology to innovate for development has not been demonstrated, particularly at the intersection of SDG3 and SDG16. This case study will answer key questions, such as how may a needs-informed innovation methodology be modified for use in the development sector? How may such a methodology be implemented? What are the benefits and what are the challenges? Can sustainability be supported or reinforced?

Through this case study, we introduce a **'Needs-Informed Innovation for Development' (NI<sup>2</sup>D)** methodology and show how it helps to engage stakeholders meaningfully. It generates a clear understanding of their needs and the impact of these needs on the broader system. It ensures that stakeholders take ownership of the innovation process, leading the way in prioritising needs. Additionally, it fosters stakeholder commitment to the development, scaling and sustainability of digital solutions.

This case study explores how the Stanford Biodesign needs-informed innovation methodology may be modified to support innovation for development and create a strong foundation for long-term sustainability of digital innovations in centralised medicines procurement in Viet Nam. It is intended to support policymakers, practitioners, and development partners working at the intersection of development and digitalisation to operationalise a **'Needs-Informed Innovation for Development' (NI<sup>2</sup>D)** methodology to enhance development outcomes from innovation.

The next section provides the context; section 3 describes the NI<sup>2</sup>D methodology and how it was applied to medicines procurement processes in Viet Nam; section 4 offers lessons learned for applicability of NI<sup>2</sup>D beyond the scope of this project; and section 5 provides a conclusion.

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[1] UNDP Strategic Plan 2022-2025 <https://strategicplan.undp.org/>

[2] Stanford Biodesign <https://biodesign.stanford.edu/about-us/process.html>

## 2. THE CONTEXT

In response to variations in medicine costs across Viet Nam, in 2017 the National Centralised Drug Procurement Centre (NCDPC) was established under the Ministry of Health (MOH). The first round of centralised bidding in December 2017 reportedly saved the state budget \$21 million. Further support is required to accelerate the digitalisation of these centralised procurement processes, and the Government of Viet Nam is committed to digital transformation as a cornerstone of their development strategy. In addition, Government recognises that anti-corruption must be a priority to ensure sustainable social and economic development. In October 2023, a new ‘National Strategy to Prevent and Combat Corruption and Negativity until 2030’ was issued, with acknowledgement of the important role of digital transformation in addressing corruption.

Viet Nam was selected as a participant country in the global UNDP project titled ‘Anti-corruption for Peaceful Inclusive Societies (ACPIS)’, generously funded by Norad. With innovation being central to ACPIS’s approach, there was an opportunity to test the value of a needs-informed innovation approach to digitalisation in the area of medicines procurement in Viet Nam, with the goal of reducing corruption risks. With limited donor and government funds to support innovation in this area, it was particularly critical to ensure that available funds would address the most pressing needs, while also giving the best hopes of scaling and sustainability. With this in mind, the following methodology was followed to maximise impact of available funds.

## 3. THE METHODOLOGY

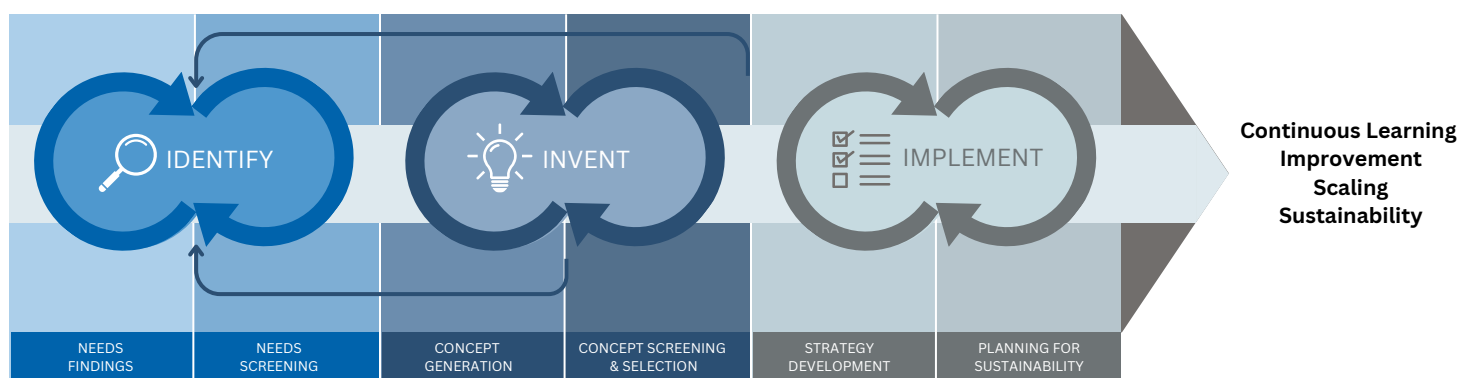
### 3.1 Introduction to Needs-Informed Innovation for Development (NI<sup>2</sup>D)

**Needs-Informed Innovation for Development (NI<sup>2</sup>D)** is an approach to innovation that prioritises identifying and understanding the specific needs of stakeholders to inform the creation of new technologies, products, services or solutions that will enable acceleration of progress towards one or more SDGs.[3] This approach centres on gaining a thorough understanding of the challenges faced by these stakeholders and generating insight to how various challenges interact with each other and with the complex systems in which they exist. The approach ensures that the resulting innovations are directly relevant and beneficial to those they are designed to serve, while also prioritising considerations for the long-term sustainability of the solution throughout the innovation process.

There are three key phases to this innovation process: **Identify, Invent, Implement**. Each phase has two stages, with iterative learning and understanding relating to the need being continuous throughout the innovation process. The innovation process results in implementation of an innovation which is well placed for both scaling and sustainability in a development context. See figure 1.

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[3] Process modified for innovation for sustainable development, from the Stanford Biodesign process of innovating medical technologies. See: <https://biodesign.stanford.edu/about-us/process.html>



**Figure 1: Needs-informed Innovation for Development: The Process** (Modified from The Stanford Biodesign methodology)

UNDP Viet Nam, in partnership with the National Centralised Drug Procurement Centre (NCDPC) of the Ministry of Health (MoH), undertook an NI<sup>2</sup>D process to identify and innovate for needs in the current medicines procurement system in Viet Nam which may be met with digital solutions. The first phase of the project involved needs finding and then screening these needs to prioritise which should be addressed as part of this project.

### 3.2 Phase 1: Identity

#### Needs Finding



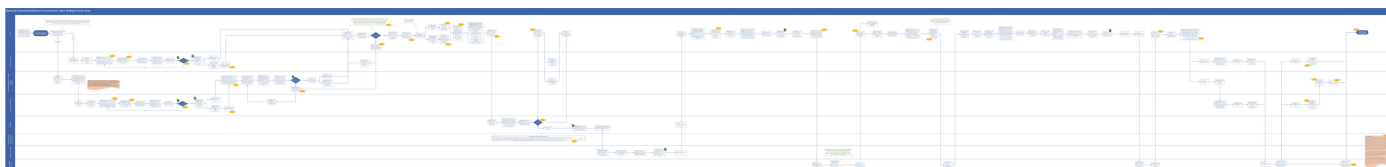
The ‘identify’ phase is the most critical phase in the NI<sup>2</sup>D process. UNDP worked with NCDPC to define a **clear strategic focus**, while avoiding having any specific need or solution in mind at this point of the process. It was decided that a needs identification process should identify needs across the medicine procurement system, including but not limited to needs relating to (i) system efficiency, (ii) data flows, (iii) governance and integrity, (iv) transparency, (v) standardisation of process and data, (vi) technology challenges, and (vii) end-user engagement with current processes. The project had a particular

interest in addressing needs that related to corruption risk reduction, or improvement of transparency or accountability. The methodology for needs finding involves three important steps: (1) observing a specific process or scenario, (2) identifying the problems inherent in that process or scenario, and (3) reshaping one’s understanding of the problem into a need.

A team of international and national consultants, with a national IT firm, were recruited to lead the process. Following capacity building of the team on the concept and processes of NI<sup>2</sup>D, **exploration of needs** began. Observations were collected on the many challenges currently facing the procurement system using multiple methods, including background research, ethnography, a needs identification workshop, interviews, comprehensive mapping of processes, and a thorough assessment of current digital technologies in use in centralised medicines procurement. This process may also be complemented by other tools such as Corruption Risk Assessment methods.[4]

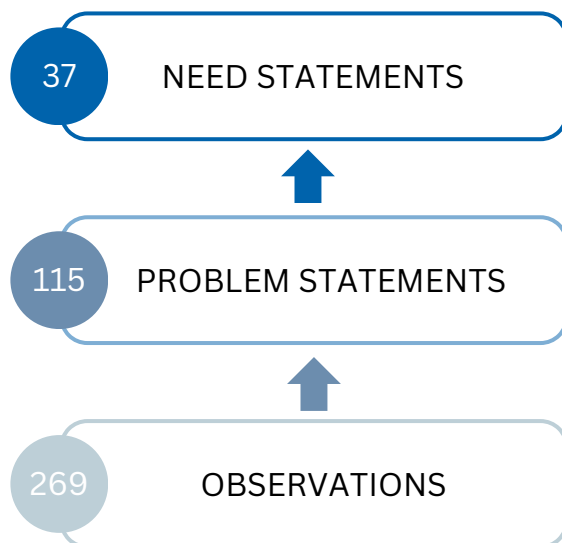
[4] Hunter M, Uwaydah Mardini R, El-Seblani A, Elsayed S. *Anti-corruption, Transparency and Accountability: Case Study of Healthcare in the Arab Countries*. *Glob Health Action*. 2020;13(sup1):1704529. doi: 10.1080/16549716.2019.1704529. PMID: 32194015; PMCID: PMC7170301.

Detailed **process mapping** was a particularly effective tool. Mapping was performed for each of the processes of national centralised open bidding, national antiretroviral procurement, and national centralised price negotiation. This enabled identification of steps or subprocesses which may be problematic, inefficient, or introduce risk to the system. For example, **114 steps** were detailed as part of the national centralised open bidding process, with **30 of these steps** being observed as potential targets that may benefit from digital innovation.



A **needs identification workshop** was held with stakeholders from NCDPC, provincial Departments of Health, hospitals and other government departments. This workshop involved small group discussions with these diverse stakeholders on challenges facing the medicine procurement process. Needs identification was also supported through the **development of a report** on ‘A review of the current digital technologies in use across the medicine procurement process in Viet Nam.’

In total, **269 observations** were made through this process. These observations were then analysed to identify what problems exist. A total of **115 ‘problem statements’** were created which describe a recurring situation in which doubt or difficulty is met. With further research, exploration and understanding, **37 ‘need statements’** were created from these 115 problems. A need statement identifies the change in outcome that is required to address a given problem, and is usually composed in the following format: **“A better way to [observed problem] in [a defined population] to [outcome].”** These need statements were 37 single sentences that focused on the endpoint or goal of innovation, rather than the identified problem.



### Needs Screening

Following creation of these need statements, it was then time to explore the needs further and **prioritise the needs** for action as part of the current project. Needs screening and prioritisation occurred in an iterative manner, with further understanding of needs leading to them either being excluded from the process, or moving ahead for further action.

This needs screening involves developing a deeper understanding of how an individual need **interacts with the current system**, what goes wrong, how the challenge presents itself, and an assessment of the outcomes and impact. Existing solutions that go some way to currently addressing this need are assessed, including an analysis of their economic impact and utilisation

patterns. In NI<sup>2</sup>D processes it is also critical to explore a theory of change for how addressing a given need may lead to progress towards one or more SDGs. Attention must be paid to understanding any previous initiatives that tried to address similar needs to take learnings that may better support sustainability of innovations in the current project. Feasibility of addressing a need within the allocated budget of a development project should also be assessed. A thorough stakeholder analysis for prioritised needs is critical.

Through this further analysis and ongoing discussions with NCDPC leadership, the 37 needs were prioritised for action. In total, three needs were selected for action as part of the current project. A Need Specification Document summarised the data collected in relation to each of the needs which have been prioritised. A **need specification** is a detailed, but succinct, stand-alone document that summarises the data gathered through the needs identification and screening process. Importantly, it also outlines the key criteria that any solution must meet in order to satisfy the need. Together this information serves as guiding principles for the next phase of the innovation process – ‘invent’.

The three needs prioritised for action in this project are as follows:

**Need 1:** A way to improve transparency of activities being performed by the NCDPC which can disseminate relevant information efficiently and effectively.

There is no structured dissemination of information from NCDPC or means to easily access information created by NCDPC. The Centre does not have a website. There is a lack of transparency.

**Need 2:** A better way to determine planning prices for drugs that is more efficient and accurate.

The process of determining planning prices for drugs is inefficient. Data must be extracted from Drug Administration of Viet Nam website & cleaned by each individual procurement team across Viet Nam. There is opportunity for human interference in determining planning prices. Errors are common. There is lack of standardisation and transparency.

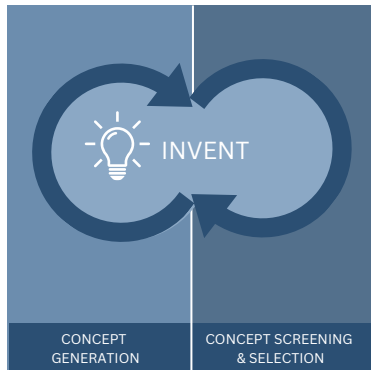
**Need 3:** A better way for procurement staff to understand how to use the current medicine procurement management software which is more efficient and effective.

Errors in using the medicines procurement management software lead to delays in carrying out relevant tasks, which delays the procurement process. There is high staff turnover. Upskilling new staff in using the software takes a long time. There is currently inadequate guidance for staff on how to use the software.



### 3.3 Phase 2: Invent

#### Concept Generation



It is only when needs have been identified, screened and prioritised, that ‘ideation’ or ‘concept generation’ may begin to find solutions. The **key criteria** that any solution must meet in order to satisfy the need have been detailed in the need specification document during the needs screening stage. These criteria must be kept front of mind when brainstorming solutions. For example, for this project some key criteria across all three prioritised needs were that a solution must be feasible to implement within the timeframe of the specific donor-funded project, costs relating to solution development must be met with the

available project budget, and solutions must have modest ongoing running costs beyond the life of the project. Each need also had individual specific criteria. For example, for need 1, any solution developed must be accessible to persons with disabilities. As three needs were to be addressed as part of this project, there was also an ambition to develop solutions which complemented each other.

The **concept generation** stage is where creativity can bring ideas to the fore. When brainstorming for original ideas, it is always best to follow the IDEO 7 rules of brainstorming.[5] There are some particular considerations for brainstorming for NI<sup>2</sup>D, including to ensure that there remains a focus on the core problem while also ensuring there is opportunity for participants to think creatively beyond current solutions. The purpose of brainstorming is not necessarily only to find one great concept idea, but instead it is to explore what new directions for innovation may be pursued. Having a variety of backgrounds and expertise of stakeholders involved in concept generation is particularly important to generate novel insights for innovation. Very often there is an expectation that an innovation must be incredibly novel or complex. However, sometimes a very simple solution may address an identified need in a development context.

#### Concept Screening & Selection

In this project, the principle means of screening solution ideas and concepts was through discussion with the team, partners and leaders at the NCDPC. Possible solutions were filtered to the few that best addressed the prioritised needs. The agreed need criteria were applied throughout the process. In addition, in selecting concepts to develop further into solutions to the prioritised needs, it was essential to have consideration for intellectual property issues, the current legal, regulatory and policy framework in Viet Nam, and anticipated ongoing costs of any solution. Solutions were also designed for scale from the beginning, with it being kept in mind that the longer-term ambition was to be able to scale these solutions to bring sustainable benefits across the entire system. Selected solutions continued to be refined, tested, iterated, and improved during development and implementation.

Three individual solutions were developed to address the three needs, respectively.

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[5] *IDEO 7 Rules of Brainstorming*

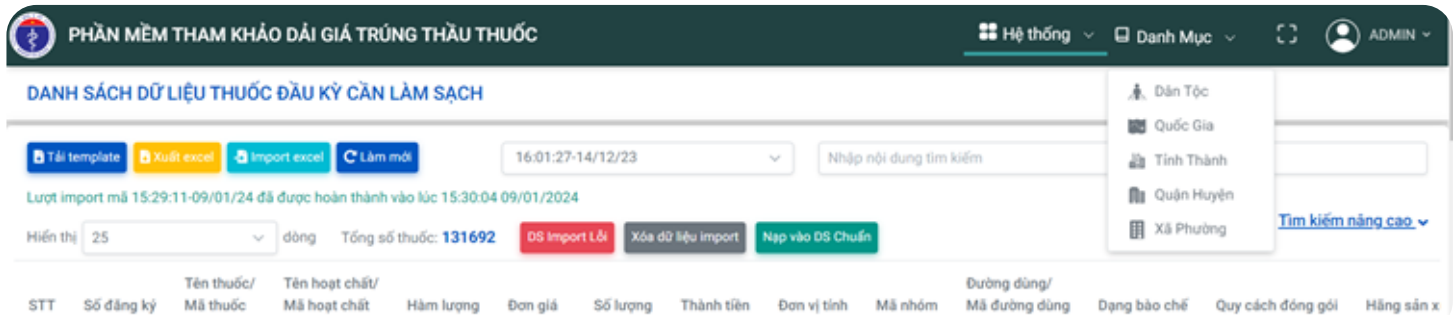
**Need 1:** A way to improve transparency of activities being performed by the NCDPC which can disseminate relevant information efficiently and effectively.

**Solution 1:** A website for NCDPC where the Centre can publish news, legal documents, training materials, regulations and results of procurements, including functioning as a transparent platform for medicine price data.



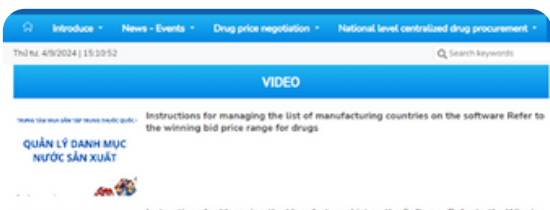
**Need 2:** A better way to determine planning prices for drugs that is more efficient and accurate.

**Solution 2:** A Medicine Reference Price Calculation Software, which analyses unstandardized data files using language detection and data standardisation technologies to identify the highest, lowest, and most common winning bid price for medicines in the previous 12 months. Human discretion in process is removed. Accuracy & efficiency are improved.



**Need 3:** A better way for procurement staff to understand how to use the current medicine procurement management software which is more efficient and effective.

**Solution 3:** A library of training videos to support procurement staff across Viet Nam to use the national medicine procurement management software was embedded in the new website.



The website and training videos are complete and may be easily updated as required with additional information, such as pricing or contract information following each procurement. The Medicines Reference Price Calculation Software was developed for use at NCDPC for medicines to be procured through **national centralised open bidding**. Initially data cleaning rules were created for 37 drugs, and this was later expanded to the full list of 50 drugs that are procured by NCDPC. Use of the software has now been incorporated in NCDPC operations as **‘business as usual’**, with the software bringing much efficiency.



*“This innovation will not only improve the transparency of the whole medicine procurement process, but also assist local departments in coordinating drug regulation effectively.”*

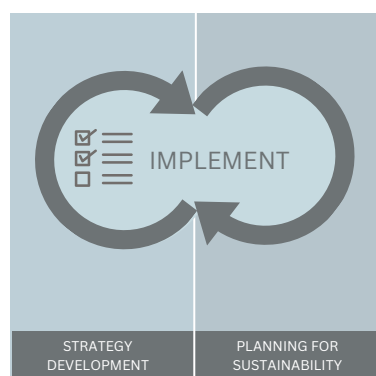
**Mr. Le Thanh Cong**  
- Director, NCDPC



The value of scaling this software nationally for use in all 63 provincial Departments of Health (DOH) and all health facilities was recognised very early. At the launch event for the software, one procurement officer from a provincial DOH asserted that having access to this software at a provincial level could reduce the time to perform the reference price calculation step **from a 2 month process to a 1 day task**. In view of the clear benefits of scaling this software to other health system stakeholders across Viet Nam, it was particularly important to prepare for both scaling and sustainability.

### 3.4 Phase 3: Implement

#### Strategy Development



Every NI<sup>2</sup>D process must include a strategy for how the innovation may be developed further and be scaled for greatest impact. The Medicine Reference Price Calculation Software was identified as being an innovation that had potential to be particularly impactful, and with the support of Norad, the project placed particular emphasis on developing it further.

Strategic thinking from different perspectives is required to support implementation. For example, a **Research & Development (R&D) Strategy**

is essential to ensure long-term success of an innovation. In this project, the R&D strategy was centred around learning from early implementation of the software at NCDPC, and understanding what tailored needs stakeholders at Departments of Health (DOH) and health facilities may have that would need to be built into the system to ensure successful scaling. At the software launch event, many suggestions were collected of how the software may be scaled nationally, including how it may integrate with other digital systems. Also, a **survey** was conducted of 230 stakeholders from central hospitals, Departments of Health, provincial hospitals, district health centres, and provincial Centres for Disease Control. Of these respondents, 94% expressed a wish for their procurement department to have access to the Medicine Reference Price Calculation Software. This survey also provided insights to the challenges and technical requirements for scaling to these sites. For example, 62% of provincial respondents stated that they perform pooled procurement of >1,000 drugs at a provincial level, which highlights both the scale of the potential impact of this software and also the additional technical requirements and development of cleaning rules necessary to enable standardised use of the software more broadly across the health system.

Pilots are a particularly beneficial tool to support learning and strategy development. **Hanoi DOH was selected as a pilot site** for use of the Medicine Reference Price Calculation Software at a DOH level. Data cleaning rules were built for >150 medicines that are centrally procured at the provincial level by Hanoi DOH. The software was enhanced for use at the DOH and learnings were recorded to inform future developments of the software.



A **Regulatory Strategy** is also necessary to ensure that innovations develop within a supporting legal and policy framework. To support further scaling of this software beyond these initial pilots, the NCDPC will now formulate and submit to competent authorities regulations on the use of this software within the medicine procurement process, and regulations on system operations and administration.

**Planning for sustainability**

**BENEFITS OF THE MEDICINE REFERENCE PRICE CALCULATION SOFTWARE:**

- Improved efficiency & accuracy of procurement planning process
- Increased transparency
- Reduced opportunity for human discretion in determining planning prices
- Reduced risk of corruption
- Standardisation of data is supported

The NI<sup>2</sup>D methodology is particularly effective in establishing a **strong foundation for sustainability** by involving key stakeholders and leadership from the outset. As NI<sup>2</sup>D focuses on innovation tailored to specific prioritised needs, it ensured that the NCDPC staff and leadership were actively engaged in a process where their needs were the primary focus. The strong involvement of senior leadership at NCDPC throughout the process has fostered a sense of ownership for the innovation process and its outcomes within the Centre.

The software is already being used as **‘business as usual’** within the NCDPC. Software data cleaning rules have been updated in line with new regulations for national centralised medicines procurement issued in early 2024. A server has been identified for long-term use and a member of NCDPC staff has been allocated to manage the software. There is also a plan for incorporation of the software in the relevant national legal and policy framework.

It is important to ensure that innovations align with broader national healthcare goals to facilitate broader political and financial support. Although the value from the software in terms of both systems efficiency and corruption risk reduction seem clear, to advocate for scaling the innovation and embedding it across the entire system as ‘business as usual’ it will be required to **continuously monitor, quantify and report on the value of the software**. By showcasing the tangible benefits at the pilot sites, the software’s value to the national health system will be undeniable.

In January 2024, a very positive meeting occurred with the Vice Minister of Health who recognised the value of broader access to the Medicine Reference Price Calculation Software across the system. He requested further information on how the software could be scaled nationally, including what would be the financial, technical and operational requirements for such a scale-up. This led to a piece of research which will be used by NCDPC leadership as the key tool for advocacy within government to roll the software out nationally. It has been estimated that a national scale up would cost **between USD 1.39 million and USD 1.97 million**, with ongoing annual operating costs of approximately USD 40,000.

The implementation of this software should also be used as a **foundation to advocate for more efficiency and transparency in other areas** of the healthcare system. In particular, the opportunity should be taken to advocate for standardisation of medicines data across key bodies such as the Ministry of Planning and Investment, the Drug Administration of Viet Nam, and Viet Nam Social Security. By aligning data and scaling innovative software, the entire medicine supply chain may become more efficient and transparent, with a reduction of corruption risk.

UNDP will continue to support NCDPC with **advocacy** for scaling the software through engaging with the Ministry of Health with evidence of the efficiency-savings and system-strengthening benefits of the software. Advocacy will focus on transitioning financial responsibility for further scale-up and ongoing operations to the Ministry of Health. This will encourage national ownership and enhance sustainability of the innovation.

## 4. THE LESSONS LEARNED

Use of a NI<sup>2</sup>D methodology to explore and innovate for needs in centralised medicines procurement has led to a number of key learnings:

1. Successful development solutions are **context specific** and it is essential to clearly understand specific needs within a given context to be able to innovate successfully. NI<sup>2</sup>D supports generating this comprehensive understanding of needs, while also advancing understanding of how prioritised needs relate to other challenges identified within complex systems.

2. Corruption risk reduction and improvements in transparency and accountability may be **co-benefits** of addressing other pain points or needs of stakeholders. For example, digital innovation in the public sector to address efficiency needs can be an important means to reduce corruption risks. While addressing identified needs of stakeholders, NI<sup>2</sup>D can be a valuable tool to reinforce ongoing engagement and sustainability of innovations that support anti-corruption, transparency and accountability.

3. **Innovation does not require a perfect solution** before implementation. Prototypes and pilots are excellent tools to support testing and inform what iterations are required to improve an innovation and to make it scalable. Piloting also supports planning for sustainability.

4. For successful innovation, **building trust** among the team and involved stakeholders is essential - trust in the innovation process; trust that stakeholder needs will be central to any solution; trust in a non-solution-focused approach in the early stages of the process; trust that imperfection and failure are integral components of the process.

5. A thorough needs identification process brings **value far beyond an initial innovation project**. A comprehensive list of identified needs may be used to inform other development partnerships and programming. While one or more needs will initially be prioritised for action, the remaining needs on the list may be seen as future opportunities for exploration and innovation.

6. **Bringing an innovation to scale** can be challenging. However, to improve chances of successfully scaling an innovation and creating strong foundations for sustainability, it is preferable to have a solution which is addressing a validated need. NI<sup>2</sup>D is therefore of value in creating the basis of a scalable and sustainable solution.

7. The UNDP Strategic Plan 2022-2025[6] identifies digitalisation, strategic innovation and development financing as **key enablers to maximise development impact**. NI<sup>2</sup>D may support all three of these enablers. Successful digital innovation should be needs informed, while the methodology's focus on understanding how identified needs interact within complex systems supports strategic innovation to enhance performance of entire systems. It is essential that development financing should facilitate learning and rapid iteration that is required for successful innovation. It is hoped that this case report may support conversations with donors and partners so that everyone may better understand what NI<sup>2</sup>D aims to achieve and the value of more flexible funding models to facilitate innovation that may be both scaled and sustainable.

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[6] *UNDP Strategic Plan 2022-2025*

8. This case study demonstrates that NI<sup>2</sup>D is a useful tool to support scaling and sustainability of innovations. However, learning from this case suggests that there may also be **value in scaling this approach to innovation** across other areas of development work. Scaling NI<sup>2</sup>D may support innovation across other sectors and focus areas such as climate change, public service delivery, participatory governance, and others.

9. Innovation may be only one element of a development project. Other aspects of **a project can be designed to strengthen the ability of an innovation to be successful**, scalable, and sustainable. For example, as part of this described project, other activities relating to corruption risk reduction in public procurement were also delivered, including support to revising the public procurement law, integrity training for hospital managers, and capacity building on medicine price negotiation methods. By strengthening the overall system in which an innovation operates, it's possible to create a more favourable environment for its long-term success and sustainability.

## 5. CONCLUSION

The Needs-Informed Innovation for Development (NI<sup>2</sup>D) methodology has proven to be a valuable tool in addressing complex challenges in Viet Nam's medicine procurement process, particularly in reducing corruption risks, improving efficiency, and enhancing transparency. By focusing on the specific needs of stakeholders, this approach has facilitated the creation of tailored, scalable solutions like the Medicine Reference Price Calculation Software, which has greatly improved efficiency and accountability. This case exemplifies the strength of NI<sup>2</sup>D in aligning innovations with local needs while ensuring long-term sustainability through stakeholder engagement and national ownership. The project's success in fostering greater system efficiency and transparency, while reducing corruption risk, highlights the broader potential of NI<sup>2</sup>D to support innovation across other development sectors. Ultimately, this methodology not only strengthens the immediate outcomes but also lays the groundwork for future scalability and sustainability, ensuring a lasting impact.