

# Coding the Pulse of the Health System

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Wesley Solomon (NDoH)  
Milani Wolmarans (NDoH)



# Presentation Overview



- Decoding 101: Introduction to the Principles of Coding
- Stakeholder Perspectives
- Process and Approach
- Workstream Feedback
- Recommendations
- Call-to-Action



## CODE 08

# Decoding 101



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# Principles of Coding



- Coding systems need to be **SIMPLE** to use
- Coding schemas should be **Interoperable**
- Form a synergistic picture of the **Patients Health Journey**
- Advantages if Codes are consistent with **International Norms and Standards**



# Overview of Coding



- **What is a code?**

- A system of words, letters, figures, or symbols used to represent others. Examples of codes commonly used:
  - ID number
  - Password (or ATM/Bank card PIN)
  - Car Licence Plate
- EVERY symbol has a meaning (intelligence)

- **Why do we code?**

- to support secrecy of the information
- to make information easier to exchange across different platforms
- coded information minimized chances of transcription errors (for example **incorrect spelling of Names**)
- codes can be combined to **represent a story**
- assists in the prevention of Fraud and Corruption (easily monitored)
- coding is a proxy for managing financial investments in services



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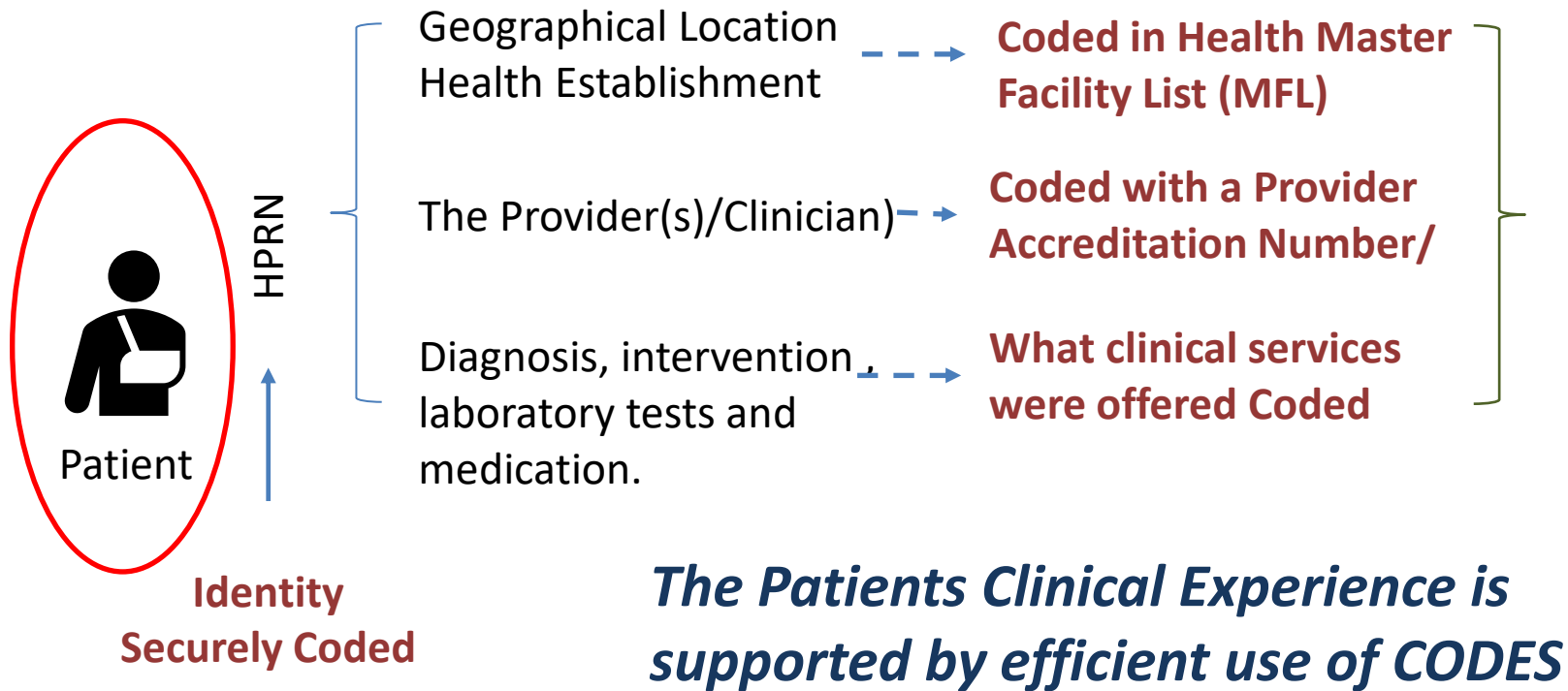




# Patient Centric Information System



# Health System Codified Lens



# High level Approach



	Developer	Area of use	Key applications
ICD-10-CM	WHO	Diseases and diagnoses	Statistical coding
CPT	AMA	Medical procedures and services	Treatment coding and billing
HCPCS	CMS	Products, supplies, devices, and services not covered by CPT	Billing Medicare and Medicaid
CDT	ADA	Oral health and dental services	Documenting dental treatment
SNOMED CT	SNOMED International	Clinical terminology	Recording, aggregation, and sharing clinical data
LOINC	Regeneron Institute	Laboratory orders and results	Transmitting laboratory and test observations
NDC	FDA	Pharmacy products	Drug reimbursement Prescribing, dispensing and monitoring products
RxNorm	HL7	Clinical drugs and drug delivery devices	Recording and processing drug information

**Problem Statement:**  
Multiple Coding Systems Implemented with Varying degrees of Maturity



Establish Review Panel to Evaluate and Distill First Principles and Initial Recommendations



Establish Communities of Practices to input into a pragmatic way forward to an integrated Codified Environment



Enable a supportive Implementation Environment (In Logical Stages)

# Multi-Disciplinary TWG Appointed



**Project Project Sponsor:**  
**Nicholas Crisp**

**Project Owner:**  
**Milani Wolmarans**

**Chairperson:**  
**Mbulelo Cabuko**

**TWG Secretariat:**

- Wesley Solomon
- Petro Rousseau
- Kevin Naicker
- Cyprian Lucas
- Pierre Fabe
- Elzefrieda Potgieter

**EXPERT TECHNICAL WORKING GROUP**

- Matthew Zylstra (PHISC)
- Ilse Truter (NMU)
- Warrick Sive (WITS)
- Soraya Maart (UCT)
- Mosidi Nhlapo (STATSA)
- Luisa Whitelaw (WITS)
- Lyn Hanmer (SAMRC)
- Debbie Bradshaw (SAMRC)
- Khabo Mahlangu (NDoH)
- Molefi Mosenogi (GP PDoH)
- Bheki Mdlovu (MP PDoH)
- Anisa Lalla (NC PDoH )
- Robin Dyers (WC PDoH)
- Tamaryn-Jade Augustyn (WC PDoH)



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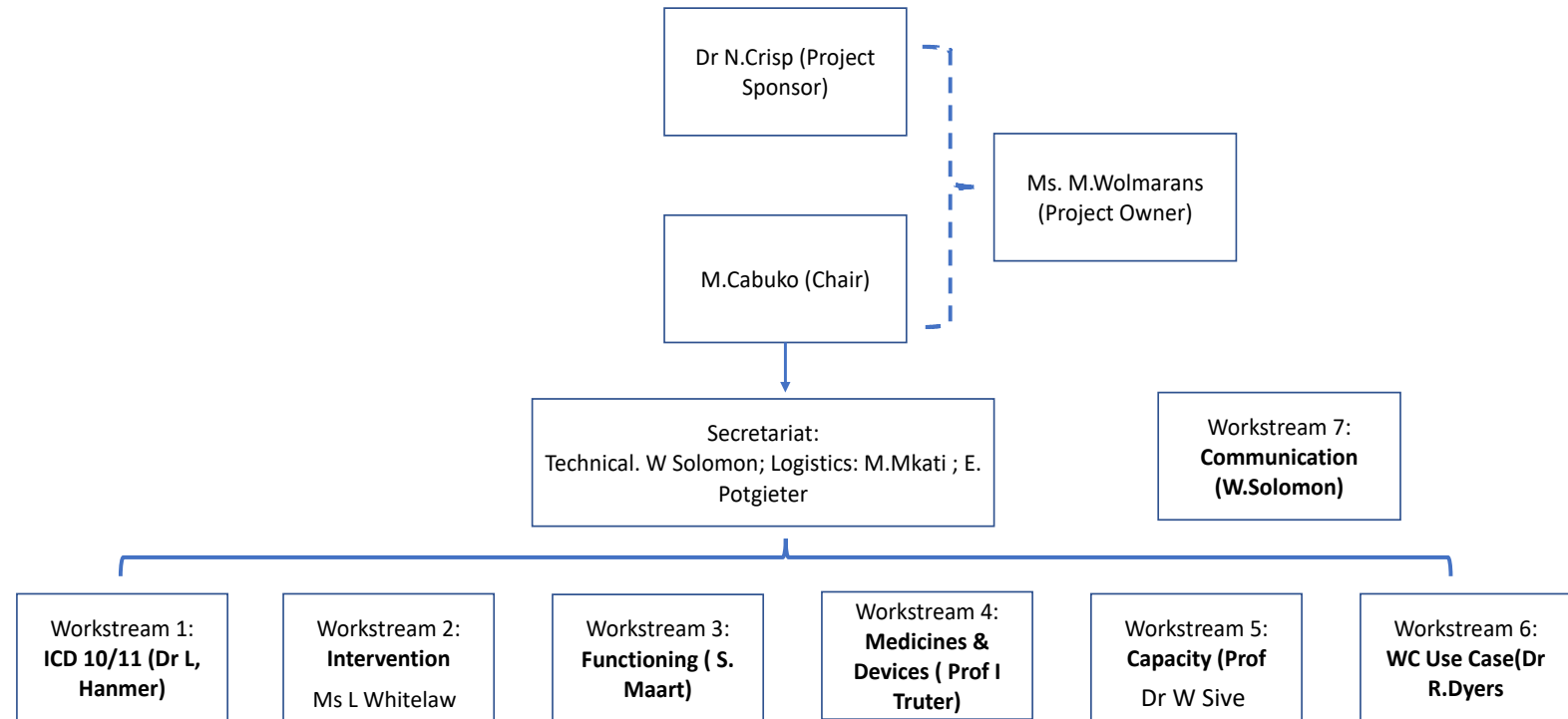


# Process Overview



TWG Members appointed for 10-week period

- Unpack the trajectory of Clinical and Diagnostic (C&D) coding system for RSA
- Initial briefing meeting
- TWG divided into Workstreams to unpack coding standards for each theme
- Managing their workstreams independently with support from the secretariat
- Produced a set of recommendations for a C&D Coding Roadmap



# Workstream Contributors



## Additional Experts Directly supported the workstreams

- **San-Mari Matthee** (Previous Chair: Private Healthcare Information Standards Committee)
- **Mark Bishop** (Hospital Association of South Africa – HASA, LENMED)
- **Ronelle Ferreira** (Council for Medical Schemes)
- **Stefanus Strydom** (WHO-FIC CC)
- **Tanya Vogt** (SAMED)
- **Anri Hornveld** (Pharmaceutical Society of South Africa)
- **Nicola Brink** (Self-care Association of South Africa)
- **Barry Daniels** (Clinical Lead, GMDN (UK))
- **Mokgdi Fafudi** (SAHPRA)
- **Krish Pather** (CEO, Medikredit)
- **Lucinda Mnisi** (Discovery Health)
- **Kesh Pillay** (Discovery Health)
- **Kershnee Chetty** (Discovery Health)
- **Anita Hamilton** (Netcare)
- **Caroline Potgieter** (Netcare)
- **Mark Brand** (BRANDTECH Health Technology Consulting/ ISPOR(SA))
- **Tienie Stander** (Value in Research/ ISPOR(SA))
- **Deon Poovan** (SAHPRA)
- **Oluwatovin Awotiwon** (South African Medical Research Council)
- **Carrie-Anne Cairncross** (Council for Medical Schemes)
- **Martin Moabelo** (Council for Medical Schemes)
- **Lize Muller** (PHISC Coding subcommittee/Life Healthcare)



# Technical Working Group Key Findings



1. Coding Systems for Mortality & Morbidity
2. Coding System for Interventions
3. Coding for Functioning
4. Coding of Medicines, Devices and In-vitro Diagnostic Medical Devices (IVDs)
5. Capacity Building for Clinical and Diagnostic Coding

# 1. Coding Systems for Mortality & Morbidity



- Currently the only standard of Clinical coding in the country is **ICD-10** (International Classification of Disease version 10). This system is maintained by the WHO and transparent governance with member states
- The latest version **ICD11**:
  - First ever **completely electronic version** of ICD
  - ICD 11 (~55k codes) compared to ICD 10 (~ 14.5k codes) results in better specificity including NEW Chapters:
    - Diseases related to blood and blood-forming organs
    - Immune System Disorders
    - Conditions/Symptoms related to sexual health
    - Sleeping disorders
    - Traditional medicines
    - Extension codes
  - **Simplified user interface** (ICD11 browser) and multiple ways to find the appropriate code (Supports multiple- hierarchy )
- ICD11 coding schema has superior capabilities; greater granularity and primed for integration with other Coding Schema and would be the preferred system for RSA

## 2. Coding System for Interventions



- Purpose is to establish a common tool(s) for the reporting and analysis of health interventions
- An intervention is **any** activity undertaken with the objective of improving human health
  - Preventative interventions
  - Therapeutic interventions

# Intervention Coding Review



- ICHI
- ICD-10-PCS
- ACHI – Australian Classifications of Health Interventions
- CPT/CSSA
- CCSD
- OPCS-4
- ICD-9-CM Procedure codes
- SNOMED-CT
- CCAM
- CCI
- NHRPL
- UPFS
- CHOP

## Scope of Review

- International Standards
- UK
- USA
- Australia
- WHO
- France
- Canada

**International Classification of Health Interventions (ICHI)**  
has a logical syntax & share a common foundation with WHO-FIC; ICD & ICF codes

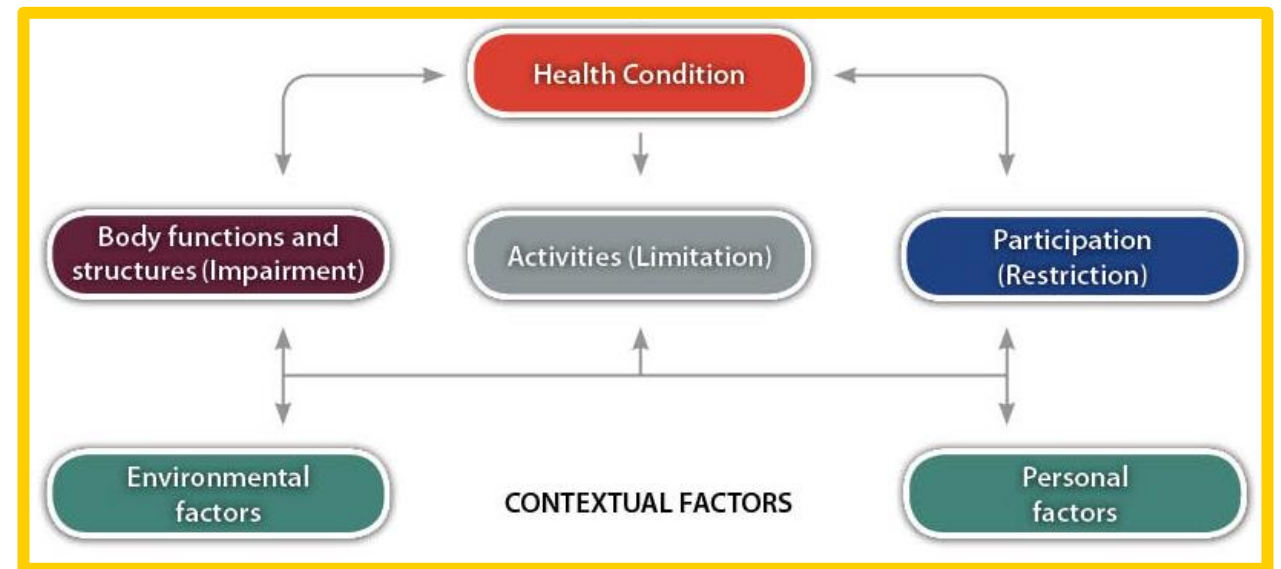
# 3. Coding for Functioning



## Classification of Functioning

- International Classification of Functioning (ICF) is a framework for understanding disability and health in context
- ICF is based on the same foundation as ICD and ICHI and share the same set of extension codes that enable documentation at a higher level of detail.
- Promotes NDoH vision of patient-centred care

*“We need a health service solution to see each person’s functioning as a dynamic interaction between the person’s health conditions, environmental factors, and personal factors”*  
**WHO 2014**





## 4. Medicines, Devices and In-vitro Diagnostic Medical Devices (IVDs)



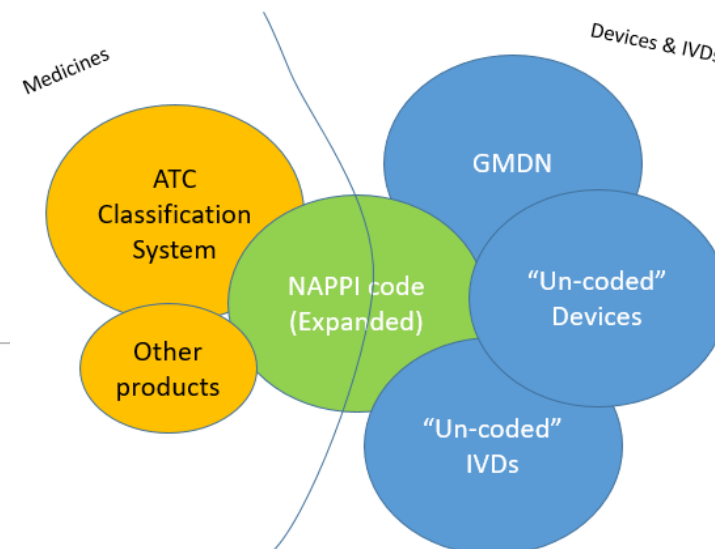
Medicines as defined by Act 101 and as authorised and registered by SAHPRA, should ideally be coded by using a **single coding system**, however, a combination of coding systems will possibly be needed with cross-mapping (processing)

### MEDICINES

- Most appropriate coding systems identified:
  - National Pharmaceutical Product Interface (**NAPPI**)
  - Anatomical Therapeutic Chemical (**ATC**) system
  - International Non-proprietary Name (**INN**)
- A unique product identifier/composite code may need to be developed, eg. **ATC-NAPPI-XXX**
- Code all products that can be legally sold in SA (including Complementary Medicines)
- International systems will be preferred where possible, supplemented by local systems where appropriate

### DEVICES AND IVDs

- Products that can be uniquely identified
- Uniquely identified products can be grouped by Global Medical Device Nomenclature (**GMDN**)
- International systems will be preferred where possible, supplemented by local systems (eg. **NAPPI** codes, **GS1**) where appropriate





## 5. Capacity Building for Clinical and Diagnostic Coding



The Workstream reviewed the approach to building capacity no matter which coding systems are adopted

- The same clinical coding systems must be universally used by all within a health system to ensure standardisation in data collection and utilization thereof:
  - Suite of appropriate clinical coding systems be regulated for universal use in the health system
  - Personnel appropriately trained and supported to deliver the required clinical coding
  - Information systems that support clinical coding, the collection of the data and the appropriate use of such data
- UNITED KINGDOM
  - “**NHS Digital**” is responsible for regulation of systems and standards for coding systems in UK
  - Also plays a role as the UK WHO-FIC Collaborating Centre
  - one nationally recognised qualification for clinical coders: **National Clinical Coding Qualification** (UK) - NCCQ(UK)
  - **Institute of Health Records and Management** is the accrediting body for this qualification
- AUSTRALIA
  - **Independent Hospital Pricing Authority (IHPA)** currently undertakes reviews of existing coding classifications
  - Federal governance of coding standards
  - Role of Universities in the development of Australian Clinical Coding

## 5. Recommendations for Capacity Building for Clinical and Diagnostic Coding



1. Recognise that multiple stakeholder engagement is required for the successful development and implementation of clinical coding
2. International best practices be reviewed and incorporated appropriately to develop a National Clinical Coding Skills Framework
3. Conduct an analysis of the South Africa Clinical Coding Skills landscape and the Information Systems landscape and make appropriate recommendations
4. Develop Clinical Coding Career pathways including:
  - Professional body for Clinical Coders
  - Appropriate entry and exit levels which provide inclusive and equitable paths to career development
  - Collaboration with tertiary education institutions to ensure appropriate education leading to recognized qualifications
  - Continuous professional development
5. Collaboration with and across tertiary education institutions to provide:
  - Education as referred to above
  - Continuous research and development of clinical coding and its applications to deliver healthcare that is of quality and is sustainable and accessible to all in South Africa

# Recommendations



- A formal governance arrangement be established reporting to **NHISSA** to facilitate continued consultation and input into the Medical Coding Ecosystem incl. subcommittee's, technical working groups and CoPs
- Endorses the move from ICD10 to ICD11 for mortality and morbidity coding
- Commence the technical review work required to adopts the International Classification of Health Interventions (ICHI) as a standard, and identify suitable extension codes/schema to address the interventions not currently include
- Support the Adoption of the International Classification of Functioning (ICF) as a standard
- Adoption of an expanded NAPPI code as central schema for medicines, devices and IVDs (+ appropriate supplement systems)
- Create an engagement forum with Higher Education Institutions to facilitate appropriate development of training programmes and qualifications for clinicians and dedicated coders

# Conclusion



- Clinical, Diagnostic and Procedural coding impacts all levels of the Health System
- The NDoH is creating opportunities to contribute to the broader **Health Information Systems Strengthening Environment**
- Accurate coding systems that can communicate information efficiently benefits **everyone**
- **RSA** is **not** a coding naïve environment and respecting the role of existing systems are critical to minimize disruption to health services
- We are looking for **pragmatic solutions** to achieve an integrated codified environment
- Should you wish to be part of the community of practice – kindly email [Coding@health.gov.za](mailto:Coding@health.gov.za) or any queries can be directed to [Wesley.Solomon@health.gov.za](mailto:Wesley.Solomon@health.gov.za)

**Thank you in advance for your consideration!**