

ABF
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Understanding the Classification system for accurate benchmarking

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PRESENTER PROFILE

Member of the Australian College of Health Informatics (MACHI)

The Australasian College of Health Informatics is the professional organisation for Digital Health and e-Health in the Asia-Pacific Region.

The credentialed Fellows and Members of the College are national, regional and international thought leaders, experts and trusted advisers in Digital Health.

ACHI sets standards for professional practice and education in Health Informatics, provides evidence-based guidance to jurisdictions, supports initiatives, facilitates inter-disciplinary collaboration and mentors the community.

PRESENTER PROFILE

Certified Health Informatician, Australasia (CHIA)

The Certified Health Informatician Australasia (CHIA) is an individual who has demonstrated broad expertise in, knowledge of and the ability to apply health informatics principles, concepts, methods and skills.

Developed and Endorsed by HISA, ACHI and HIMAA

PRESENTER PROFILE

Fellow of the Australian College of Health Services Managers (ACHSM), which is the highest membership category awarded in the College.

It is a significant professional achievement and is awarded by the College to those individuals who have demonstrated to their peers that they have the knowledge, attitudes, conceptual and communication skills to be recognised as senior managers and leaders in the health and aged care industries.

Fellowship within the ACHSM is recognised both nationally and internationally and it demonstrates an ongoing commitment to excellence in health service management.

DISCLAIMER

The views put forward in this presentation are my independent opinion and do not represent the position of any of the professional associations that I belong to.

PRESENTER PROFILE

Qualifications include a Bachelor's in Pharmacy and Masters in Management.

Worked for over twenty years in the NSW Health System in Australia.

Recently qualified as a clinical coder through HIMAA which involved the successful completion of

Medical Terminology Challenge Exam (2015)

Introductory Clinical Coding (2016)

Intermediate Clinical Coding (2017)

Currently gaining valuable clinical coding experience in the country town of Grafton, in Northern NSW

GRAFTON



DISCLAIMER -2

I work part-time to ensure that I can engage in research and educational activities.

The views put forward in this presentation are my independent opinion and do not represent the position of Northern NSW LHD or Grafton Hospital.

AIM

Understanding grasp the implication



ACTIVITY BASED FUNDING (ABF)

A system of funding public hospitals for the number and variety (Casemix) of the patients that they treat.

ACTIVITY BASED MANAGEMENT (ABM)

ABM drives evidence based decisions. Patient level cost data is utilised to achieve operational and strategic objectives. This contributes to maximizing value for patient care in NSW

ABF FUNCTIONS

1. COUNT
2. CLASSIFY
3. COST

ABF STREAMS

Emergency

Acute Admitted Patient

Sub and Non-Acute Admitted Patient

Mental Health Patient

Non-Admitted Patient

CLASSIFICATION SYSTEMS

Work Stream

Emergency

Acute Admitted

Sub and Non-Acute Admitted

Mental Health

Non-Admitted

Classification

URG AND UDG

AR-DRG

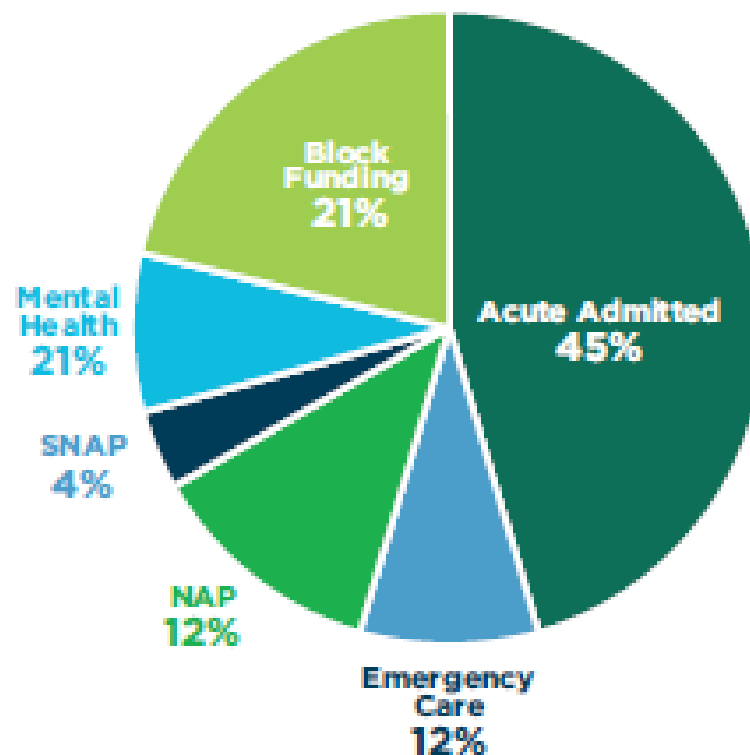
AN-SNAP

AMHCC

National Tier 2 Classification

ACUTE INPATIENT ACTIVITY

Figure 3: Allocation of Health Funding to NSW Districts and Networks for 2017/18



Source : p 21, NSW Funding Model Overview, NSW Activity Based Management Compendium 2017/18

AR-DRG AND ICD-10 AM

*The following discussion is based on the classification system for Acute Admitted Inpatient Activity which is Australian Refined Diagnosis Related Group (**AR-DRG**) which is based on International Classification of Diseases , Australian Modification (**ICD-10-AM**)*

Currently we are in the 10th edition since July 2017. Most of the work was done in 9th edition

AR-DRG AND ICD-10 AM



BENCHMARKING

“is comparing performance metrics to industry standards and best practice”

Usually ongoing or periodic, though it can be one- off.

The advent of ABF has increased the emphasis on benchmarking.

Benchmarking/comparison now occurs at various levels
National, State and Local Health District as well as peer groups

Peer groups are groups of hospitals with similar Casemix and volume.

VARIANCE

The gap between actual and expected values.

Not all variance is significant –
Common cause variation.

And

Special cause variation

An understanding of the classification system may yield some
“clues” to explaining variance

CLASSIFICATION SYSTEM

A classification of diseases may be defined as a system of categories to which morbid entries are assigned according to established criteria

Introduction, ICD-10 AM 9th Edition Tabular list, p vii

The Systematized Nomenclature of Medicine (SNOMED) is a systematic, computer-processable collection of medical terms, in human and veterinary medicine, to provide codes, terms, synonyms and definitions which cover anatomy, diseases, findings, procedures, microorganisms, substances, etc. It allows a consistent way to index, store, retrieve, and aggregate medical data across specialties and sites of care.

CLASSIFICATION SYSTEM

Conditions are grouped in a way that is most suitable for epidemiological purposes and evaluation of health care

Introduction, ICD-10 AM 9th Edition Tabular list, p vii

This means certain diseases may be grouped together, if there is not sufficient volume to warrant a separate code.

Clinician based data bases may capture activity on more specific codes.

DRG GROUPING

The Clinical Coder abstracts the information from the medical record and assigns the diagnosis and procedure codes.

These codes are “grouped” by the DRG Grouper to assign a DRG to each episode.

While there can be several diagnosis and procedure codes for an episode, there is only one DRG per episode.

DRG GROUPING PROCESS

Six Steps

- 1) *Demographic and Clinical Edits*
- 2) *Major Diagnostic Category (MDC) assignment*
if an episode cannot be assigned an MDC, it is assigned the error DRG 960Z
- 3) *Pre-MDC processing – eleven very high cost AR-DRGs*
A06 Tracheostomy complex and critical patients from specialties such as interventional cardiology and interventional Neuro Radiology (INR) may end up in this DRG.

DRG GROUPING PROCESS CONT.

Six Steps

4) *MDC Processing MDC have a hierarchical structure that must be followed.*

Surgical 01-39

Other 40-59

Medical 60-99

5) *AR-DRG assignment assigned to a DRG family or adjacent DRGs*

6) *Assignment of Episode Cumulative Complexity Level, ECCL*

CHECK LIST



CHECK LIST

1. Definition: are we talking about the same thing?
2. Is the disease/intervention significant from a classification perspective to have its own code?
or
Lost in the mix!
3. Is some of our activity caught up in 960Z – ungroupable/error DRG?

CHECK LIST- CONTD

4. Is our activity captured in the A06 AR-DRG family
5. Has some of the activity shifted to a different partition within the MDC?
6. Review the adjacent AR-DRGs or the AR-DRG family.
7. If the AR-DRG does not accurately reflect the complexity, is there case for improved documentation?

The above checklist could be a useful starting point for explaining discrepancy

DRG

There are many ways to reach a DRG.

The Principal Diagnosis could be any one of a set of diagnosis codes

Many combinations of Additional Diagnoses

Several interventions – principal procedure(s) and additional procedures.

Include combinations of co-morbidities

DRG – PRIMARY DIAGNOSIS

There are many ways to reach a DRG.

The Principal Diagnosis could be any one of a set of diagnosis codes

G48B Colonoscopy, Minor Complexity

Possible Primary Diagnoses include:

K92.2 Gastro-intestinal Haemorrhage

R19.5 Other Faecal Abnormalities

D12.0 Benign neoplasm of caecum

DRG – PRINCIPAL PROCEDURES

If one were to measure how many procedures were performed, they are spread across a number of DRGs. e.g. Colonoscopy procedures could be found in the following DRGs

G48B	Colonoscopy, Minor Complexity
Q61B	Red Blood Cells disorder, intermediate complexity
Z40Z	Other Contacts W Health Services W Endoscopy, Sameday

DRG – ADDITIONAL DIAGNOSES

If the patient had a couple of skin lesions removed, it would go to J11 Other Skin, Subcutaneous Tissue and Breast Procedures

However, if the clinician decided to do it while the patient was having an endoscopic procedure,

The DRG would be G48B Colonoscopy, Minor Complexity

You would not realise that these skin procedures had been performed unless you drilled down to the additional diagnosis /procedure codes.

DRG – IMPLICATIONS FOR COMPARISON



Comparing Apples
with Oranges?



Or comparing fruit salad
with fruit salad?



DRG – A SUMMARY MEASURE

In my opinion, DRG provides a summary view of the activity . There is a wealth of information in the additional diagnosis codes and procedure codes.

For instance, the number of times a procedure was done can impact costs –

Carpal Tunnel Syndrome (CTS) – the disease is coded once, the procedure is coded as many times as performed.

The system is geared to measure “acuity” while chronic conditions can account for greater resource utilisation.

ADDITIONAL DIAGNOSES

Health Managers can identify gaps in their services by reviewing Z75.3 Unavailability and inaccessibility of health care facilities.

This is usually an additional diagnosis

Health Managers can identify “cancelled” procedures by the additional diagnosis code Z53.n

ADDITIONAL DIAGNOSES- EXAMPLE

Patient with a suspected condition, i.e. Meningitis transferred due to lack of facilities, the principal diagnosis will still be Meningitis, G03.9

It is the additional diagnosis code, Z75.3 Unavailability and inaccessibility of health care facilities that indicates that they were not treated here but transferred.

Patient with tonsillitis, the Principal diagnosis remains the same J35.0 Chronic Tonsillitis. Only by reviewing the additional diagnosis (e.g. Z53.n) will we know whether the procedure was carried out or cancelled.

CHAD_x

Classification of Hospital Acquired Diagnoses (CHAD_x)

Mentioned – to demonstrate that things other than the Primary Diagnosis and Principal Procedure can impact Length of Stay (LOS) and costs.

Usually identified by the condition onset flag (COF) and additional diagnoses.

ACTING ON VARIANCE

Benchmarking leads to observation of variance (gap between actual and expected values).

Addressing the cause of variance usually involves communication with clinicians.

It doesn't help that clinicians and administrators (Health Service Managers) count and measure things differently!

Clinicians are more likely to speak in terms of patients (cases) seen or treated; procedures performed.

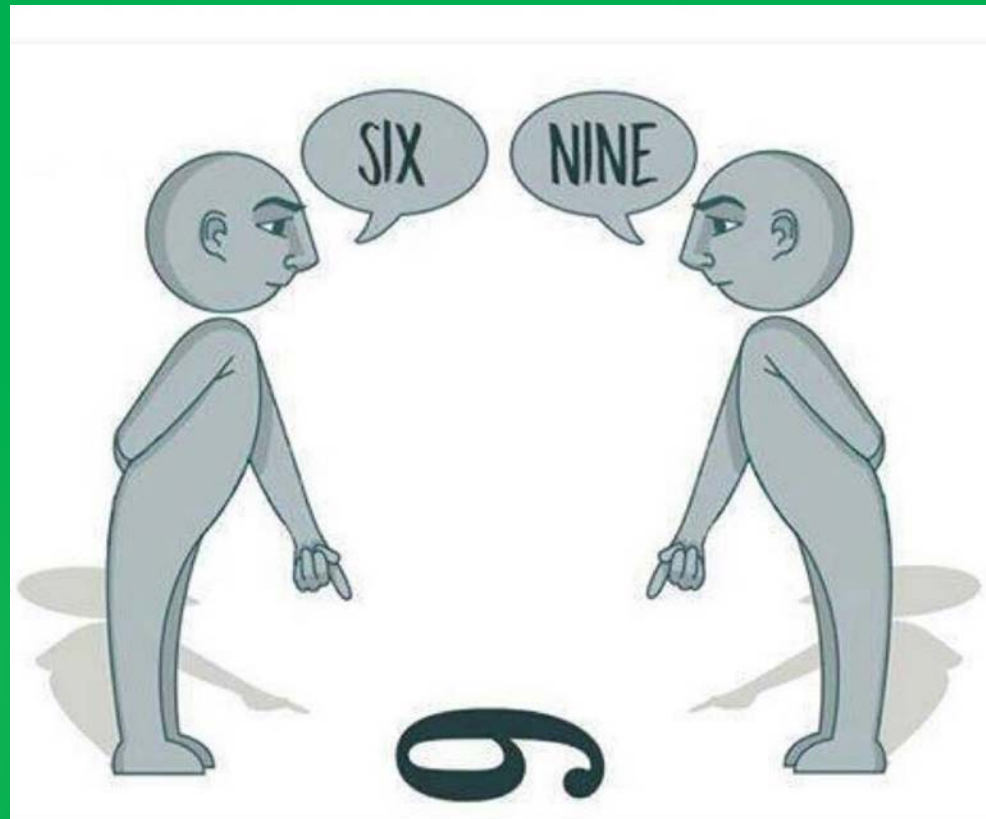
The work of several clinicians may be aggregated into one DRG.

TWO VIEWS OF HEALTH DATA

Generally, Administrators rely on hospital data which is “coded data” The data is abstracted and entered according to strict and specific coding standards and then aggregated to a single DRG per acute episode.

Clinicians are likely to rely on clinical registries and departmental databases for data on the work that they do.
This is more likely to be at the diagnosis/procedure level.

THE GREAT DIVIDE



Just because you are right, does not mean, I am wrong. You just haven't seen life from my side.

GARLING REPORT

1.73 During the course of this inquiry, I have identified one impediment to good, safe care which infects the whole public hospital system. I liken it to the Great Schism of 1054. It is the breakdown of good working relations between clinicians and management which is very detrimental to patients. It is alienating the most skilled in the medical workforce from service in the public system. If it continues, NSW will risk losing one of the crown jewels of its public hospital system : the engagement of the best and brightest from the professions who are able to provide world-class care in public hospitals free of charge to the patient.

Source : p 11, Special Commission of Inquiry into Acute Care Services in NSW Public Hospitals

GARLING REPORT

1.74 So serious is this problem that I have approached it at each level of the public hospital system. At the state-wide level through a Clinical Innovation and Enhancement Agency.

At the area level, through an Executive Clinical Director who should be a recognised clinical leader able to speak on behalf of doctors and other clinicians and who is to be consulted by the area chief executive on all matters affecting clinical procedure.

At the hospital level by reconnecting clinicians with management through devolving more power from the area chief executive to local managers, including program, stream and unit leaders. At the clinical unit level by involving clinicians (along with allied health professionals and patient representatives) in the re-design of clinical practices and by involving them in the monitoring of all safety and quality of care data for the individual unit or ward.

Source : p 11, Special Commission of Inquiry into Acute Care Services in NSW Public Hospitals

DIAGNOSIS / PROCEDURE CODES

I believe that there can be greater agreement at the diagnosis/procedure level.

Greater agreement can only contribute to increased engagement with clinicians.

Impact :

There are 770 DRGs

In the ICD-10-AM, 10th edition there are
16953 disease codes

6248 Intervention codes

DIAGNOSIS / PROCEDURE CODES

Most Patient Administration Systems (PAS) allow for about 50 diagnosis codes and 35 procedure codes per acute episode.

The value of analysis at this level comes from looking at combination of codes, which then exponentially increases the range of numbers/values.

BIG DATA

Large or complex data sets.

Lately used to refer to predictive analysis – which I believe is likely to be more accurate at the diagnosis/procedure level.

BIG DATA CHARACTERISTICS

1. Volume – over many years, many data items and various countries.
2. Variety- plenty of variety in health data
3. Velocity – speed at which it is generated and processed
4. Variability – inconsistency!
5. Veracity –quality of captured data can vary greatly, affecting accurate analysis

I believe health data meets the characteristics of “big data”

BIG DATA CAPABILITIES

As we now have the technological capabilities to deal with big data, perhaps it is time to look at measure of comparison?

INTERNATIONAL CLASSIFICATION

Though we use the term, “International Classification”

There are several versions of it

ICD

ICD-AM

ICD-CM

There are also several versions of DRGs and several ways to group DRG.

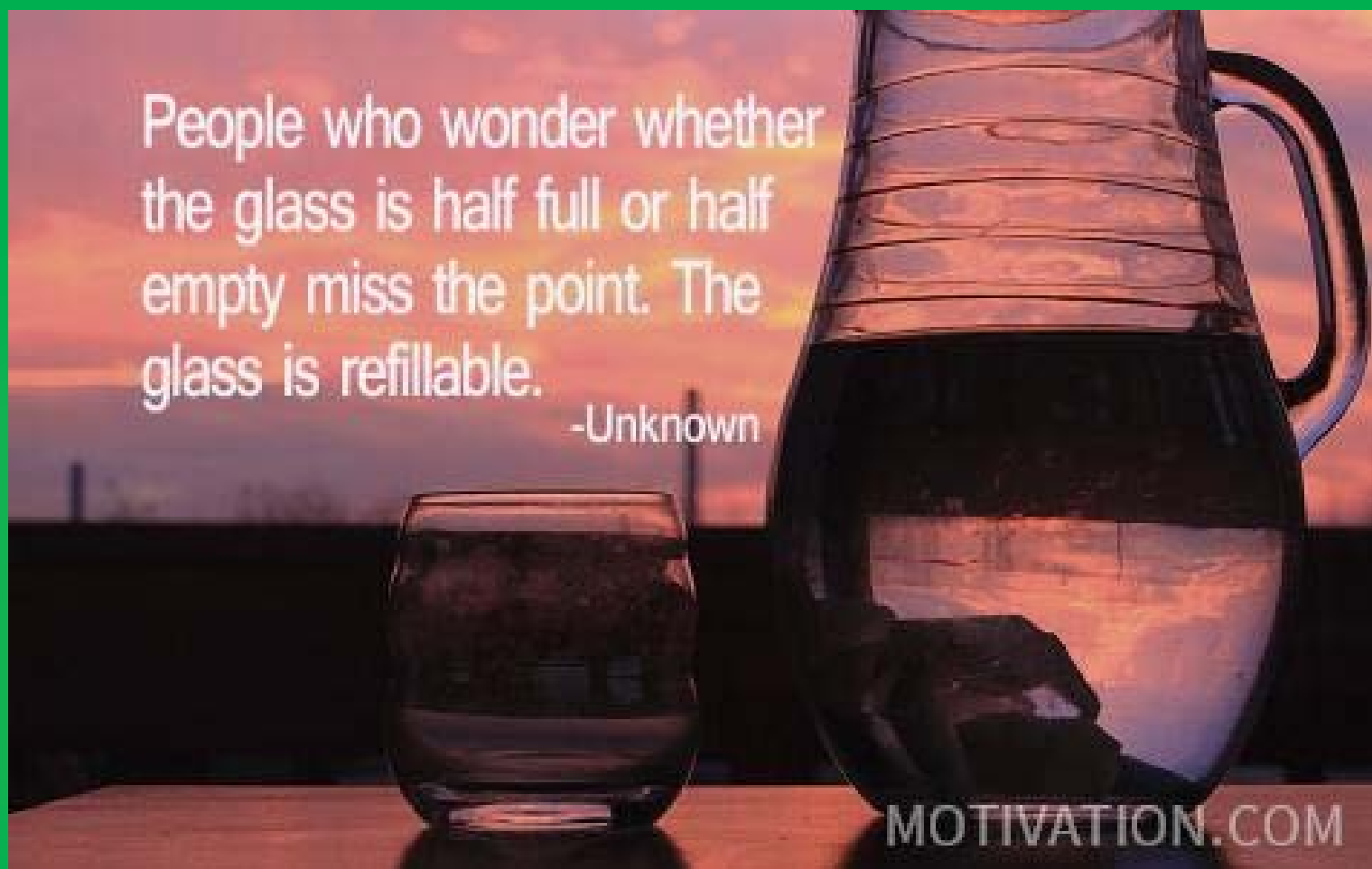
Again, at an international level, there is likely to be more agreement if we compare at the diagnosis/procedure code level.

INTERNATIONAL CLASSIFICATION



Note: Parts of Africa, China and India do not use the International Classification System

INTERNATIONAL CLASSIFICATION



DATA VALIDATION

Ensure data is complete, correct, secure and consistent.
diagnosis/procedure code level.

For this it is useful to place data “in context”
i.e. compare with previous period
Same period last year.

Triangulation is a powerful technique that facilitates validation of data through cross verification from two or more sources.

DATA TRIANGULATION

Triangulation is a powerful technique that facilitates validation of data through cross verification from two or more sources.

Other sources of health data are more likely to capture data at the diagnosis/procedure level rather than the DRG level.

THE WHOLE PATIENT

From a patient perspective, it is best that we address all or as many health issues as we can in an episode of care.

However, if that episode of care is going to be assigned a single DRG, will it accurately capture all the health issues of the patients that were addressed?

From a health facility perspective, it is efficient to address all/ as many health issues as possible in one episode.

However, will funding reward efficient practice?.

DISABILITY

One area that is not captured well by the DRG system is disability as a co-morbidity.

Persons with vision difficulties or difficulties with mobility are possibly going to require additional resources, which is difficult to quantify and capture.

VALUE BASED HEALTH CARE

Seminal work by Michael Porter, 2006 – *Redefining Healthcare*

Value – for Patient

A value enhancing IT Platform has the following features:

1. Patient Centred
- 2. Common Data Definitions**
3. Encompasses all types of Patient data
4. Medical Record is accessible to all parties
5. Templates and expert systems for each medical condition
6. The system architecture makes it easy to extract information.

Source: The Strategy that will fix health care, Harvard Business Review Oct 2013

KEY PERFORMANCE INDICATORS

Are more significant when a suite of performance indicators are used as opposed to viewing them in isolation.

Ideally we would have a suite of performance indicators that looked at

- Outcome measures
- Care Processes
- Patient Satisfaction

KEY PERFORMANCE INDICATORS



Let them be just that –
Indicators not DICTATORS!

LIMITATIONS

The discussion pertains to Acute inpatient activity
It is based on ICD-10 AM 9th edition
Australian context

Data is only as good as the documentation in the medical record.

The responsibility for documentation of diagnoses and interventions rests with the clinician

RECOMMENDATIONS

Any one who analyses, benchmarks and /or explains variance, would benefit from consultation with Health Information Managers and Clinical Coders to ensure accuracy and precision.

Clinical Coders who are usually tucked away make themselves more visible and proactively approach those who are doing analysis to guide them.

“TYRANNY OF DISTANCE”

Health Service Managers and Performance Analysts are usually located close to General Manager's / Executive Director's Office

Clinical Coders tend to be located in the “bowels” of the hospital. Clinical Coders would benefit by knowing how their work is being used.

Data analysts would appreciate the nuances of data that clinical coders provide.

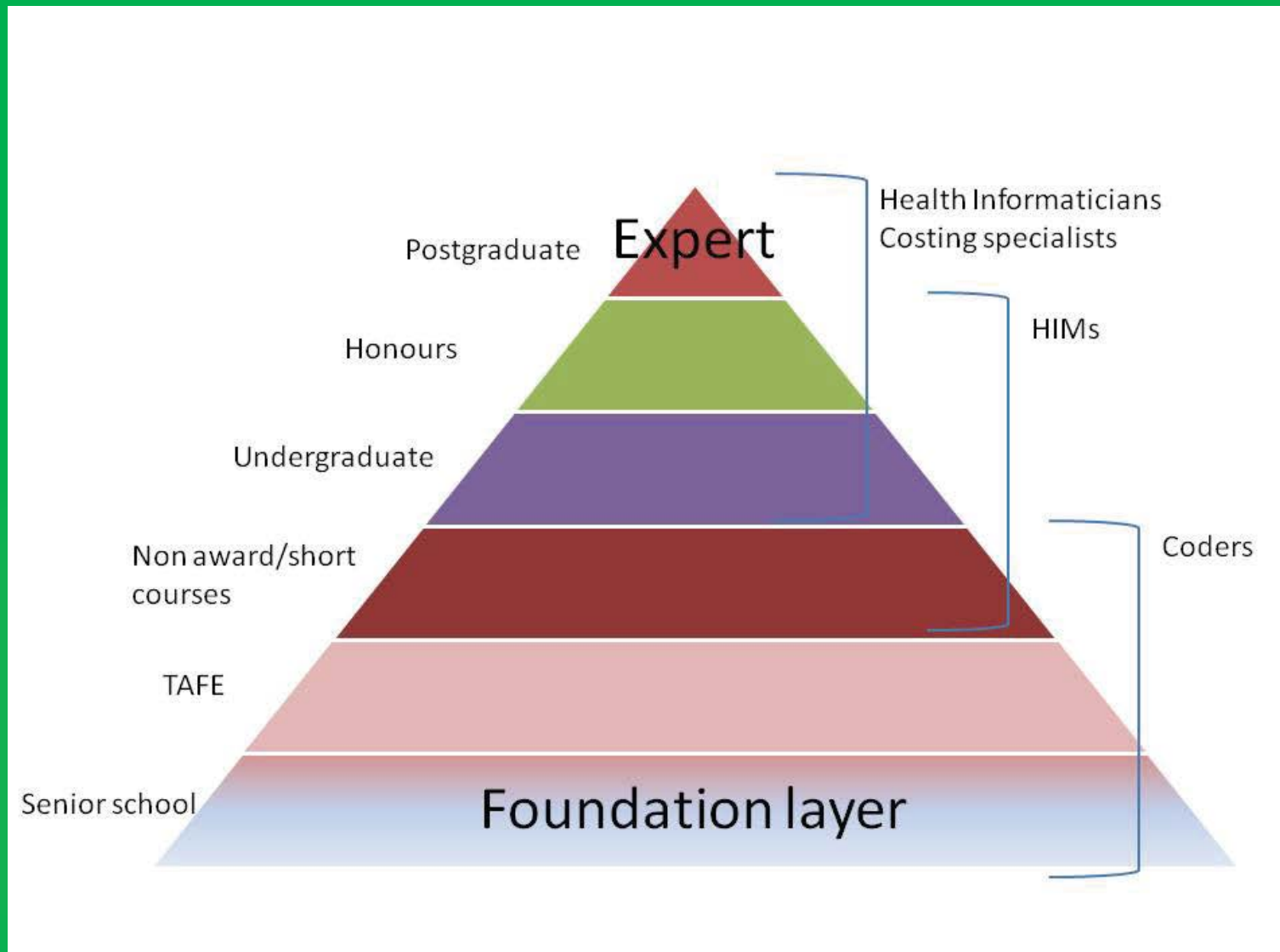


Figure 13: Potential / existing training pathways into HIM disciplines

Source: p 70, the coding workforce shortfall report, AIHW, November 2010

SOMETHING TO CHEW ON....

I believe we have a gap in knowledge when there are people in the role of experts who may lack the foundation in understanding the classification system.

Being one to lead by example, I have sought to address that gap in myself by undertaking clinical coding.

The views put forward in this presentation are my independent opinion and do not represent the position of any of the professional associations that I belong to.

CONCLUSION

Raise awareness of the possible pitfalls in benchmarking health data.

I would like this work to be a resource for those undertaking data analysis to ensure accurate and precise comparisons.

THE END ?

Just the beginning

of the conversation

CONTACT DETAILS

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Please stay in touch.

Would love to hear from you!

