CASE STUDY

EFFECT OF USING APPROPRIATE IDENTIFICATION METHODS FOR TARGETED INTERVENTION
SOUTH EAST ASIA EXPERIENCE

Insurers contract **Agility** to deliver system automation solutions with embedded clinical intelligence, customised per region, to ensure consistency and credibility within the Health Insurance Market. In a typical insurance environment concepts such as Managed Care, electronic claims processing and pre-authorisation are not too common and automation of these enables the insurer to focus on ensuring policy exclusions and unentitled benefits are not paid.

1. PROBLEM STATEMENT

The identification of potential clinical areas for intervention is often difficult and, when identified, it is often difficult to show the potential impact of these interventions over time.

2. THE SOLUTION

The purpose of risk management is to identify potential problems (before they occur or to stop them from occurring) and to identify potential opportunities which could be leveraged. As a process, risk management involves the identification, assessment and the prioritisation of risks followed by efforts to minimise, monitor, and control the impact of the risks or enhance the opportunity potential.

Having solutions like procedure, anatomical and disease groupers make the outcomes visible and linkable to these interventions. Using a simple example, if the policy wording excludes certain diagnostic tests, the model or algorithm is designed to pick this data up from incoming claims (dependent on real-life submission format). This framework serves to provide a data driven approach to identify priority areas and inform decision making regarding interventions to manage risk.

3. BACKGROUND

The classification of events enabled by diagnosis, anatomical region and procedure groupers has allowed for the improved understanding of risk areas and comparison of a Client's claims experience to arrive at an assessment of "normal" behaviour from unusual or outlier behaviour, warranting that the intervention can be detected and acted on. e.g. claims rejection or clarification.

4. METHODOLOGY

This Grouper classifies procedure codes into lower clinical levels stemming from the high-level clinical categories provided in a 2019 Regulatory expression by the country's Ministry of Health's document for the purposes of case identification and more detailed and explanatory analysis and reporting. These identified clinical categories included are:

- Integumentary
- Musculoskeletal
- Respiratory
- Cardiovascular
- Hemic & Lymphatic
- Digestive

- Urinary
- Male Genital
- Female Genital
- Endocrine system
- Eye
- Ear Nose and Throat (ENT)

For each of these 13 clinical categories, this solution aims to identify procedures of specific regions of the human anatomy (described as the anatomical group) and the specific organ systems (described as the body region) to which the procedure codes apply.

4.1 Grouping hierarchy

To automate a solution, correct identification of procedures and diagnoses are required. To this end, grouping of codes start at a high level of group description with examples including:

- Digestive system followed by the next level of more exact anatomical region
- Small intestine right down to exact location such as oesophagus which is then linked to the CPT (International Clinical Procedure Code) code which again links to the exact procedure executed which may even be linked to a monetary value

The latter allows for alternative reimbursement discussions and / or provider profiling based on costs of diseases treated. The aim of this elaborate exercise is to enable the system to execute automatic claims or pre-authorisation validity and apply policy exclusion rules in real time. The solution is executed in predetermined phases depending on market readiness as outlined below.

4.1.1 Identification of risk

Determine the most frequently occurring diagnosis-procedure pairs and use that as a benchmark for normal practice. These relative benchmarks are then used to highlight unusual combinations, i.e. divergences from what is perceived as "*normal care*".

RATIONALE: This will enable the assessment team to see potential areas where unexpected / inappropriate code pairs may exist indicating potential fraud, waste, and abuse.

Example: Intervention design

As indicated, nasal endoscopies appeared to be performed for events unrelated to the nose or nasal cavities with their primary diagnosis related to cardiovascular, musculoskeletal, and digestive disorders. It is suspect that these nasal endoscopies are being paid for under other unrelated diagnoses. The aim is then to prevent payment for unrelated procedures. In this example, an administrative automated intervention was possible.

4.1.1   Impact measurement

Consider what will be measured (lagging and leading indicators) to facilitate not only retrospective analysis but current monitoring, if possible. In other words, what data is needed to demonstrate impact and is this readily available etc.

4.1.2   Outcome assessment

To establish the impact during targeted automation of pre-authorisation and / or claims assessment, identification of unentitled benefit use to be rejected and not for payment. This translates into a saving for the funder.

The intervention step using this process was identified as diagnosis and procedure code mismatches. Single line mismatches will not be considered in this exercise, rather the more complex procedures with multiple coding and single mismatches.

Admissions where the diagnoses and procedures do not match can be flagged as this may indicate potential abuse. For the two clinical categories studied in this example, the most common mismatch was ENT procedures (specifically nasal endoscopies) performed during unrelated admissions for digestive and musculoskeletal diagnoses. The list of mismatches can be expanded and monitored.

The table below shows diagnoses for which nasal endoscopies were performed which are not clinical matched to the procedure and warrants investigation and or rejection.

DISEASES GROUP	PROCEDURE GROUP	PROCEDURE CODE	NUMBER CASES	TOTAL PAID AMOUNT
Gastrointestinal	Nasal Procedures	Nasendoscopy	Nasendoscopy	$81 663.00
Gastrointestinal	Nasal Procedures	Nasendoscopy with biopsy	Nasendoscopy with biopsy	$522.00
Musculoskeletal	Nasal Procedures	Nasendoscopy	Nasendoscopy	$26 924.00
Musculoskeletal	Nasal Procedures	Rhinoplasty	Rhinoplasty	$9 920.00
		TOTAL	284	$119 029.00

Table 1: Procedure and Diagnosis Mismatch Value for Nasendoscopy

5. CONCLUSION

The example above demonstrates that an irregular investigation / procedure was performed during unrelated procedures and / or ICD 10 diagnosis codes used and can be investigated or rejected. On a small sample size, this can save a funder by rejecting claims for an unentitled procedure. The development of this solution and customisation to client per region is a robust, electronic identification method that will enable a client to:

- Identify potential areas of intervention based on value, frequency, or irregularity
- Quantify the proposed intervention areas in terms of monetary value or push back intensity from providers
- Identify changes in behaviour in claims or practice
- Profiling of providers and or facilities such as hospitals