

## **INTRODUCTION**

### **Background**

Type 2 Diabetes Mellitus (T2DM) is a chronic condition and is associated with both microvascular and macrovascular complications, resulting in significant morbidity and mortality (1). In 1995, the global prevalence of T2DM was projected to rise from 4% to 5.4% by 2025 (2,3), but this has already been surpassed (2, 3). T2DM prevalence affects approximately 8.5% of the population in Europe alone (4,5) and thus we are faced with an ever-increasing health and financial burden(6).

The diagnosis of Diabetes Mellitus is complex and is not always apparent at presentation but diagnosis based on the World Health Organisation criteria, introduced in 2009, has aided standardised diagnosis. People with Type 2 diabetes should be diagnosed and coded and classified based on these criteria (7) .

Nevertheless, diagnostic errors in diagnosis, coding and classification have been reported to occur. Errors in diagnosis, coding and classification will invariably lead to errors in management with under diagnosis resulting in an increased health and financial burden from unexpected complications and a potentially increased morbidity and mortality of diabetes and over diagnosis resulting a waste of NHS resources. Thus, health care professionals must endeavor to diagnose and code and classify Diabetes mellitus accurately.

Three types of errors are commonly described (8). Misdiagnosis applies to errors of actual diagnosis, such that patients are labelled with a diagnosis with insufficient criteria to warrant the diagnosis. Miscoding errors occur when a non-specific diagnostic code is applied to the records, such as Diabetes, leaving us with diagnostic uncertainty as to the type of diagnosis. Finally, misclassification errors refer to the wrong classification of diabetes given to the patient.

These errors are the most common and usually occur in patients on insulin and referred to as Type 1 Diabetes Mellitus (T1DM), when they actually have Type 2 Diabetes Mellitus and are requiring insulin.

## **The Audit**

Despite guideline recommendations, many individuals are misdiagnosed, miscoded and misclassified with Type 2 Diabetes Mellitus.

### Aims

1. Assess the prevalence and correct the miscoding of errors in patients with a diagnosis of Diabetes Mellitus by evaluating the number of patients identified as having no specific coding of type of Diabetes Mellitus.
2. The second aim of the Audit is to assess the prevalence and then correct the misclassification of patients with Diabetes Mellitus by assessing patients identified as having a code of both T1DM and T2DM on their records.

## **Method**

### Audit method

This will be two-step completed audit in primary care centres in the UK. The first data collection will be done between in Jan 2017 and follow-up data collection will be done 6 months later to allow for appropriate interventions to be put in place at the local or practice level in order to effect change.

## **Criteria**

1. People with Diabetes should have a single specific coding of either Type 1 Diabetes or Type 2 Diabetes Mellitus.

2. People with Diabetes should not have dual coding of both Type 1 and Type 2 Coding of Diabetes

## **Standards**

Standards are based on the premise that with the increasing prevalence of obesity, some patients with Type 1 diabetes are developing morphological features of Type 2 Diabetes Mellitus

## **Type**

1. For criteria 1: 95% patients with Diabetes Mellitus should be have a specific code of T1DM or T2DM.
2. For criteria 2: < 5 % of patients should have a dual coding of both T1DM and T2DM

## **Intervention**

Over the past few years there has been an increased awareness of the misdiagnosis, miscoding and misclassification of Type 2 Diabetes Mellitus, resulting in the under-usage or inappropriate drugs or doses in the treatment of people with Type 2 diabetes.

Some centres are now implementing computer alert systems for inappropriate prescriptions including for diabetes records. In a similar way, these alerts may also be placed if no specific code or dual coding occurred. When such an alert system was put into operation in a clinic in Japan, researchers compared the period of time before and after the alert system was introduced. Before the alert system was put into operation, 24% had their medication correctly discontinued, after the system was introduced, the rate of discontinuation increased significantly to 54% (9).

Thus a similar alert system may reduce the coding errors. However, “computer alert-fatigue” is now increasingly becoming common and, hence a different approach now needs to be considered.

At Saffron Health, through the leadership of David Shepherd, who now has over 10 years’ experience in handling and analysing primary health care data, we shall use the Do Not Do Project extraction tool kit. This is an easy to use tool kit. This toolkit can be accessed on <http://www.ukaguzi.com>====>tool==> ”Do Not Do Project”.

From here there will be a step-by step guide for the extraction. The extraction can be done by the clerical staff in the practice and the output given to the GPs to evaluate

1. Identify patients with no specific code of either Type 1 Diabetes Mellitus or Type 2 Diabetes Mellitus and add the specific code.
2. Identify patient with dual coding and assess the patient and remove the inaccurate coding entry(ies) .
3. This process should be done monthly till the next data extraction.

#### Results table

Criterion	Number sampled (Date one)	Data one achievement	Number sampled (Data two)	Data two achievement	Standard
1					95%
2					< 5%

## References

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