Medical Coding,
an Universal Language in the 21s Century

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Since Hippocrates, physicians have tried to classify diseases and related information (signs, symptoms, abnormal findings, social circumstances, external causes, etc). After several inconsistent approaches, the first modern system of codes named the International Classification of Causes of Death was introduced in 1900. It was followed by subsequent revisions about every decade, and renamed later as ICD, the International Classification of Diseases. In 1992 WHO published the current version, ICD-10, which was embraced gradually by most countries, with the latest adopter being United Stated in October 2015. Yet, after ten revisions and over a hundred years, the coding book has become thicker, but its structure has not changed significantly, it is still mono-hierarchical and inconsistent, with diseases classified by their anatomy and occasionally by etiology. For example, while Discoid lupus the eyelid can be found under Ophthalmology, Discoid lupus erythematosus sits under Diseases of skin, and Systemic lupus erythematosus under Musculoskeletal and Connective tissue diseases.

With the transition from ICD-9 to ICD-10, the Dermatology chapter almost quadrupled, from 204 codes distributed in 3 groups, to 768 codes in 9 groups. By comparison, Cardiology increased 2.6 times and Neurology only 1.2 times. Dermatology ceased a long time ago to focus solely on the skin. It now crosses barriers and interacts with multiple specialties. Advances in genetics, pathology, immunology, or microbiome give new perspectives to etiology and pathology of dermatological conditions. And indeed, its increasing importance is reflected in the upcoming ICD-11, whose draft shows 19 Dermatology groups, including "Genetic, chromosomal and developmental disorders affecting the skin", "Cutaneous markers of internal disorders", and "Psychological, psychiatric, sensory and neurological disorders affecting the skin". Thus, Dermatology continues its movement from a morphology-based specialty to an etiology-driven discipline.

As ICD stands for International Classification of Diseases, these codes provide an universal language for the healthcare system, a language which crosses geographies and spans all medical specialties. Medical coding and classification systems like ICD and SNOMED (Systematized Nomenclature of Medicine) allow an easy understanding of medical diagnoses throughout the world, with no language or cultural barriers. Whether it is for clinical, research or epidemiological purposes, physicians need to communicate precisely and in meaningful ways about their patients. Diseases know no boundaries, and medical discoveries, information and therapies must be universal.

While the terminologies are evolving rapidly towards knowledge-based ontologies of medical concepts, current coding softwares are slow, inefficient and counterintuitive in helping us to find the desired code. We, physicians, do not think in codes. We think in medical terms as we were taught in medical school and later in training. Novel technologies that allow doctors to seamlessly express themselves about their patients, that "translate" physician thinking into standardized, internationally recognized codes, will make communication in the global healthcare system much more efficient. In every field the world is becoming smaller by the day. Now it's time to do the same for medical coding with solutions which bring us a common, computerized language that unifies medical specialties and physicians across the globe.