BACKGROUND: Gout is the most common inflammatory rheumatism worldwide. Despite guidelines on acute and chronic management, it remains largely undertreated [1]. To evaluate the current standard of gout care, there is an unmeet need for gout registers, especially in the non-rheumatology setting. The vast clinical information available in electronic health record (EHR) allows the implementation of registers to assess clinical indicators and monitor them following quality improvement programs. The Geneva University Hospitals (HUG), a 2000-beds tertiary hospital, provides multi-specialty in- and outpatient services, including care to vulnerable population (inmate, uninsured) with a unified EHR and thus represent an ideal setting for this purpose.

OBJECTIVES: To establish an EHR-based gout registry, to assess the correct identification of gout patients by manual chart review, and to evaluate the objective validity of gout diagnosis based on the ACR-EULAR 2015 gout classification criteria [2].

METHODS: EHR of patients > 18 years old admitted to or consulting at the HUG between 01.01.2013 and 15.11.2022 were screened based on the presence of at least one of four criteria: ICD-10-GM gout diagnosis (M10), gout-related terms (gout, tophi or podagra) in the list of diagnosis, prescription of urate-lowering therapy (allopurinol, probenecid, febuxostat) among non-leukemia or lymphoma patients, or uric acid level > 6mg/dl. Among the 80 charts reviewed, 55 patients had at least one documented diagnosis. PPV were 100% for ICD-10-GM code, list of diagnosis and prescription, and 75% for urate-lowering therapy, while PPV based on a combined query (any criterion) was 93.8% to detect a gout patient in the charts. Among the 80 charts reviewed, 55 patients had at least one documented gout attack and 25 had an antecedent gout. Of the 55 patients with an acute gout, which 33.4% were deceased. Most patients were identified by the drugs criterion (Figure 1). A large proportion of patients (43.2% of outpatients and 72.8% of inpatients) were identified by the drugs criterion. The remaining 16 patients (29.1%) had a mean score (SD) of 5.5 (2.39) for the ACR-EULAR 2015 classification (threshold as observed by a trained examiner). The remaining 16 patients (29.1%) had a mean score (SD) of 5.5 (2.39) for the ACR-EULAR 2015 classification (threshold as observed by a trained examiner).

RESULTS: Total 30 SF were evaluated. By compensated polarized microscope, 15 were found crystal-positive (11 for CPP and 4 for MSU). The detection of both CPP and MSU by the in-hospital laboratory technician were in perfect agreement. Before centrifugation, the sensitivity of ordinal microscope and U-GAN® were 73.3% (11/15) and 80.0% (12/15), respectively (specificity 100% in both). When using U-GAN® (3 CP and 1 MSU) were additionally detected after centrifugation. Conclusion: U-GAN® can be used for detection of both CPP and MSU in clinical practice.