Background and aims The proportion of systemic lupus erythematosus (SLE) patients with cutaneous manifestations is well characterised, but the proportion with only cutaneous lupus erythematosus (CLE) who later develop SLE is poorly understood. A fuller understanding of comorbid intersections including temporal sequence may advance knowledge regarding underlying pathogenesis. We conducted a retrospective cohort study of CLE nested in U.S. administrative data (2004–2014), in order to understand frequency and temporality of comorbid SLE.

Methods The datasource was Clininformatics Datamart Multiplan, a U.S. insurance claims database containing ~100 million lives. The universe of adult CLE patients with ≥2 claims of ICD-9 695.4 (DLE) was first identified. Secondly, five mutually exclusive cohorts were defined by presence and temporality of SLE (defined as ≥2 claims of ICD-9 710.0 [SLE]): 1) CLE , no prior/subsequent SLE; 2) CLE before SLE; 3) SLE
before CLE; 4) CLE and SLE, temporality unclear; 5) CLE with <2 SLE claims.

Results
The universe contained 42,871 patients (Figure 1). Each cohort had >50 (range: 51.5–67.3) mean months of database observation time. Approximately one-third (27.4%) were “CLE only”, with no previous/subsequent SLE diagnosis (Cohort 1), while a further 10.3% had <2 SLE claims thus not meeting the SLE case definition (Cohort 5). Only 11% percent had CLE before SLE (Cohort 2). Elapsed mean time from CLE to SLE in Cohort 2 was 12.8 (median: 6) months.

Conclusions
About a third of CLE patients identified by DLE ICD-9 coding appeared to never develop SLE during observation time. Our “real world” study adds to sparse evidence on this topic.

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Showing distribution of lupus pro-band in relation to serological parameters and disease activity.