Background Subcutaneous Levetiracetam is increasingly used to control seizure activity in selected palliative patients. Despite this becoming a well-recognised approach quality evidence to support this remains sparse. This retrospective audit explores the use of subcutaneous Levetiracetam in palliative patients across the whole of the West Midlands, UK.

Methodology West Midland based Specialist Palliative Care Units (n=14) and Hospital Teams (n=17) were invited to participate in an electronic survey collecting anonymised retrospective data on patients in whom subcutaneous Levetiracetam had been used. Information gathered included; seizure aetiology and type, antiepileptic history, delivery of Levetiracetam, side effects and effectiveness.

Results Information generated from 31 cases demonstrated subcutaneous Levetiracetam use in a wide range of seizure aetiologies (space-occupying lesions (50%), pre-existing epilepsy, cerebrovascular disease, seizures secondary to Creutzfeldt-Jakob disease, leptomeningeal disease and Multiple Sclerosis), 48% patients had experienced seizure activity within the week prior to commencement on subcutaneous Levetiracetam and nearly all (93%) were already using antiepileptic drugs. Levetiracetam was delivered most commonly via a McKinley T340© continuous subcutaneous infusion (84%). The median dose of Levetiracetam on commencement was 1000 mg (range 250 mg – 3000 mg) and 12% of infusions were titrated over time due to seizure activity.

Levetiracetam was successfully mixed with Morphine, Midazolam, Metoclopramide and Dexamethasone. Concurrent Midazolam administration was used in 68% due to varying rationale. 81% reported no side effects attributable to Levetiracetam and 16% reported a local skin site reaction. No further seizures were documented in 70%, and 65% subcutaneous Levetiracetam continued until death.

Conclusions This study outlines current practice within the West Midlands, adds to the relatively small evidence base, will help inform the composition of regional guidelines and provide a platform upon which to develop future research.