



## Effective Health Care

### Chemotherapy-induced Neuropathy Nomination Summary Document

#### Results of Topic Selection Process & Next Steps

- The topic, *Chemotherapy-induced Neuropathy*, is not feasible for a full systematic review due to the limited data available for a review at this time.

#### Topic Description

**Nominator(s):** Organization

**Nomination Summary:** The nominator is interested in the comparative effectiveness of different strategies to manage symptoms (side effects) of chemotherapy for improving net health outcome. Of most interest are symptoms of chemotherapy-induced neuropathy (CIN) and dermatological toxicity associated with epidermal growth factor receptor inhibitors (EGFRIs). In both cases, modifying the chemotherapeutic regimen is a strategy that may alleviate symptoms, but potentially at the expense of treatment effectiveness. The interventions of interest are strategies that avoid dose modification of chemotherapy.

##### **Staff-Generated PICO**

**Population(s):** For prevention, adults with cancer who are about to undergo chemotherapy. For treatment of symptoms, adults with cancer who are undergoing or have completed chemotherapy and have experienced symptoms of CIN.

**Intervention(s):** “Stop and Go” strategy; nutritional supplements, e.g., glutamine, vitamin E, drug therapy such as glutathione, calcium/magnesium infusion, gabapentine, xaliproden.

**Comparator(s):** Usual management strategies including chemotherapy dose modification and no intervention.

**Outcome(s):** Prevention or reduction in symptoms of CIN, adverse effects associated with symptom treatment, changes in chemotherapy dose or regimen, health-related quality of life (HR-QoL), survival.

**Key Questions from Nominator:** Key Question #1: For CIN, what is the comparative effectiveness of interventions used to either prevent or treat symptoms associated with CIN?

## Considerations

- Previous assessment of this topic nomination identified relevant ongoing trials on chemotherapy-induced neuropathy. This document summarizes the EHC Program follow-up.
- Chemotherapy-induced neuropathy (CIN) is a common side effect of many first-line chemotherapy drugs such as taxanes, platinum-based compounds, vinca alkaloids and thalidomide used to treat many solid tumors (e.g., cisplatin for treating lung cancer; paclitaxel for treating breast cancer). Symptoms of CIN have been described as unpleasant tingling of the extremities, numbness, burning, pressure, pins and needles and stabbing pain that may last for months or years after therapy, impacting functional performance and quality of life. Symptoms may be severe enough to cause a disruption or cessation of chemotherapy, potentially decreasing treatment effectiveness.
- The incidence of CIN is estimated to be 30% to 40% of patients receiving chemotherapy and is projected to increase as treatments become more aggressive and patient survival increases.
- Clinical guidance for the management of CIN is often based on evidence extrapolated from studies of other causes (e.g., diabetes) of peripheral neuropathy. Clinicians need guidance on the optimal treatment(s) for CIN based on evidence of effectiveness that incorporates adverse events and potential drug interactions in populations at risk for and with CIN.
- While a scan of the literature indicated that there is evidence available on this topic, the evidence is too diffuse (e.g., includes a wide range of outcomes measures) at this time, limiting the feasibility of a systematic review.