

## Vaccination of chemotherapy patients- effect of guideline implementation.

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**Reference:** Toleman MS, Herbert K, McCarthy N, Church DN. *Supp Care Cancer* (online 26 November 2105)

### Abstract

**Purpose:** Despite substantial morbidity and mortality of influenza and pneumococcal infections in cancer patients treated with chemotherapy, vaccination against both illnesses is infrequent. We evaluated the impact of implementation of clinical guidelines on vaccination of chemotherapy patients treated in our institute.

**Methods:** We performed a prospective audit before (2012) and after (2013–2014) the introduction of immunisation guidelines for chemotherapy patients in a UK tertiary cancer centre.

**Results:** Guideline implementation was associated with a significant increase in the rate of pneumococcal vaccination compared to the 2012 baseline (47 vs. 25 %,  $P = 0.0018$ ), though this was not sustained the following year (34 %,  $P = 0.13$ , vs. baseline). Influenza vaccine coverage was high (~70 %) throughout. There was a marked disparity between patients aged  $\leq 65$  and those  $>65$  years in the rate of pneumococcal vaccination in both 2013 and 2014 (38 vs. 68 % and 17 vs. 53 %, respectively, both  $P < 0.001$ ), and, to a lesser extent, in the rate of influenza vaccination in the same period (64 vs. 82 %,  $P < 0.1$ , and 63 vs. 85 %,  $P = 0.009$ , respectively).

**Conclusions:** The implementation of clinical vaccine guidelines was associated with a significant increase in pneumococcal vaccination, though continued effort appears required to deliver persistent improvement. Initiatives to increase vaccination uptake in patients aged  $\leq 65$  are merited.

**Strengths of study:** Prospective study designed to determine if promoting vaccination in a population of cancer patients receiving chemotherapy increased uptake from baseline.

**Weaknesses of study:** Study relied on patient recall to calculate the baseline levels and voluntary participation into the study group may lead to selection bias. Timing of the survey/audit may also influence results. Numbers of participants is small recruited from one centre in the United Kingdom. The clinical outcomes of this intervention have not been measured, nor the reasons for opting out of vaccinations elucidated.

### Relevance to palliative care:

Current vaccination status, Dec 07, 2015 (16 patients).

None	Influenza 2014 or 15	Pneumococcus
10 (62.5%)	5 (31.3%)	4 (25%)

AHS guidelines state influenza vaccine (inactivated) is indicated for all adults with cancer. Responses to the influenza vaccine are comparable to the general population for patients with solid tumors but may be lower in those with hematological malignancies. Timing is important for those receiving chemotherapy and there are special provisions for patients receiving rituximab and for transplant patients.

Family members and staff working with this population should be immunized with inactivated vaccine. Palliative cancer patients are a subset of this population. Previous studies have suggested these patients are able to mount an immune response to vaccines and should be assessed for appropriateness of vaccination. Obviously, those with a very short prognosis should be excluded, but those with a prognosis of greater than three months, particularly those going home/pass, to other facilities may benefit from immunization, if within the goals of care.