

# Cancer & Infection

## Fact Sheet



**AMGEN CONTACT INFORMATION**  
**Media:** 805-313-6151  
**Investor Relations:** 805-447-1060  
Investor.relations@amgen.com

### Chemotherapy patients are at an increased risk for infections

While most people are aware of the common side effects of chemotherapy, such as hair loss and nausea, few realize that many types of chemotherapy can increase a patient's risk of developing a potentially serious infection.

One of the most common and potentially life-threatening side effects of strong chemotherapy is a low white blood cell count – a condition referred to as neutropenia (nu-tro-PEEN-ee-ah). The fewer white blood cells a patient has – and the longer that white blood cell count remains low – the greater the risk of developing a potentially serious infection.<sup>i</sup>

A recent Harris Interactive, Inc, survey revealed that 78 percent of infectious disease specialists consider chemotherapy patients at significantly greater risk for infection than the general population.<sup>ii</sup>

Nearly one in four chemotherapy patients surveyed had an infection while receiving treatment, and of these, 61 percent had more than one infection.<sup>ii</sup>

### Treatment delays and dose reductions can make chemotherapy less effective

Infections in cancer patients may lead to hospitalization, disruptions in chemotherapy schedules (including both dose delays and dose reductions), and, in some cases, can be life threatening. Each year, 60,000 patients are hospitalized for chemotherapy-induced neutropenia, and a patient dies every two hours from this complication.<sup>iii</sup>

Studies show that for certain types of cancer, patients receiving the full dose of chemotherapy according to the schedule their doctors have established is an important part of cancer treatment success.<sup>iv,v,vi</sup>

Nearly all oncologists surveyed (92 percent) believe it is important for cancer patients to prevent infections to achieve successful treatment outcomes.<sup>ii</sup>

### Antibiotic resistance is a growing concern

The overuse of antibiotics and antimicrobial resistance in healthcare settings is a growing public health concern. Even bacteria that do not usually pose a threat to healthy people can cause a dangerous infection in cancer patients because of these patients' less-effective immune systems. These bacteria are among the types that have become resistant to many kinds of antibiotics and consequently are more difficult to treat.<sup>vii</sup>

In fact, 96 percent of infectious disease specialists and 79 percent of oncologists surveyed have seen the prevalence of antibiotic resistance in cancer patients increase in the past five years.<sup>ii</sup>

#### Signs of Infection:

Chemotherapy patients should report any of the following symptoms to their doctor immediately:

- Fever higher than 100.5°F (38°C)
- Chills
- Cough or sore throat
- Severe constipation or diarrhea
- Mouth ulcers or sores in the throat or around the rectum
- Vomiting that continues 12 hours after treatment
- Urinary burning or urgency
- Unusual vaginal discharge or itching
- Redness, swelling, or sores on the skin
- Shortness of breath/chest pain
- Irregular or rapid heartbeat
- Blood in urine or stool

#### Addressing the Risk of Infection:

Amgen is joining forces with the CDC Foundation and CDC on a three-year initiative to provide resources and educational tools for cancer patients, their caregivers and healthcare professionals on the risks and impact of infections. For more information about this program, please visit [www.amgen.com](http://www.amgen.com) or [www.cdcfoundation.org](http://www.cdcfoundation.org).

<sup>i</sup> Wujcik D, et al. Cancer Symptom Management. 1996:289-304.

<sup>ii</sup> Harris Interactive Survey, May 2009.

<sup>iii</sup> Caggiano V, et al. Cancer. 2005; 103:1916-1924

<sup>iv</sup> Bonadonna G, et al. BMJ. 2005; 330: 217-222

<sup>v</sup> Bonadonna G, et al. N Engl J Med. 1995; 332: 901-906

<sup>vi</sup> Kwak LW, et al. J. Clin Oncol. 1990; 8: 963-977

<sup>vii</sup> Pizzo, PA. NEJM 328. 1993: 1323–32.