

# Simple measures reduce risk of death in cancer patients in ICU

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Oncologic patients are now among the main users of ICUs in the world, and they're also among the most fragile and prone to complications that can lead to death, such as hospital infections and adverse drug reactions. But the risk of these problems can be reduced through relatively simple processes of organization, such as holding meetings to discuss clinical cases between oncologists and intensivists, using care protocols and the presence of pharmacists in ICUs.

These are the findings of a large study coordinated by researchers from the D'Or Institute for Research and Education, IDOR (Brazil), in partnership with the University of Pittsburgh (USA) and several Brazilian institutions.

The article, published in the *Journal of Clinical Oncology (JCO)*, one of the most important medical journals in the world, was the result of a major collaborative effort between hospitals and institutions and is the world's first research to examine the impact of organizational factors of ICUs in [cancer patients](#).

The researchers analyzed data from nearly 10,000 cancer patients hospitalized in 70 ICUs of 49 Brazilian hospitals (of which, 13 are specialized cancer treatment centers), seeking to identify which organizational factors are associated with reduction of mortality in this group.

It is estimated that one in six people that is hospitalized in an ICU has

cancer and that between 10 and 70% of patients with cancer, depending on the type of disease, need intensive care for at least once in life. In the study, cancer patients represented 17% of admissions in the participating ICUs.

"The cancer patient quantitatively represents a very large part of the admissions in the ICUs, in a way that intensive units have become an important support treatment for these patients," says research leader, the doctor Marcio Soares, from IDOR.

The study indicates that survival is higher in ICUs that follow processes such as having daily meetings between oncologists and intensivists to set goals and develop plans of care for patients; having the presence of a pharmacist and following protocols already used in general ICUs to reduce infections and the risk of treatment-related complications.

"They are simple and low cost processes of local culture change and regulation that can reduce mortality in this group," says Soares.

"Cancer patients undergo very complex procedures and surgeries, they usually have their immune system weakened by the treatment, leaving them more susceptible to infections and other complications; so it is important that physicians talk about treatment options and follow protocols to avoid problems."

The pharmacist presence is also essential due to the ever-larger number of treatment types against cancer, to avoid complications from toxicities and drug interactions, as well as to guide dose adjustments.

## **Cost reduction**

These measures also reduce costs in the ICU, by promoting a more efficient use of resources. It is estimated that an average of 0.5 to 1% of

the GDP of a country is spent on intensive care. That represents, depending on the country, up to 10% of total spending on health. "For developing countries, like Brazil, attention to [organizational factors](#) in ICUs is even more urgent," adds the lead researcher.

The study also shows that there is no difference in the mortality rate of cancer patients admitted to general hospitals ICUs or to specialized cancer treatment centers. If the flow optimization measures are taken, the survival rate is higher regardless of the type of ICU.

"Our population is aging and we expect an increase in demand from cancer patients seeking admission. We don't have specialized hospitals for everyone, but studies like ours can help to reduce the gap between hospitals", says Soares.

**More information:** *Journal of Clinical Oncology*, [DOI: 10.1200/JCO.2016.66.9549](#)

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