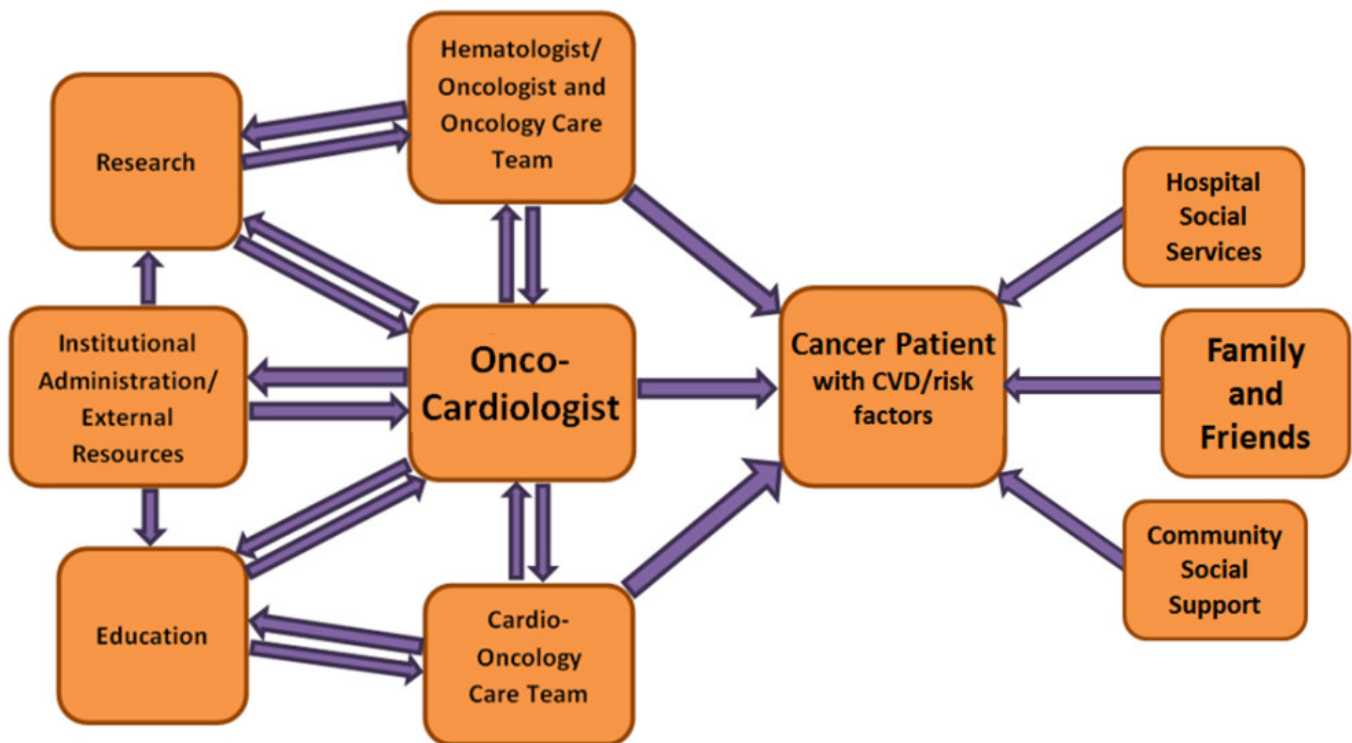


Heart disease in cancer patients (onco-cardiology / cardio-oncology)

In the United States, heart disease and cancer have been the 2 leading causes of death from 1935 through 2013. In 2010, both diseases accounted for almost half of all deaths in the U.S. Notwithstanding, much success have been gained in finding treatments and cures for different types of cancers, so that there are currently about 14.5 million cancer survivors in the U.S. However, as cancer patients live longer, many of them are living with and dying from heart disease and related conditions as major complications of the intense cancer treatments they have received; thus, reducing the clinical success of their cancer therapy. Many decades after cancer treatment, cancer survivors have up to 15-fold increased risk of heart failure, heart attacks and other heart diseases, including diseases of the heart valves, etc. These risks are due to radiation and chemotherapy, and may last up to 45 years after cancer treatment.

Cardio-Oncology Care Team Model



Cardio-Oncology Care Team Model. The various responsibilities of an onco-cardiologist with a constant feedback and interactive process, with the ultimate goal of effective patient care achieved through an integrative process. CVD = cardiovascular disease

If recognized early as a risk and managed properly, much heart disease and its risk factors in cancer patients could be prevented or treated early during the course of cancer therapy. This could possibly diminish associated risk of heart disease and heart disease related deaths due to cancer treatment. In order to accomplish this, cardiologists (heart doctors) and oncologists (cancer doctors) are learning to work together in order to better care for cancer patients (Figure). To help successfully achieve this goal, a medical discipline called “cardio-oncology” or “onco-cardiology” has been developed. The onco-cardiologist is commonly a cardiologist board certified in heart disease, focused on either heart failure or heart disease imaging. This specialty may also include oncologists, and internal medicine/primary care doctors.

Because cancer patients are usually not included in cardiovascular (heart disease related) clinical trials and vice-versa, we do not have enough research information to direct clinical decision-making in patients who either already have or develop both cancer and heart disease. This issue is further worsened by problems common in patients with cancer including low blood counts, risk of developing blood clots, dehydration, fatigue due to lack of exercise, and other side effects of their cancer therapy. All of these issues compound together to make the diagnosis and treatment of heart disease difficult in this population. Such challenges could make the oncologist hesitate to give cancer therapy that could save lives, because of the risk of causing harm to the heart; and likewise cause some difficulties for the cardiologist who may not fully understand just how aggressive to be with managing heart disease in the already sick and weak cancer patient. For these reasons, cancer patients are sometimes left in “limbo” without much input from either doctor on ways to bypass these problems to allow them receive necessary treatments from both sides. This is where the onco-cardiologist comes in, and is useful in bringing both specialties together to help achieve a fuller plan of care for both diseases being the 2 main causes of death in the U.S. and most of the world.

Those who practice cardio-oncology/onco-cardiology know the cancer drugs/radiotherapy, understand their effects on the heart, and keep informed on ways to manage patients on these treatments. This requires a lot of clinical and administrative help. Creating a cardio-oncology clinic in a hospital or academic center therefore has its challenges, including those associated with this relatively new and growing field. As such, the onco-cardiologist attempting to accomplish this important task has to be extremely interested, particularly driven, use their time wisely, manage resources intelligently, be a great team player able to bridge 2 different medical specialties and support staff, and be endowed with some level of providence.

“The aim of Cardio-oncology is NOT to prevent cancer patients with cardiovascular disease and risk factors from receiving necessary life-saving cancer therapy, but to prevent and/or treat cardiac disease as best as possible ALONGSIDE their cancer therapy/care; incorporating the most comprehensive approach with their oncology and other care team.”

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Publication

[Burgeoning Cardio-Oncology Programs: Challenges and Opportunities for Early Career Cardiologists/Faculty Directors.](#)

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J Am Coll Cardiol. 2015 Sep 8