Challenges of centralizing cancer care in the US

Dear Editor,

Cancer is a major global public health problem and is the second leading cause of death in the United States (US) [1]. Unfortunately, despite tremendous medical advances in early diagnosis and treatment of several cancer types, socioeconomic inequalities persist in cancer survival. Cancer incidence and death rates vary considerably between racial and ethnic groups [1]. Economic status is also a determinant for appropriate cancer care. Within the four cancer types for which screening is widely recommended (colorectal, breast, cervix, and prostate), the proportion of cases diagnosed at advanced stage is higher in high-poverty census groups [2].

Centralizing cancer care has shown significant benefits in other countries. The Netherlands is a remarkable example of centralization of cancer treatment. The Dutch Cancer Society formed a "Quality of Cancer Care Taskforce" in 2007, and concluded that variation in quality of care for cancer patients in the Netherlands was dependent on structural characteristics of cancer care hospitals such as diagnostic and procedural volume, and academic or teaching status. The centralization of cancer care in The Netherlands showed promising results, with a reduction in postoperative morbidity and mortality, and improved long-term survival [3].

Equity in access would contribute greatly to bridging the gap produced by social determinants of health care. In a large country like the US, one of the concerns with centralization is that it may increase health care disparities in undeserved patients that cannot travel, or who may wish to seek care close to home. Interestingly, this concern might not be well founded. Our study group recently found that a process of spontaneous centralization of esophageal cancer surgery occurred in the US, and the overall mortality rate after esophagectomy dropped from 10.0% in 2000, to 3.5% in 2011. The reduction in mortality was higher among low household income patients, and showed no differences between non-Hispanic white patients and other races patients, or between private primary insurance patients and public primary insurance patients [4].

Unfortunately, with the lack of uniform prescriptive guidelines or volume standards implementation, the attainment of centralization of cancer care is currently aspirational in the US. This is attributable to several factors:

(1) The US health care system is fragmented, complex, and comprises a variety of public and private institutions that handle payment, insurance, and delivery functions and exists within a milieu of uncertainty in the current political climate.
(2) Many patients prefer to seek definitive cancer care near home at local community hospital, rather than in an unknown center far from their support networks.
(3) The United States is a very large country. For instance, the entire country of Netherlands is smaller than many US states. Geographic variability in location of specialized regional centers will differ adding to the complexity of achieving uniformity in patient access.
(4) With variations in health care system networks across the country, determining centers of excellence designation and steering patient referrals to such centers is intricate.
(5) The financial implications of patient referral to high volume centers may be a disincentive to centralization of care. Health care systems encourage referral to in-system providers in order to maintain market share.
(6) Cancer care requires a high level of multidisciplinary treatment, sufficient medical staff, and specialized treatment facilities. Specialized hospitals and providers would need to be able to manage the influx of patients referrals, and ensure that those facilities can accommodate the high volume of patients.

The development of regional cancer care networks is a reasonable strategy. The University of Pittsburg Medical Center (UPMC) established one of the largest oncology networks in the US. The UPMC Cancer Center includes a regional hub and satellite facilities, allowing for coordination of patient care across facilities and physician groups. Through this system, patients benefit from improved access at satellite locations and facilitated referrals for further treatment at the centralized cancer center [5].

Regional cancer networks, with central core facilities tele-mentoring and tele-monitoring remote centers could overcome geographic barriers. First, patients would benefit from community-based screening centers. Second, liquid tumors and many solid tumors could be effectively treated in these peripheral centers if properly monitored by the central facility. Third, patients could be promptly referred for complex surgical procedures of certain solid tumors. Even if these specialized treatment facilities are located in areas where travel time is longer for patients, the inconveniences of longer travel times may be mitigated by improved cancer outcomes.

In conclusion, at the present time many patients fail to obtain high quality cancer care. As spontaneous centralization of care is already occurring for some type of cancers in the US, showing better outcomes, we feel that the process could be further enhanced by clear guidelines and regulation.

Conflicts of interest

Francisco Schlottmann, Anthony G. Charles, and Marco G. Patti declare that they have no conflict of interest.

Ethical approval

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