

EQUICARE CS™: A Business Case for Cancer Survivorship



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Executive Summary

As the population of cancer survivors continues to grow, their voices are becoming more forceful at demanding survivorship services and care. Their voices led to the 2005 Institute of Medicine report *From Cancer Patient to Cancer Survivor: Lost in Transition*. Among the key recommendations of this report is that every survivor be provided with a survivorship care plan. This recommendation is reflected in the NCI's Community Cancer Center Program which mandates survivorship care planning.

However, cancer care providers (“CCPs”) operate in an environment of decreasing reimbursements, constraints in oncologist capacity, recruiting challenges, and ultracompetitive markets. How can CCPs provide better care to survivors when faced with these challenges?

The solution is to create a new service line in oncology devoted to survivorship care and follow-up. This service is staffed by nurse practitioners whose responsibilities are to create care plans for every survivor, to track and to manage the survivor population to ensure compliance with the follow-up plans, and to take over some portion of the follow-up consultations from oncologists.

Using EQUICARE CS™, the survivorship service provides the required clinical quality of care to survivors. Simultaneously, the CCP accrues numerous financial benefits through increased patient retention and follow-up revenues, increased competitiveness in attracting new patients, locking-in sources of referrals, outcomes reporting, and pay-for-performance.

In summary, a survivorship service creates a win-win for both survivors and the CCP.

The Survivorship Challenge

As of 2004, the National Cancer Institute (“**NCI**”) estimated there were over 10 million cancer survivorsⁱ living in the United States. Each year, nearly 1.4 million new patientsⁱⁱ are diagnosed and treated for cancer. As cancer treatments continually improve, the population of cancer survivors will grow ever larger.

Over the past several years, there has been a growing advocacy movement for cancer survivorship (“**survivorship**”) from groups such as the Lance Armstrong Foundation (“**LAF**”) and the National Coalition for Cancer Survivorship (“**NCCS**”). This movement led to the publishing of the landmark Institute of Medicine (“**IOM**”) report *From Cancer Patient to Cancer Survivor: Lost in Transition* in 2005. This recommendation is reflected in the NCI’s Community Cancer Center Program (“**NCCCP**”) which mandates survivorship care planning.

The advocacy groups argue that the traditional transactional approach to cancer care fails to address the many issues that cancer survivors (“**survivors**”) face after the conclusion of treatment. They contend that cancer is not just an acute disease that can be merely treated and discharged, but rather it is a chronic condition that requires lifelong care.



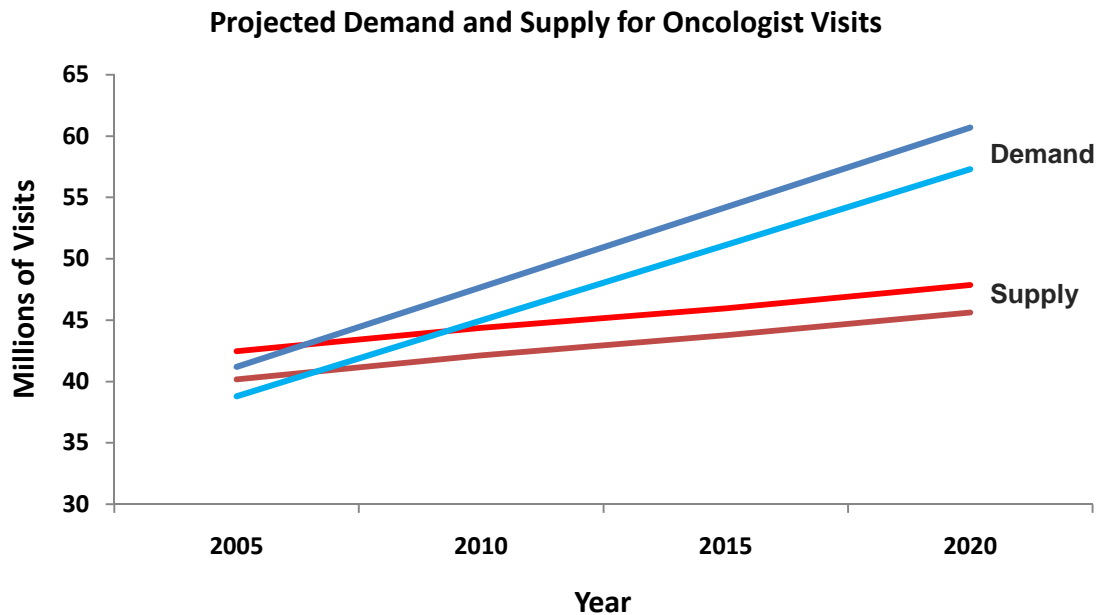
Through improvements in technology and technique, cancer care providers (“**CCPs**”) have improved at addressing the first two phases of cancer care, as evidenced by increasing survival rates for even the historically most lethal diseases. However, CCPs have failed to address the survivorship phase.

Specifically, survivors require ongoing and regular surveillance for recurrence, metastatic disease, additional primary disease, and the co-morbid conditions to which they are predisposed. Many studies have shown that diseases that are identified sooner are

treated both more effectively and more efficiently. Furthermore, survivors face numerous psychological, social, and economic challenges.

Due to the resources and expertise they possess, CCPs are the best equipped to address these challenges. However, CCPs themselves face their own challenges and constraints.

The “baby boom” generation is ageing into the period of cancer prevalence. Barring a dramatic and unforeseen decrease in incidence rates, total cancer incidence is expected to rise. Simultaneously, an ASCO studyⁱⁱⁱ has projected a widening gap between demand for oncology services and supply of oncologists, with a shortfall of as many as 15 million visits by 2020.



How can CCPs provide more services to increasingly vocal customers, while constrained by fewer resources? In similar situations across many industries, technology has provided the answer.

Potential Alternatives

The key recommendation of the IOM, the NCCCP, and others, is for CCPs to provide a survivorship care plan (“**care plan**”) to all survivors. There are several potential alternatives to satisfy this recommendation.

The CCP may pursue a paper-based approach to providing care plans. Either the CCP may develop its own materials, or it may rely on materials published through third parties, such as the LAF, ASCO, and NCCN. A disadvantage of the paper-based approach is inefficiency. One urban cancer center^{iv} using the LAF materials and the ASCO guidelines reported employing ten full-time nurse practitioners to prepare these materials for each survivor. Each care plan took up to 2.5 hours to produce. Another disadvantage of the paper-based approach is that it cannot monitor execution and compliance against the follow-up plan – there is no method to ensure that the planned follow-up actually occurs. Finally, another disadvantage is the inability to leverage a paper-based care plan for other purposes, such as ongoing outcomes measurement and research. By definition, a paper care plan is a static document that cannot be easily used to provide other benefits to the survivor and the CCP.

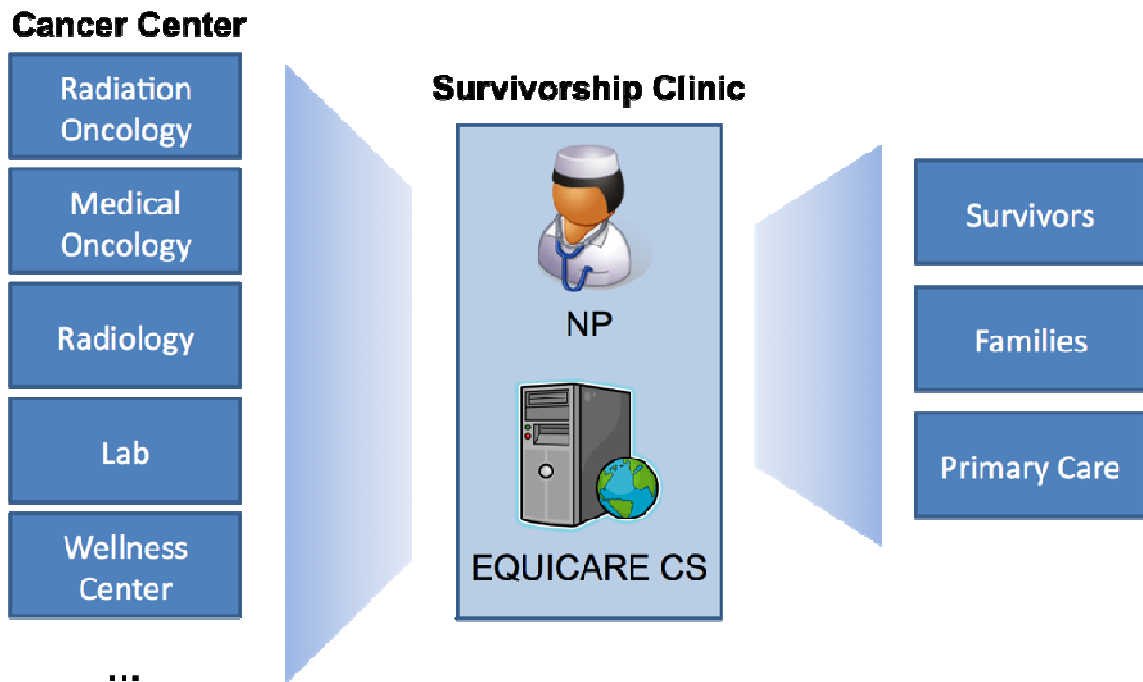
Another alternative is the CCP may develop its own software solution, either a homegrown system or an extension to systems that have already been deployed. This alternative is the standard build-versus-buy scenario. However, most CCPs are unlikely to have a strong and core competency in software engineering. Furthermore, the challenge of developing interfaces with other medical software systems used by the CCP – to exchange diagnostic, treatment and scheduling data – is often underestimated. The disadvantages of this alternative are: a long development time before clinical usage readiness, the possibility of project failure, and the necessary diversion of clinical personnel to oversee the development effort.

A third alternative is to use a commercially available product that has been specifically designed to support a survivorship program. This alternative addresses the efficiency and usefulness limitations of the paper-based care plan by automating data collection and aggregation, allowing clinicians to concentrate on patient care. This alternative addresses the lead-time limitations of the self-development alternative by being immediately ready for clinical deployment. This alternative is explored in more detail in the following section.

Proposed Solution

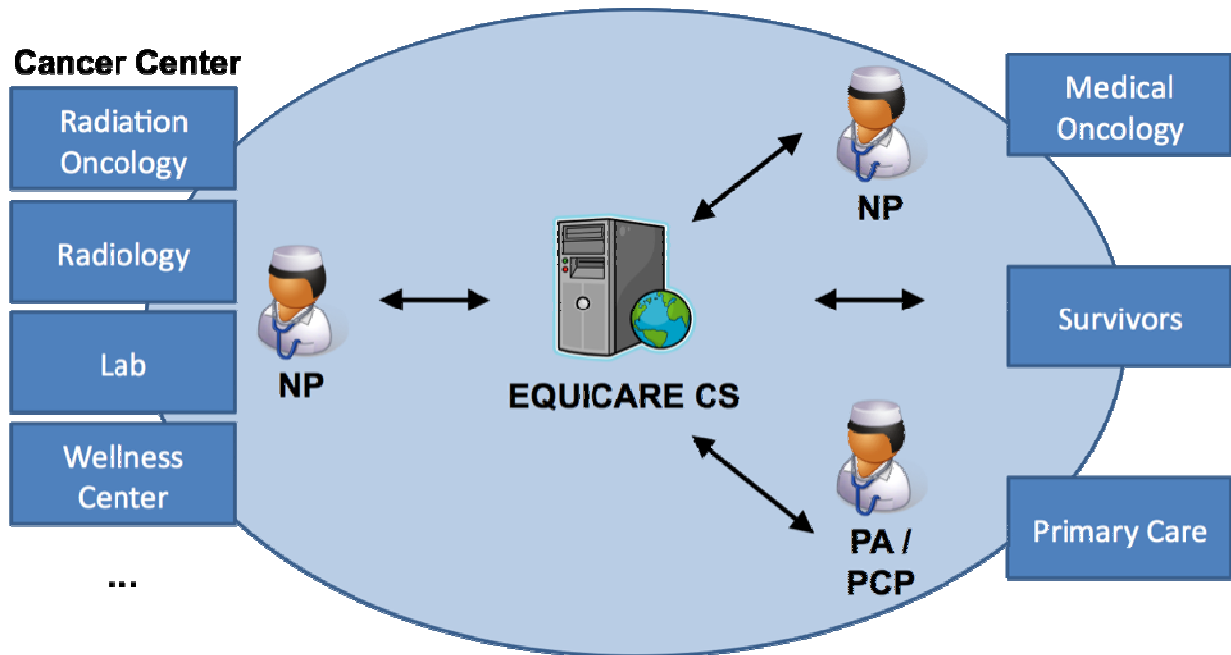
A model for CCPs to provide survivorship services is to create a new service line in oncology, called a survivorship clinic (“**clinic**”). The clinic marshals all the resources necessary to provide a comprehensive survivorship service to survivors.

Cogent Healthcare Solutions’ (“**Cogent**”) EQUICARE CS provides the software technology and data integration to support the clinic’s operations.



The clinic is operated by nurse practitioners (“**NPs**”) rather than oncologists, freeing the oncologists to accept additional analytic cases.

Through EQUICARE CS’ internet and collaborative capabilities, the clinic leverages external resources to participate in the care of survivors, creating additional efficiencies. These external resources can include external medical oncology groups, specialists such as urologists and surgeons, primary care physicians (“**PCPs**”), and the survivors and their families.



The clinic has three responsibilities.

First, for every survivor, the clinic creates a survivorship care plan, as recommended by the IOM report and mandated by the NCCCP. The care plan develops an understanding between the CCP and the survivor that documents three aspects of the survivor’s treatment: 1) the original diagnosis and record of treatments received, 2) educational materials about anticipated side- and late-effects resulting from those treatments, and 3) a detailed plan for ongoing follow-up and surveillance, including target appointment dates and specific actionable items for those appointments. The follow-up plan can be based on standard guidelines, such as those published by ASCO, NCCN, or NICE. Alternatively, the CCP’s medical faculty can design their own follow-up guidelines.

Second, the clinic monitors survivors’ compliance to their care plans, in particular the follow-up plan, and ensures that all surveillance, diagnostics, and consultations actually occur. This not only closes the gaps in the healthcare system into which survivors can fall, but also provides financial benefits to the CCP.

Finally, the NPs at the clinic perform several of the follow-up consultations with the survivor, replacing the oncologist. The CCP stipulates how many of the consultations will be performed by an NP, with the remainder to be split amongst the physicians involved with the survivor’s care. During each follow-up consultation, the NP performs structured assessments

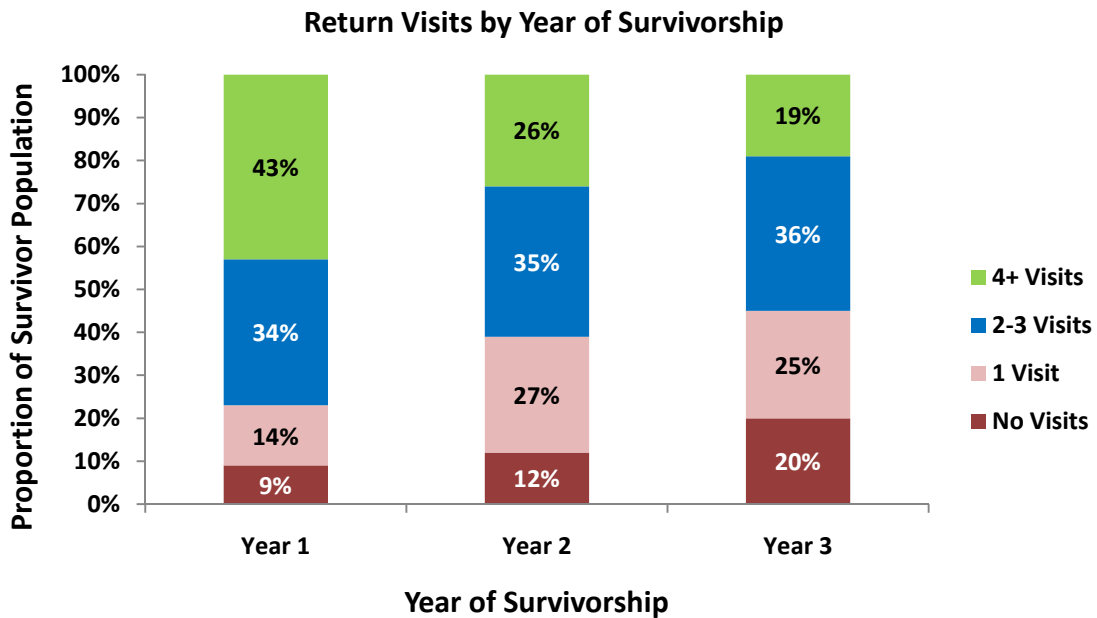
to measure the outcome of the survivor's treatments on whatever dimensions are of interest. For example, all breast cancer survivors who received external beam radiation can be assessed for lymphedema using a consistent methodology across the organization. The regular performance of these assessments serves to identify conditions which require further treatment, and also contributes data that may be used for outcomes research and reporting.

Expected Benefits

The expected benefits of this model for cancer survivorship management can be classified into four broad categories: clinical benefits, financial benefits, administrative or operational benefits, and technological benefits.

Clinically, a structured approach to survivorship and follow-up is simply the right thing to do. Survivors experience both medical and non-medical side- and late-effects resulting from their treatments, including depression, anxiety, and fatigue, to name just a few. Survivors and PCPs lack the knowledge and ability to deal effectively with these effects in the survivors' everyday lives. By providing care plans with personally relevant educational materials, CCPs can help survivors improve their daily quality of life.

Furthermore, a study of one cancer center's billing records has shown that despite their preconceptions, a high proportion of survivors failed to return for their recommended follow-up and surveillance. This result illustrates survivors getting "lost in transition" in the healthcare system. Studies have shown that regular surveillance leads to earlier detection of follow-on disease, which in turn results in improved survival



Financially, the follow-up data represents an obvious opportunity. If CCPs are able to retain more survivors for follow-up, they will gain the revenue associated with those activities, including diagnostic imaging, lab tests, and other procedures. For the cancer center referenced above, the potential incremental revenue per survivor is \$1,900 per year^{vi}.

If an NP performs follow-up consultation instead of an oncologist, Medicare reimburses the visit to the CCP, rather than to the physician. The relevant CPT codes begin with 992XX.

CCPs can also benefit financially through increased competitiveness. A CCP with a comprehensive service offering that includes survivorship is differentiated from its peers, and will attract more patients for screening, diagnosis, and treatment. It can even attract survivors who were originally treated at other CCPs. The CCP that provides survivorship management can market itself as being a cancer center that truly cares for its patients from the time of diagnosis until the natural end of life, whenever that may occur.

Another creative possibility is to provide proactive survivorship surveillance and follow-up for persons at high risk of developing cancer, but who have not yet been diagnosed. Consider the BRCA1 / BRCA2 positive daughters of a breast cancer survivor. The CCP that treated the mother could place the daughters on a structured surveillance program from the time the mother is diagnosed. This provides superior care to the daughters, and ensures they will be treated at the CCP if they should ever develop cancer.

Other financial benefits include increased reimbursements through pay-for-performance and increased referrals from external practices, both of which are discussed below.

Operationally, the clinic addresses the oncologist capacity issue by reducing their follow-up workload, and allows them to pursue higher reimbursement activities, such as analytical cases. This is more lucrative for both the oncologist and the CCP, while decreasing waiting times for new patients. The clinic provides the infrastructure to collect outcomes data from survivors, beyond simply mortality data. This data can be used to address pay-for-performance, quality of care, and compliance reporting, all of which are emerging trends in both oncology and healthcare as a whole.

If the CCP has multiple facilities in both urban and rural locations, a structured program can facilitate consistent and standardized quality of care across the enterprise. If

effectively marketed, patients will be more willing to be served at their local rural facilities, rather than traveling to the busier, and often over-capacity urban centers.

Technologically, the internet portal capabilities of EQUICARE CS allow CCPs to integrate their services with its external referral sources, such as specialists, surgeons, and primary care physicians. This entrenches the CCPs relationship with its partners, and can lead to increased referrals from those sources, particularly if the CCP is in a competitive situation.

Financial Summary

EQUICARE CS is purchased through a software-as-a-service (“SaaS”) model. The software is installed on servers located at the CCP.

There is an initial charge for installation and deployment services, which varies with the complexity of the implementation. The installation fee starts at \$51,000, and varies with the complexity of the deployment. In addition, the CCP must purchase hardware and third-party software components. These costs are estimated at \$25,000, but vary with the total patient volume.

The software is licensed at \$125 per patient per year, billed on actual usage. This variable cost model allows the clinic to scale up at whatever pace is optimal for the CCP, without bearing any up-front risk. Furthermore, it improves the alignment of interests between the CCP and the vendors, Varian and Cogent.

In addition to the software cost, the clinic will also require operational funding for staff and overhead.

These costs are more than offset by the financial benefits identified in the previous section.

The following pro forma illustrates the financial performance of a survivorship clinic admitting 500 new patients per year, over a period of five years.

Pro Forma Financials

	Startup	Year 1	Year 2	Year 3	Year 4	Year 5
Operating Characteristics						
Number of patients for cancer survivorship		500	965	1,399	1,805	2,188
Number of new patients for treatment		0	0	0	0	0
Number of patients eligible for reimbursements		325	627	909	1,174	1,422
Reimbursement fee per visit	\$	70	\$ 70	\$ 70	\$ 70	\$ 70
Number of Nurse Navigators required		1	1	1	2	2
Cost per Nurse Navigator	\$	125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000
Revenues						
Survivorship follow-up reimbursements	\$	45,500	\$ 87,815	\$ 127,304	\$ 164,293	\$ 199,074
Incremental follow-up related revenue from survivors	\$	142,500	\$ 275,025	\$ 398,701	\$ 514,544	\$ 623,475
Incremental active treatments	\$	-	\$ -	\$ -	\$ -	\$ -
Total Revenue	\$	188,000	\$ 362,840	\$ 526,005	\$ 678,837	\$ 822,549
Expenses						
EQUICARE CS startup costs	\$	50,000				
Hardware costs	\$	25,000				
Cost of software	\$	62,500	\$ 120,625	\$ 174,869	\$ 225,677	\$ 273,454
Cost of Nurse navigator(s)	\$	125,000	\$ 125,000	\$ 125,000	\$ 250,000	\$ 250,000
Total Expenses	\$	75,000	\$ 187,500	\$ 245,625	\$ 475,677	\$ 523,454
Net Income	\$	(75,000)	\$ 500	\$ 117,215	\$ 203,160	\$ 299,095

IRR	104%
ROI	43%
Operating Breakeven	Year 1
Cashflow Breakeven	Year 2

This projection assumes the following:

- 500 new survivors per year, growing at 3% per year
- 90% survival year over year
- 65% 5-year survival rate equivalent
- \$70 reimbursement per visit with NP
- 65% eligible for Medicare-reimbursed survivorship consultations with NP
- \$ 1,900 annual follow-up related revenue per survivor
- 15% conversion of survivors for this incremental revenue
- 85% contribute no incremental revenue
- No incremental analytical cases

Even under these conservative assumptions, the pro forma shows operating break-even is achieved in the very first year, and overall break-even in the second year. The high internal rate of return shows that the CCP can provide survivorship care for all of its survivors, even if only a small proportion of those survivors become repeat customers for other healthcare services. This is a win-win for both survivors and the CCP.

ⁱ NCI figures

ⁱⁱ NCI figures

ⁱⁱⁱ Erikson, Salsberg et al: Journal of Oncology Practice, Vol 3 Issue 2. 79-86, March 2007

^{iv} Cogent analysis

^v Cogent analysis

^{vi} Cogent analysis

