

## QUALITY IMPROVEMENT

# ‘My Choices, My Wishes’ Program and Its Effect on Chemotherapy at the End of Life and Advance Care Directive Documentation

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Author's disclosure of conflict of interest is found at the end of this article.

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**Abstract**

**Background:** Oncology patients have tremendous symptom burden both physically and emotionally. Palliative care (PC) improves quality of life and prevents suffering. Advance care planning (ACP) empowers patients to articulate goals of their care. New guidelines call for palliative care to be provided and chemotherapy avoided the last 2 weeks of life. The American Society of Clinical Oncology (ASCO) recommends integrating palliative care within the oncology setting to achieve these outcomes. However, the best mode to provide this care remains unclear. A nurse practitioner/physician assistant (NP/PA)-based model from within the oncology clinic is a potential option. **Methods:** A program evaluation was done to determine the effectiveness of the “My Choices, My Wishes” NP/PA-led program. **Results:** From 2012 to 2018, the number of patients receiving PC/ACP visits increased from 2.6% to 19.4%. The percentage of patients receiving chemotherapy in the last 14 days of life decreased from 12.5% to 7.14%. The number of advance care directives completed increased from 17.5% to 37.5%. **Conclusion:** This program was an effective way to provide PC/ACP for oncology patients. We still need to understand why patients pursue chemotherapy at the end of life. It is necessary to improve our communication techniques with patients and families in order to guarantee high-quality, high-value care.

Oncology care has experienced a shift over the past decade, becoming more focused on providing goal-concordant care for seriously ill patients. The need for effective communication and clear treatment plans to match patients' values and goals has become essential (Sanders et al., 2018). Researchers have begun to document that models of oncology practice that include palliative care

(PC) may potentially enhance efficiency while improving quality of life (Colligan et al., 2017). The World Health Organization (WHO) describes PC as “an approach that improves the quality of life of patients and their families who are facing problems associated with life-threatening illness. It prevents and relieves suffering through the early identification, correct assessment and treatment of pain and other problems, whether physical, psychosocial or spiritual” (WHO, 2020).

The Quality Oncology Practice Initiative (QOPI) program developed by the American Society of Clinical Oncology (ASCO) defines quality measures within oncology care with the goal of collaborative care for patients with cancer in the outpatient oncology setting. Within the initiative, ASCO has stated that patients should not receive chemotherapy in the last 14 days of life, as this has been shown to not improve survival and instead lead to a decrease in overall quality of life and an increase in symptom burden (ASCO, 2019). The American Society of Clinical Oncology also recommends an embedded PC team within oncology care to achieve the best outcomes for patients and their families (Temel et al., 2017).

The Centers for Medicare and Medicaid Services (CMS) as well as other payers have rolled out a new payment model that encourages high-quality, high-value care for patients. This includes a shift to a value-based structure in which the quality of care and cost savings are included in the reimbursement equation (CMS, 2019). In order to bill under this new system, practices must bill within a 6-month episode of care and document that appropriate patients receive advance care planning (ACP), survivorship visits, distress screening, and treatment plan descriptions with transparency of goals of care (e.g., curable vs. palliative therapies). If practices perform according to the Oncology Care Model criteria, cost savings are achieved while safer and an improved quality of care is ensured (CMS, 2019).

This program evaluation project evaluated an early integrated oncology advanced practice provider (APP)-run ACP program entitled “My Choices, My Wishes” (MCMW), including its successes and shortcomings. In order for the program to enhance patient outcomes, results need to be evaluated. Once the outcomes of the program

are made clear, new processes can be pursued to then enhance the foundation of work. This consultation program could have infinite value to patients, providers, caretakers, and stakeholders alike. Patients can potentially get hands-on symptom management immediately at the time of diagnosis and throughout the trajectory of their care. Prompt symptom management, preventing side effects, and avoiding unnecessary morbid interventions lead to high-quality, high-value care resulting in the best possible quality of life during treatment. “Understanding how well we are doing with individual cancer patients...could allow us to develop strategies for performance improvement and identify gaps in care that need our attention” (IOM, 2013).

## PROJECT AIMS

The goal of this project was to evaluate the “My Choices, My Wishes” (MCMW) program implemented in 2013 at the Boulder clinic site. The objectives were to determine how many patients who received this consultation had chemotherapy in the last 14 days of life and had ACD documentation thereafter. Specifically, the aim was to see a decrease in patients receiving chemotherapy in the last 14 days of life by 40% from 2013 to 2019. The sub-aim was to see an increase in patients who have ACDs by 60% from 2013 to 2019. Another aim was to assess the financial viability of this program. The Deming cycle (Plan, Do, Study [Check], and Act), a model consisting of a logical sequence of four repetitive steps for continuous improvement and learning, was used.

## METHODS

### Context

The ACP program entitled MCMW was implemented at Rocky Mountain Cancer Centers located in Boulder, Colorado in 2013. Rocky Mountain Cancer Centers is a member of US Oncology, a group of nationwide community oncology clinics that provide oncology care treatment and follow-up for adult cancer patients 18 years of age and older. Patients have solid tumors as well as hematologic cancers. This program involved a 60-minute consultation with an APP and a stage IV cancer patient in the oncology clinic where they receive their care and treatment. The visit

usually took place on a different day from their chemotherapy treatment if possible. Patients often brought a family member and/or friend to participate in the visit with the hopes that their support system could then understand their goals and wishes at the moment as well as when their cancer progresses. Patients were referred via their physician, social worker, nurse, nurse practitioner, or physician assistant.

### **Ethical Considerations**

The project proposal was approved by the CEO of RMCC, the author's University of Colorado faculty advisor, nursing and medical supervisor, and the project approved by the School of Nursing at the University of Colorado Anschutz. It was not a human subject study. The data review and findings abided by HIPAA, a US law designed to provide privacy standards to protect patients' medical records and other health information provided to health plans, doctors, hospitals, and other health-care providers.

### **Implementation of Interventions**

The APPs and staff were educated on how to introduce the program, and those performing the visits were trained extensively through workshop and online trainings. A packet of information including benefits and burdens of several interventions (tube feeding, cardiopulmonary resuscitation, artificial nutrition, mechanical ventilation), palliative resources in the community (including a list of palliative agencies, websites, and support groups), and ACDs (a Medical Orders for Scope of Treatment [MOST] form, living will, and Medical Durable Power of Attorney [MDPOA] form) were provided.

Patients can fill out the ACDs with the APP during the visit, at home, or at a follow-up visit. The forms were scanned in their chart after they were completed. A discussion of their personal goals and wishes was completed during this visit. An Edmonton Symptom Assessment System (ESAS) form to assess the symptom burden was also filled out and documented in the ACP portion of the electronic medical record (EMR) note. After the visit, the details were documented with code status specifically highlighted in the EMR immediately. Until the code status wishes were

obtained, it is explained to the patient that they are considered "Full Code" and the implications are reviewed. The APP then billed as they would for a 60-minute consultation.

### **Implementation and Assessment of the Intervention**

The number of the MCMW visits that occurred from the start of the program in 2013 until August 2019 was reviewed. Data from 2013 to 2019 were obtained via a request from the IT director. The central US oncology IT office then created the data sheet. This was stored on an Excel sheet on the author's computer. Patient names were not included in this data. For stage IV patients (with breast, colon, lung, and pancreatic cancer) under the care of any of the physicians in the practice, the author requested the data for patients who received chemotherapy in the last 14 days of life, those who had a MCMW consultation, and those with ACD documentation (MOST form, living will, and/or MDPOA). Baseline or pre-program data in 2012 were reviewed to compare the data appropriately. Patients with breast, colon, lung, and pancreatic cancers were included. Other diagnoses were excluded. The total number of patients evaluated from 2012 to 2019 was 2,234. The total number of patients who had ACP visits during this time period was 257. The chart review was performed on 50 patients from 2012 and 2013 data to confirm accurate data was received from IT.

This quality improvement project provides valuable insight during a time when many oncology practices are moving to a performance-based payment system. Requirements by payers have begun to include ACP, PC, and code status documentation. Practices nationwide are looking for an efficient and practical model to offer these programs and fulfil insurance requirements for reimbursement. This model is reproducible, and APPs can easily be trained to do these consultations. Ideally, they have a palliative care certification, but it is not necessary. Automatic triggers are ideal in terms of patient recruitment and eligibility. This program would potentially lead to more referrals to outpatient PC programs as well. This type of high-value, high-quality care can increase the quality of life for patients and their families.

## Measures

Multiple measures were assessed to study the outcomes of this ACP intervention and the outcomes reliability and validity, including treatment interference, attrition, and selection bias. The outcomes measured were the number of stage IV cancer patients from 2013 to 2019 who received the ACP consultation, had chemotherapy in the last 14 days of life, and had documented ACD documentation as aligned within the ASCO QOPI initiative (ASCO, 2015; ACSO, 2019). Specifically, the goal was to see a decrease in patients receiving chemotherapy in the last 14 days of life by 40% and an increase in patients who have ACD documentation by 60%.

Treatment interference may have been an issue in that patients may have received outside PC consultations that could have contributed to early hospice enrollment and ACP as opposed to this model leading to the observed outcomes. The patients evaluated were not receiving outpatient palliative care, so this was avoided. Moreover, patients may have been receiving regular cancer care (separately from MCMW) within the office by the APP, MD, or social worker, which could lead to hospice transitions and ACD completion. The ACDs were completed most often on the same day as the consult visit, which confirmed it was the intervention that led to the outcome. Attrition could also be an issue. It is possible that the program was pushing patients into PC and ACP instead of these interventions being their choice after understanding more about their disease from the APP. Selection bias could have occurred since this program was not randomized.

## Analysis

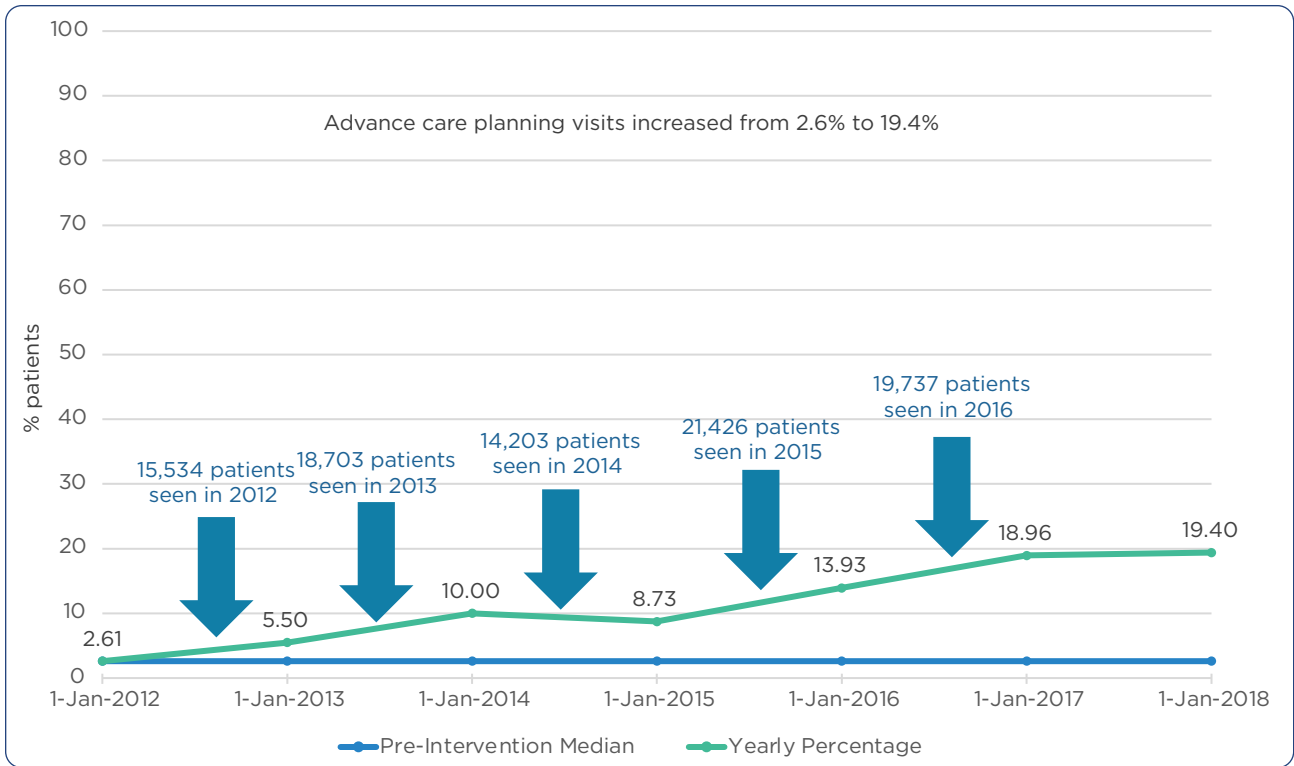
Outcome measures included an analysis of patients from 2012 to 2019 who received an MCMW consultation with an APP, those who had chemotherapy in the last 14 days of life, and those who had ACD documentation. Each of these measures was plotted on a different control run chart plotted annually from 2012 to 2019, illustrating the changes over time of each of these outcomes obtained. Upper and lower control limits and Shewhart's theory of variation ("assignable-cause" vs. "chance-cause" variation) were considered to assess outlying data. If outliers were seen, the details of staffing,

changes in the oncology clinic, and program adjustments that year would need to be investigated to determine if they played a role in the findings. A lower patient census, data errors within the EMR, lack of documentation by the APP or clinic staff (date of death for instance), fatigue among APPs to perform these visits at certain time intervals, and a lack of automatic triggers could have led to these outliers. Pearson correlation coefficient was determined via a scatter matrix plot to assess the relationship between all variables, including ACP, time (measured in years), ACD, and chemotherapy at the end of life.

## RESULTS

As seen in Figure 1, the number of patients receiving ACP visits within the MCMW program increased from 2.6% in 2012 to 5.5% in 2013, 10% in 2014, 8.73% in 2015, 13.93% in 2016, 18.96% in 2017, and finally 19.4% in 2018. This was an overall increase of 16.8 percentage points from 2012 to 2018. This translated into an interval percentage change of ACP visits by  $+646.15\% \left( \frac{(y_2 - y_1)}{y_1} * 100 = \text{percentage change} \right)$ . It should be noted that the number of ACP visits did not grow in a linear fashion from the time the MCMW program was initially implemented. There was variation seen annually. This trended with the overall patient census seen in the clinic each year. It was identified that in 2012, 15,534 patients were seen, 18,703 in 2013, 14,203 in 2014, 21,426 in 2015, and 19,737 in 2016. The census data were not available in 2017 and 2018 according to the nurse manager and corporate administrators.

The percentage of patients receiving chemotherapy in the last 14 days of life is illustrated in Figure 2. At baseline in 2012, 12.5% of patients received chemotherapy in the last 14 days of life. In 2013, 2.7%, 13.15% in 2014, 3.84% in 2015, 6.38% in 2016, 6.66% in 2017, and 7.14% in 2018. This was an overall decrease of 5.36 percentage points from 2012 to 2018. This translated to a percentage change of  $-42.88\%$  in terms of the number of patients receiving chemotherapy at the end of life from 2012 to 2018. Some of the variations seen over time may have again been due to the patient census variability each year. In 2013 and in 2015 specifically, there was an uptick in the number of patients seen, which could have led to a larger



**Figure 1.** Percentage of advance care planning visits from 2012 to 2018. The patient census is also shown with blue arrows.

number of overall patients receiving chemotherapy at the end of life at that time.

In Figure 3, the number of ACDs completed (defined as either a Colorado MOST form, living will or MDPOA form) was evaluated and plotted on the run chart. In 2012 at baseline, the number of patients who completed an ACD was 17.5%, 16.2% in 2013, 34.2% in 2014, 42.3% in 2015, 27.6% in 2016, 42.2% in 2017, and 37.5% in 2018. This was an overall increase of 20 percentage points. The results translated into a percentage change of +114.3%.

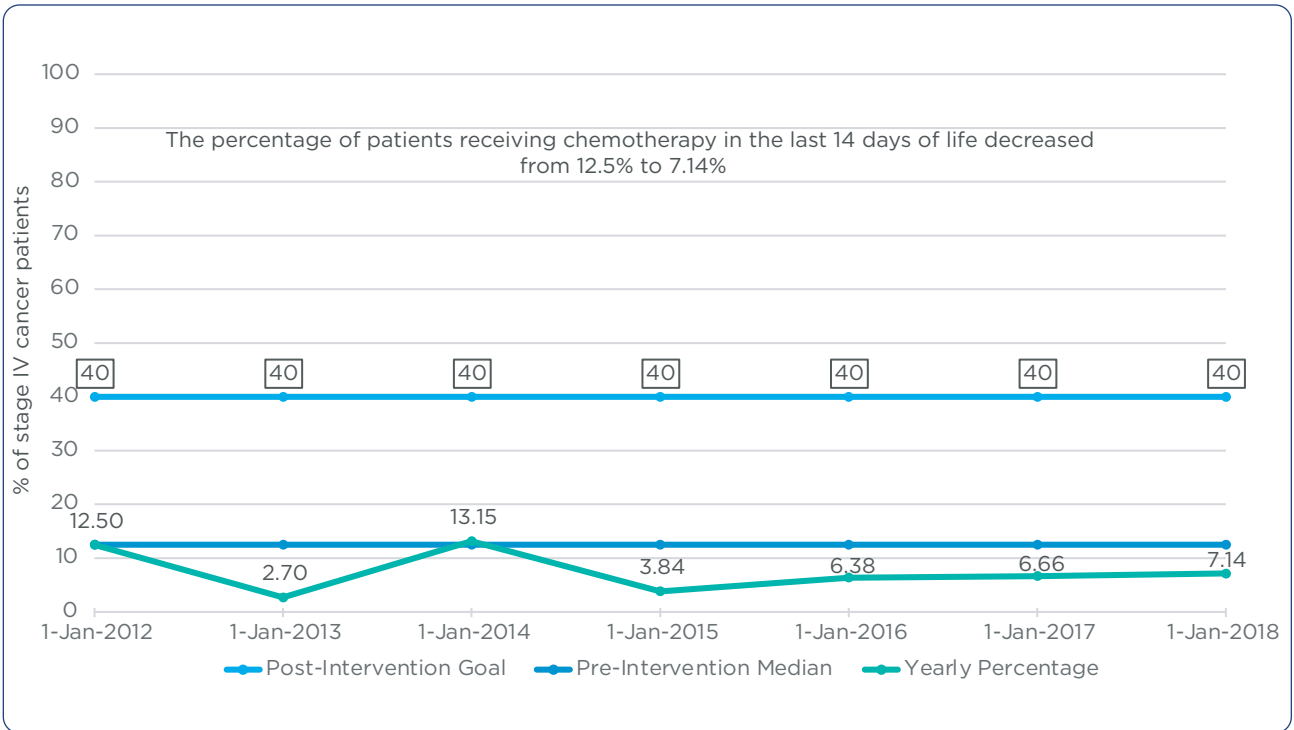
Figure 4 shows a scatter matrix plot illustrating the relationship between ACP visits over time, ACDs, and chemotherapy in the last 14 days of life. A positive correlation was identified between ACP visits and years (ACP visits went up over time), and between ACP visits and ACD completion. Over time (from 2012 to 2018), with an increase in the number of ACP visits and ACDs completed, the number of patients receiving chemotherapy at the end of life was found to decrease.

The budget of the overall ACP program was also evaluated. As seen in Figure 5, this model of

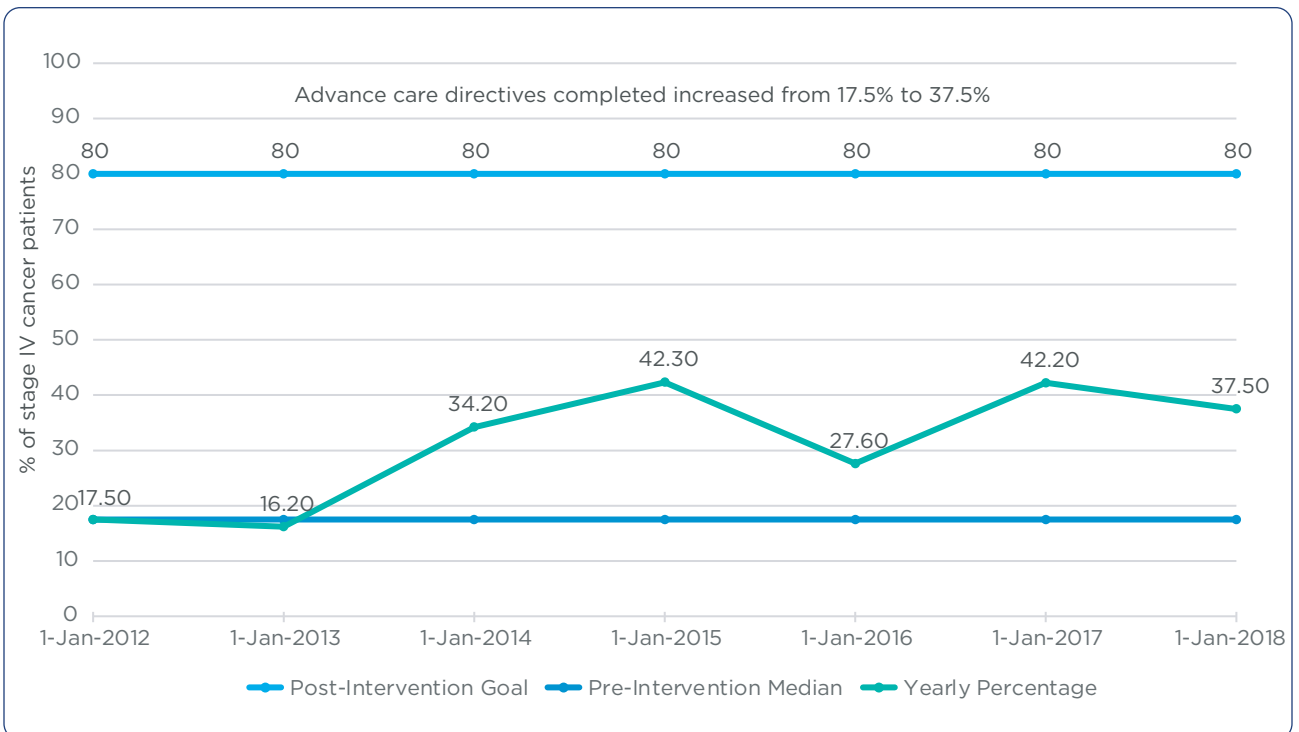
PC/ACP proved profitable after 12 months. This was based on an average consult reimbursement rate of \$354. \$189 was the charge for the first 3 minutes, then \$165 each additional 30 minutes based on reimbursement data obtained through the clinical nurse manager.

### DISCUSSION

The final data analysis confirmed that over the years the MCMW program was being evaluated from 2012 to 2018, a percentage change of -42.88% in patients receiving chemotherapy in the last 14 days of life and +114.9% change in patients completing ACD documentation was seen. The Pearson correlation coefficient also illustrated a positive relationship between ACP visits and ACD completion and an inverse relationship between both ACP and ACD completion with the percentage of patients receiving chemotherapy at the end of life. This makes it evident that the program was indeed effective in obtaining the desired outcomes. Moreover, the budget analysis proved that high-quality, high-value care could be provided without fiscal loss to the practice itself.



**Figure 2.** Percentage of patients who received chemotherapy in the last 14 days of life from 2012 to 2018.



**Figure 3.** Percentage of advance care directives completed from 2012 to 2018.



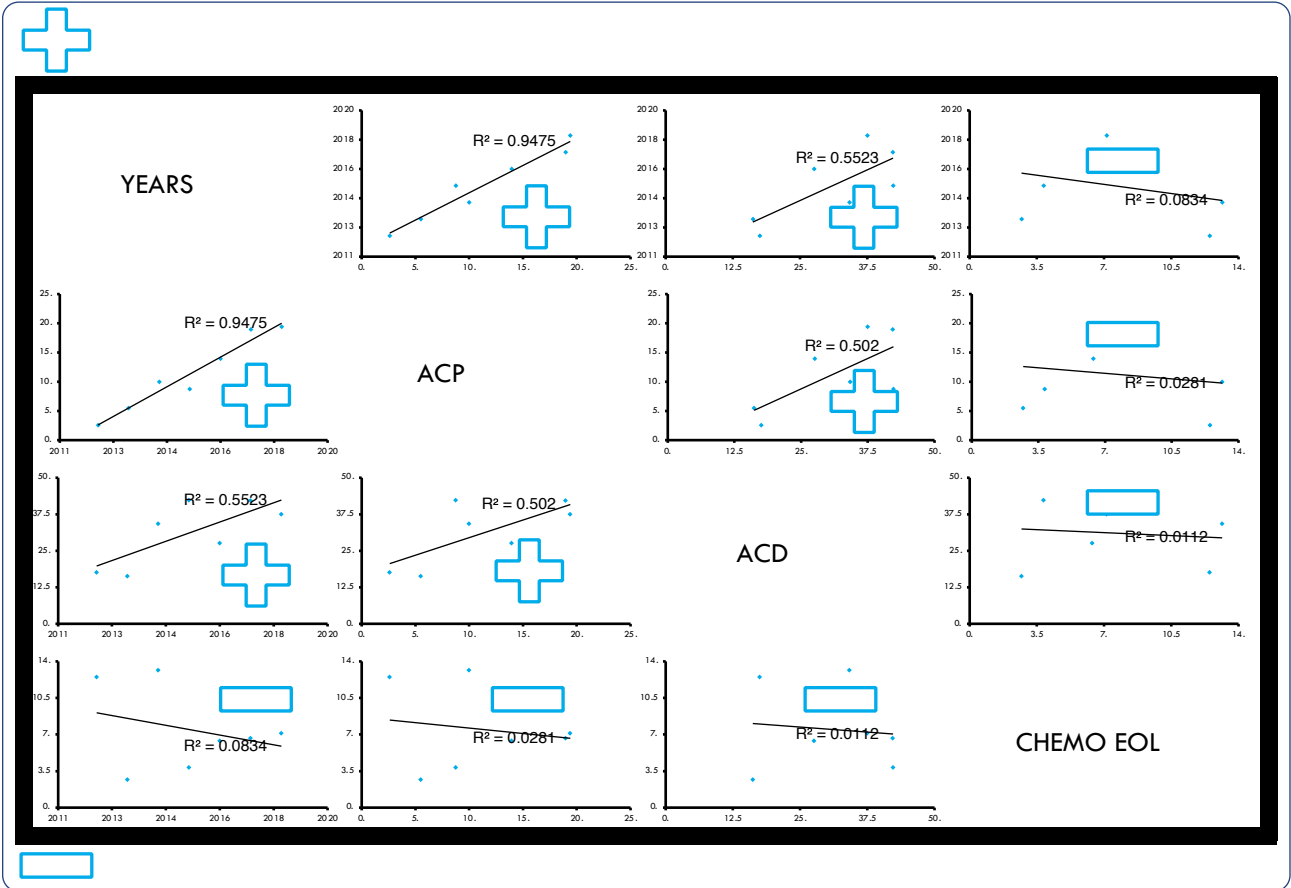


Figure 4. Pearson correlation coefficient via scatter matrix plot.

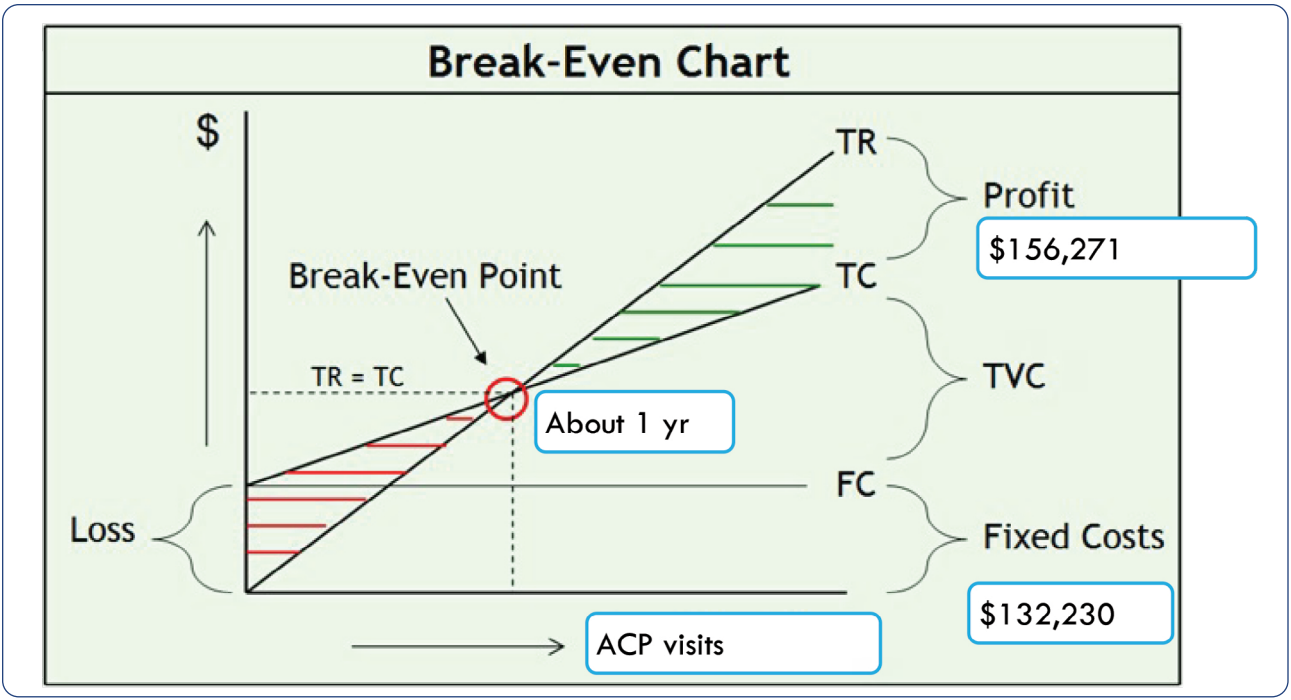


Figure 5. Advance care planning program budget. EBITA: \$24,041 after 1 year based on \$354 per ACP visit and all salary and expenses paid.

As this is an internal APP-run PC/ACP model provided concurrently alongside oncology care, there are limited costs for staffing, space, and equipment. These outcomes illustrate the benefits for not only patients and families but also for practices using this model of care in the form of cost savings and profits.

### Limitations

There were limitations and challenges of this program evaluation project. The COVID-19 pandemic led to a delay in receiving the data requested. There were also initial questions of EMR validity but with a thorough chart view, findings were confirmed to be accurate. Treatment interference and attrition were assessed to determine the reliability and validity of the outcomes of this ACP intervention. Treatment interference may have been an issue in that patients may have received outside PC consultations, which could contribute to early hospice enrollment and ACP, as opposed to the APP-run PC/ACP model leading to the outcomes obtained. Moreover, patients may have been receiving regular cancer care and symptom management (separately from MCMW) within the office by an APP, MD, or social worker, which could lead to hospice transitions and ACD completion. The ACDs, however, were completed most often on the same day as the ACP consult, which confirmed it was most likely the MCMW intervention that led to the outcome. Attrition could also have been a confounding factor. Patients may have completed ACD forms after being pushed into palliative and ACP discussions as opposed to completing these forms by choice after understanding more about their disease from the APP.

### CONCLUSIONS AND IMPLICATIONS

The project illustrates that this model of providing PC/ACP alongside oncology care is effective. ASCO guidelines are not currently being met at 100%, and pay-for-performance models are being instituted requiring these metrics. This project evaluation program confirmed that the MCMW APP-based PC/ACP consultations allowed for ACD completion over time to increase and chemotherapy at the end of life to decrease. The improvements seen over the years the program was being offered make it clear that this model offers a

true solution to provide these valuable services to patients and their families.

This model of PC/ACP is not only effective but also realistic and reproducible. The APP profession is growing, and these providers will continue to be trusted members of the team for patients undergoing cancer care. It is important to ask, however, how a PC/ACP program can remain sustainable. The program needs to be continuously reevaluated and refined so as to guarantee high-quality, high-value care. Cost savings and profits are realistic and encourage shareholder acceptance. Automatic triggers, utilizing new telemedicine options, and providing earlier ACP consultations are ways to guarantee growth, expansion, and access. Collaboration with all members of the team, tracking financial gain, and ongoing tools for communication for staff are also key to this model's success.

There is still a need to understand more about why patients pursue chemotherapy at the end of life and improve our skills to discuss these issues with patients and families. If we provide PC/ACP earlier and more often, does this change the outcome in any way? Are newer immunotherapies leading to different outcomes, specifically treatment at the end of life? We must improve collaboration within the multidisciplinary team to effectively improve referrals and expand PC/ACP within the oncology setting. The goal remains to improve the quality of life of patients and families and provide high-quality, high-value care within our communities and health-care systems. ●

### Disclosure

The author has no conflict of interest to disclose.

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