

APPENDIX A: NEEDS ASSESSMENT WITH REFERENCES

Background

Pancreatic cancer is responsible for over 40,000 deaths each year in the United States [Siegel 2016]. It is one of the most lethal types of cancers and has a 5-year overall survival rate of only 8% [Siegel 2016]. In fact, pancreatic cancer is one of the few types of cancers where patient mortality is actually rising despite the development of new treatments [Siegel 2016]. The disease is expected to be the second leading cause of cancer-related death in the United States by 2030 [Rahib 2014]. The cancer progresses rapidly and patients rarely exhibit obvious symptoms during early stages [Engebretson 2015]. This is thought to contribute to a late diagnosis and poor prognosis [Nagri 2016]. As a result, the cancer has already metastasized in over half of patients by the time of diagnosis [Engebretson 2015; Siegel 2016]. Surgery is the most effective treatment for pancreatic cancer. However, 80% of patients are not candidates for resection due to poor tumor placement or advanced disease [Vincent 2011; Karanikas 2016].

A recent survey found less than 25% of oncologists were confident in their ability to integrate new agents into their clinical practice.

Although these statistics are discouraging, recent advances in first and second-line treatment options hold considerable promise to improve patient outcomes. Education on first and second-line therapy advances can help oncologists navigate a rapidly evolving treatment landscape to select the most appropriate regimen for patients.

Gap: Data show that oncologists remain uncertain on how to select the most appropriate regimen for their patients with advanced pancreatic cancer throughout the continuum of their disease. Thus, there is a need to educate and improve the performance of oncologists on the use of evidence-based medicine in the management of patients with advanced pancreatic cancer in the first and second-line setting.

The vast majority of pancreatic cancer patients are diagnosed with locally advanced or metastatic disease and require systemic therapy [NCCN 2016]. However, many oncologists find it challenging to keep up-to-date with first and second-line treatments. A comprehensive survey conducted by Medscape that targeted 50 oncologists revealed critical gaps in physician confidence for first and second-line therapies. Only 50% of respondents reported confidence selecting a first line therapy, and a mere 20% of respondents were confident in their ability to select a therapy to overcome treatment resistance [Medscape Education Survey 2015].

APPENDIX A: NEEDS ASSESSMENT WITH REFERENCES (*continued*)

In extreme cases, knowledge deficiencies in pancreatic cancer treatments may contribute to undertreatment of the disease [Engebretson 2016]. The Pancreatic Cancer Action Network conducted an extensive survey of almost 400 pancreatic cancer patients and their caregivers in 2013 and found that more than 9% of patients in early stages of the disease and 17% of patients with metastatic disease did not receive treatment, frequently at their doctor's recommendation [Engebretson 2015; Engebretson 2016]. While this is sometimes an appropriate medical approach, other studies have also reported an undertreatment of pancreatic cancer. An earlier study examining 977 patients found that 27% of patients in early stages of the disease received no treatment, and over half of patients with advanced cancer received no treatment [Enewold 2015]. These collective data highlight the need for ongoing education about advances in therapy options that can improve patient outcomes throughout the continuum of the disease.

Until relatively recently, the standard chemotherapy treatment for metastatic pancreatic cancer was gemcitabine monotherapy [Goldstein 2016]. However, combination chemotherapies including gemcitabine with nab-paclitaxel and FOLFIRINOX have recently emerged as standard first-line treatments for both locally advanced and metastatic disease and may help extend overall patient survival to nearly a year [NCCN 2016; Goodman 2014; Gourgou-Bourgade 2013; Conroy 2011; Von Hoff 2013]. In addition, certain subgroups of patients with a genetic predisposition to pancreatic cancer may also benefit from regimens containing cisplatin or oxaliplatin [Fogelman 2015; NCCN 2016]. Physicians therefore need to weigh a range of evidence before selecting the best treatment for patients from this growing list of options. The patient's age, performance status, comorbidities, and family history should all factor into a treatment decision [NCCN 2016]. Physicians may struggle to balance this evidence along with patient preference and concerns about quality of life. The same aforementioned survey conducted by the Pancreatic Cancer Action Network found that 50% of respondents did not discuss treatment options at time of diagnosis and 20% never discussed options with their doctor [Engebretson 2015; Engebretson 2016]. Educational programs that can help train physicians to navigate patient preferences and medical histories to select appropriate treatments have the potential to improve overall patient outcome [Goodman 2014; Bekaii-Saab 2016]. Such programs may also help increase physician confidence to adopt new and effective therapies into their clinical practice. The abovementioned 2015 Medscape survey targeting 50 oncologists found that less than 25% of respondents were confident in their current ability to integrate new agents into their clinical practice [Medscape Education Survey 2015].

Second-line treatment decisions may be even more difficult for physicians to navigate. Second-line therapies could improve outcomes in patients that maintain good performance status [Nagriyal 2015]. However, less than 50% of patients receive a second-line treatment [Sinn 2016]. Similar to first-line treatments, physicians need to consider a range of evidence during selection of second-line therapies. In addition to age, comorbidities, performance status, family history, and patient preference, physicians also need to take into account the first-line therapy the patient previously received. Many of the first-line therapies previously mentioned can be used as second-line therapies as well. In addition, irinotecan liposomal injection (MM-398) in combination with 5-fluorouracil and leucovorin was recently approved for second-line treatment of metastatic pancreatic cancer previously treated with gemcitabine-based therapies and may help improve overall survival by more than six months [Wang-Gillam 2016]. Selecting a therapy ideal for a patient's unique circumstances from this growing list of options can be challenging [Nagriyal 2015; Sinn 2016]. A recent survey conducted by Medscape targeted 50

APPENDIX A: NEEDS ASSESSMENT WITH REFERENCES (*continued*)

oncologists and illustrated the difficulty oncologists have in evaluating this evidence to select a treatment option. During a case study, 26% of respondents were unable to correctly select a second-line treatment recommended by the NCCN [Medscape Education Survey 2015]. Response data from activity and preactivity questionnaires in recent Medscape activities also underscore oncologist unfamiliarity with second-line treatment options. During two case studies, 42.8% and 57.8% of hematologists/oncologists failed to identify the preferred second-line therapy for a patient with metastatic pancreatic cancer [Bekaii-Saab 2016; Ko 2016].

These data suggest that educating oncologists about the full range of first and second-line treatment options will improve the adoption of newer evidence-based pancreatic cancer regimens and improve patient outcome.

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APPENDIX A: NEEDS ASSESSMENT WITH REFERENCES (continued)

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