

**NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE**

**Single Technology Appraisal**

**Paclitaxel as albumin-bound nanoparticles with gemcitabine for untreated metastatic pancreatic cancer**

**Final scope**

**Remit/appraisal objective**

To appraise the clinical and cost effectiveness of paclitaxel formulated as albumin-bound nanoparticles in combination with gemcitabine within its marketing authorisation for previously untreated metastatic adenocarcinoma of the pancreas.

**Background**

The pancreas is a large gland located behind the stomach that is part of the digestive system. Pancreatic cancer does not usually cause any symptoms in its early stages, which can make it difficult to diagnose. The first symptoms may include pain in the back or stomach area, unexpected weight loss or jaundice (yellowing of the skin and whites of the eyes). The most common type of pancreatic cancer is adenocarcinoma.<sup>1</sup> About 45–55% have metastatic disease (meaning the cancer has spread to other parts of the body).<sup>2</sup>

In 2014, there were 8,080 people diagnosed with pancreatic cancer in England.<sup>3</sup> Pancreatic cancer affects men and women equally and about 75% of people diagnosed with pancreatic cancer are aged 65 years or over.<sup>3</sup> There were around 7,400 deaths due to pancreatic cancer in England in 2014.<sup>4</sup> The prognosis depends on how advanced the disease is when it is diagnosed. On average, about 21% of people with pancreatic cancer survive 12 months.<sup>5</sup>

Surgery is usually the only way pancreatic cancer can be cured, but it is only suitable for the 15-20% of people who have early stage disease. There is no established treatment pathway for treating metastatic pancreatic cancer. People may be offered chemotherapy, radiotherapy or palliative surgery to help control tumour growth and symptoms. These treatments may be given alone or in combination with each other.

NICE technology appraisal guidance 25 recommends gemcitabine for untreated advanced or metastatic adenocarcinoma of the pancreas, only if the person has a Karnofsky performance score of 50 or more and potentially curative surgery is not a suitable treatment. Other treatment options used in clinical practice, off-label, for treating metastatic pancreatic cancer include capecitabine in combination with gemcitabine and oxaliplatin in combination with irinotecan, fluorouracil and leucovorin (FOLFIRINOX).

NICE technology appraisal guidance 360 did not recommend paclitaxel as albumin bound nanoparticles in combination with gemcitabine for adults with previously untreated metastatic adenocarcinoma of the pancreas. The company has proposed a patient access scheme for paclitaxel as albumin bound nanoparticles and also indicated that there is new evidence available, which might lead to a change in the existing recommendations.

### The technology

Paclitaxel as albumin-bound nanoparticles (Abraxane, Celgene) is a form of paclitaxel that inhibits cancer growth by blocking cell division and promoting cell death. The formulation contains albumin to help transport paclitaxel through the walls of blood vessels. This is thought to increase the amount of paclitaxel in the area of the tumour. Paclitaxel as albumin-bound nanoparticles is administered as an intravenous infusion.

Paclitaxel as albumin-bound nanoparticles in combination with gemcitabine has a marketing authorisation in the UK for the first-line treatment of adult patients with metastatic adenocarcinoma of the pancreas.

<b>Intervention</b>	Paclitaxel as albumin-bound nanoparticles
<b>Population</b>	People with previously untreated metastatic adenocarcinoma of the pancreas
<b>Comparators</b>	<ul style="list-style-type: none"> <li>• Gemcitabine</li> <li>• Gemcitabine plus capecitabine</li> <li>• Oxaliplatin plus irinotecan, fluorouracil and leucovorin (FOLFIRINOX)</li> </ul>
<b>Outcomes</b>	<p>The outcome measures to be considered include:</p> <ul style="list-style-type: none"> <li>• overall survival</li> <li>• progression-free survival</li> <li>• time to tumour progression</li> <li>• response rate</li> <li>• adverse effects of treatment</li> <li>• health-related quality of life.</li> </ul>

<b>Economic analysis</b>	<p>The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year.</p> <p>The reference case stipulates that the time horizon for estimating clinical and cost effectiveness should be sufficiently long to reflect any differences in costs or outcomes between the technologies being compared.</p> <p>Costs will be considered from an NHS and Personal Social Services perspective.</p> <p>The availability of any patient access schemes for the intervention of comparator technologies will be taken into account.</p>
<b>Other considerations</b>	<p>Guidance will only be issued in accordance with the marketing authorisation. Where the wording of the therapeutic indication does not include specific treatment combinations, guidance will be issued only in the context of the evidence that has underpinned the marketing authorisation granted by the regulator.</p>
<b>Related NICE recommendations and NICE Pathways</b>	<p>Related Technology Appraisals:</p> <p>‘Guidance on the use of gemcitabine for the treatment of pancreatic cancer’ (2001). NICE Technology Appraisal 25. Guidance on static list.</p> <p>Terminated appraisals:</p> <p>‘Pancreatic cancer – capecitabine’ NICE technology appraisal guidance. Suspended.</p> <p>‘Masitinib for the treatment of locally advanced of metastatic pancreatic cancer’ NICE technology appraisal guidance. Suspended.</p> <p>Appraisals in development:</p> <p>‘Pancreatic cancer (metastatic, untreated) - liposomal cisplatin (with gemcitabine)’ NICE technology appraisals guidance [ID658] Publication expected TBC.</p> <p>‘Pancreatic cancer (metastatic) - nimotuzumab (1st line)’ NICE technology appraisals guidance [ID513] Publication expected TBC.</p> <p>Related Guidelines:</p> <p>None</p> <p>Guidelines in development</p> <p>‘Pancreatic cancer’. Publication expected January 2018</p>

	<p>Related Interventional Procedures:</p> <p>'Irreversible electroporation for treating pancreatic cancer' (2013). NICE interventional procedures guidance 442.</p> <p>Related NICE Pathways:</p> <p>Gastrointestinal cancers (2016) NICE pathway  <a href="https://pathways.nice.org.uk/pathways/gastrointestinal-cancers">https://pathways.nice.org.uk/pathways/gastrointestinal-cancers</a></p>
<p><b>Related National Policy</b></p>	<p>NHS England (May 2016) <a href="#">Manual for prescribed specialised services 2016/17</a></p> <p>Chapter 131: Specialist services for complex liver, biliary and pancreatic diseases in adults.</p> <p>NHS England 2013/14 <a href="#">NHS standard contract for cancer: pancreatic (adult)</a> A02/S/b</p> <p>NHS England 2013/14 <a href="#">NHS standard contract for hepatobiliary and pancreas (adult)</a> A02/S/a</p> <p>Department of Health (2016) <a href="#">NHS outcomes framework 2016 to 2017</a>  Domains 1, 2, 4, 5.</p>

## References

1. Ducreux et al. (2015) [Cancer of the pancreas: ESMO Clinical Practice guidelines for diagnosis, treatment and follow-up](#). Annals of Oncology 26 (Supplement 5): v56–v68
2. Pancreatic cancer UK (2015) [Facts about pancreatic cancer](#). Accessed May 2015.
3. Office for National Statistics (2016) [Cancer Registration Statistics](#), England. Accessed November 2016.
4. Cancer Research UK (2016) [Pancreatic cancer mortality statistics](#). Accessed November 2016.
5. Cancer Research UK (2016) [Pancreatic cancer survival statistics](#). Accessed November 2016.