NICE National Institute for Health and Care Excellence

Putting NICE guidance into practice

Resource impact report:
Carfilzomib for previously treated multiple myeloma (TA657)

Published: July 2017

Last updated: November 2020

Summary

NICE has recommended carfilzomib, in combination with dexamethasone, as an option for treating multiple myeloma in adults that have had only 1 previous therapy. The recommendation is a review of TA457 (Carfilzomib for previously treated multiple myeloma) because of a change in the multiple myeloma treatment pathway in the NHS. This results in a larger population now being eligible for carfilzomib because the recommendation no longer states that bortezomib must not have been received previously.

We estimate that:

- around 3,520 people with multiple myeloma are eligible for treatment with carfilzomib each year.
- around 900 people will have carfilzomib from year 4 onwards once uptake has reached 26% as shown in table 1.

Table 1 Estimated number of people in England having carfilzomib

	Current Practice	2020/21	2021/22	2022/23	2023/24	2024/25
New population having carfilzomib each year (bortezomib first line)	0	18	141	176	215	215
Total population having carfilzomib each year	**686**	**704**	**827**	**862**	**901**	**901**
Note: Year 1 adjusted to reflect up to 5 months uptake from November 2020.						

This report is supported by a local resource impact template because the list price of carfilzomib has a discount that is commercial-in-confidence. The discounted price of carfilzomib and comparator treatments can be put into the template and other variables may be amended.

This technology is commissioned by NHS England. Providers are NHS hospital trusts.

1 Carfilzomib

1.1 NICE has recommended carfilzomib, in combination with dexamethasone, as an option for treating multiple myeloma in adults. This is only if:

- the patient has had only 1 previous therapy,
- the company provides carfilzomib according to the commercial arrangement.

1.2 The recommendations are a review of previously published TA457 (Carfilzomib for previously treated multiple myeloma). The multiple myeloma treatment pathway in the NHS has changed since TA457 was published in 2017.

1.3 The original recommendations in TA457 stated that carfilzomib could be used after 1 previous therapy that did not include bortezomib. The updated recommendation increases the eligible population because it no longer stipulates the type of previous therapy.

1.4 During TA457, the committee understood that people could have thalidomide or bortezomib as their first treatment. For those who had thalidomide, the second treatment was usually bortezomib. For those who had bortezomib, the second treatment was usually chemotherapy, but this has since changed to bortezomib (re-treatment).

Most people are now offered bortezomib as their first treatment, and so the stipulation in the recommendation in TA457 that people must not have previously had bortezomib limited treatment options at second line.

1.5 Evidence submitted to the committee indicates that the clinical effectiveness (and therefore cost-effectiveness) of carfilzomib in

people who had previously had bortezomib was expected to be the same as in those who had not.

2 Resource impact of the guidance

2.1 We estimate that:

- around 3,520 people with multiple myeloma are eligible for treatment with carfilzomib each year.
- around 900 people will have carfilzomib from year 4 onwards once uptake has reached 26% as shown in table 1.

2.2 The current treatment and future uptake figure assumptions are based on clinical expert opinion and are shown in the resource impact template. Table 2 shows the number of people in England who are estimated to have carfilzomib by financial year.

Table 2 Estimated number of people having carfilzomib using NICE assumptions

	Current Practice	2020/21	2021/22	2022/23	2023/24	2024/25
New population having carfilzomib each year (bortezomib first line)	0	18	141	176	215	215
Total population having carfilzomib each year	**686**	**704**	**827**	**862**	**901**	**901**
Note: Year 1 adjusted to reflect up to 5 months uptake from November 2020.						

2.3 This report is supported by a local resource impact template. Carfilzomib has an agreed patient access scheme which makes it available with a commercial-in-confidence discount to the list price. The discounted price of carfilzomib can be put into the template and other variables may be amended. Please direct any enquiries about the patient access scheme to commercial-team@amgen.com.

Savings and benefits

2.4 Clinical experts suggest carfilzomib offers a number of quality of life improvements over current treatment options because it does not appear to be associated with neuropathic adverse reactions to the same extent as standard treatment and offers an increased remission time.

3 Implications for commissioners

3.1 This technology is commissioned by NHS England. Providers are NHS hospital trusts.

3.2 Carfilzomib for previously treated multiple myeloma falls within the programme budgeting category 02l – cancer, haematological.

4 How we estimated the resource impact

The population

4.1 In England, around 5,000 people were diagnosed with multiple myeloma in 2017 (Cancer registration statistics 2017, Office for National Statistics).

4.2 Table 3 shows the number of adults with multiple myeloma eligible for treatment with carfilzomib.

Table 3 Number of people eligible for treatment in England

Population	Proportion of previous row (%)	Number of people
Total population		54,786,327
Adult population		44,022,560
Incidence of multiple myeloma[1]	0.01%	5,000
People ineligible for stem cell transplant who have first line treatment[2]	69.9%	3,520
Proportion of people who are treated with bortezomib first line[2] - the newly eligible population	61% (of 3,520)	2,150
Plus, existing people eligible to be treated with carfilzomib not treated with bortezomib first line[3] - people eligible for carfilzomib in the original TA457 recommendation	39% (of 3,520)	1,370
Total number of people estimated to have carfilzomib each year from year 2023/24[4]	26% (of 3,520)	900

[1] Cancer registration statistics, England - Office for National Statistics

[2] Company submission (TA586)

[3] NHS England (TA457)

[4] NHS England and existing population having carfilzomib from TA457

Assumptions

4.3 The resource impact template assumes that:

- The proportion of 69.9% for people who are ineligible for stem cell transplant and likely to have second line treatment is taken from the company submission for TA586. The eligible population is estimated to be split between:
  - people who have bortezomib previously (61%) - the newly eligible population
  - people who have not had bortezomib previously (39%) - people eligible for carfilzomib in the original TA457 recommendation (2017).
- The comparator treatments are bortezomib plus dexamethasone, lenalidomide plus dexamethasone and

daratumumab plus bortezomib and dexamethasone all at second line.

- Daratumumab with bortezomib and dexamethasone is currently funded by the cancer drugs fund budget (see TA573). TA573 will be considered for review by the date the managed access agreement expires (January 2021) at which point daratumumab may be recommended for use in routine commissioning. The resource impact template includes the option for the confidential price of daratumumab to be inserted.
- The current uptake estimates are taken from clinical expert advice. The current uptake for carfilzomib of 20% is based on clinical opinion from the time of the original recommendation in TA457 (for people who have not had bortezomib as a previous treatment) that uptake would be 50% in that population (i.e. 50% x 39%, equivalent to approximately 20% in the updated eligible population). See table on assumptions input worksheet of template for further explanation of how the current and future uptake percentages were calculated.
- Gradual uptake is anticipated during the 4 years after implementation to reach a peak uptake of 26% of the eligible population from year 2023/24.
- The model uses average treatment costs for each year. This is assumed to account for any treatment costs extending over a year or under a year. Based on the economic model by the company the average length of a course of treatment with carfilzomib is 12 cycles.

About this resource impact report

This resource impact report accompanies the NICE guidance on Carfilzomib for previously treated multiple myeloma and should be read with it.