

## Northern (NHS) Treatment Advisory Group

### Treatment Appraisal: Decision Summary

<b>Date</b>	27 <sup>th</sup> February 2018
<b>Appraisal &amp; Details</b>	The Northern (NHS) Treatment Advisory Group considered an appraisal of <b>Daily vs on-demand PDE-5 inhibitors for management of erectile dysfunction following treatment for prostate cancer.</b>
<b>Recommendation</b>	<b>The Northern (NHS) Treatment Advisory Group recommends that on the basis of evidence available there was no evidence to recommend the use of daily dosing over on-demand dosing of PDE5 inhibitors, and there was no evidence that tadalafil was superior to sildenafil. On this basis NTAG recommends on-demand dosing using the PDE5 inhibitor with the lowest acquisition cost, currently this is generic sildenafil.</b>
<b>Clinical evidence summary</b>	<p>There is limited evidence comparing daily and on-demand treatment regimens.</p> <p>Three systematic reviews (with extensive overlap in included trials) and one additional double-blind RCT provide evidence in men who have undergone radical prostatectomy. Both daily and on-demand use of PDE5 inhibitors produced improvements in erectile function compared to baseline.</p> <p>One meta-analysis pooled data for several PDE5 inhibitors and found that on-demand use was associated with a higher probability of erectile function recovery than daily use (ratio of OR 1.8, 95% CI 1.4 to 2.4, <math>p &lt; 0.0001</math>). This effect disappeared when data for tadalafil alone were examined; there was no data for sildenafil.</p> <p>There was no other evidence of any difference in outcomes between daily and on-demand use of any PDE5 inhibitor. There was no evidence comparing sildenafil with tadalafil.</p> <p>Only one small phase II trial provided evidence in men who had received radiotherapy. It found no difference in outcomes between tadalafil 5 mg daily and 20 mg on-demand.</p>
<b>Safety</b>	Adverse effects reported in this patient population were in line with the known adverse drug reaction profile of the PDE5 inhibitors, and included flushing, headache, nasal congestion and dyspepsia. No new safety concerns were identified.
<b>Patient Perspective</b>	<p>Erectile dysfunction (ED) is extremely common following treatment for prostate cancer, since the available treatments (radical prostatectomy, androgen deprivation therapy, radiotherapy) can cause physical trauma, vascular changes and endocrine changes, all of which can have a negative impact on erectile function.</p> <p>Standard management for ED involves prescription of PDE5 inhibitors such as sildenafil or tadalafil. These treatments are effective in men with ED due to treatment for prostate cancer, but there is some debate as to the most appropriate treatment regimen. UK clinical practice guidelines recommend either once daily or on-demand PDE5 inhibitors, or some combination of the two. There is limited evidence comparing daily and on-demand treatment</p>



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<b>Cost analysis summary</b>	<p>Daily use of PDE5 inhibitors is more expensive than on-demand use. Sildenafil is currently less costly than tadalafil. However, tadalafil came off patent relatively recently and the Drug Tariff price may change in coming months.</p> <p>Estimates for the number of men treated in the NTAG region each year are not available. Cancer Research UK estimates that the crude rate of prostate cancer in the UK is 149.2 per 100,000. The NTAG region has a population of around 1.45 million men, so around 2165 new cases of prostate cancer would be expected each year. Cancer Research UK further estimates that around 15% of patients have surgery to remove prostate tumours, while a further 32% have radiotherapy as part of their primary treatment.</p>
<b>Financial impact</b> <b>PbR: NA</b>	If used as outlined in the guidance the financial impact of this recommendation is expected to be low.