Nephrology Subcommittee of the Pharmacology and Therapeutics Advisory Committee (PTAC)

Meeting held on 20 March 2018

(minutes for web publishing)

Nephrology Subcommittee minutes are published in accordance with the *Terms of Reference for the Pharmacology and Therapeutics Advisory Committee (PTAC) and PTAC Subcommittees 2016.*

Note that this document is not necessarily a complete record of the Nephrology Subcommittee meeting; the relevant portions of the minutes relating to Nephrology Subcommittee discussions about an Application or PHARMAC staff proposal that contain a recommendation are generally published.

The Nephrology Subcommittee may:

(a) recommend that a pharmaceutical be listed by PHARMAC on the Pharmaceutical Schedule and the priority it gives to such a listing;

(b) defer a final recommendation, and give reasons for the deferral (such as the supply of further information) and what is required before further review; or

(c) recommend that PHARMAC decline to list a pharmaceutical on the Pharmaceutical Schedule.

These Subcommittee minutes were reviewed by PTAC at its meeting on 1 & 2 November 2018, the record of which will be available in due course.

Record of the Nephrology Subcommittee meeting held at PHARMAC on 20 March 2018

1 Record of previous minutes

1.1 The Subcommittee discussed the clinician funding application for tolvaptan for autosomal dominant polycystic kidney disease considered at the 2016 meeting. Members noted PTAC had reviewed the recommendation from the Subcommittee to fund tolvaptan with high priority and did not accept this recommendation. PTAC noted data to support the application was very early and still developing, noting there are some concerns regarding liver toxicity. PTAC noted the high health need of this patient group and lack of funded alternatives, however noted that consideration of funding tolvaptan should follow the usual PHARMAC process of Medsafe approval and a funding application from the supplier for review by PTAC. The Subcommittee noted there was another agent in development for this condition that may also be relevant.

1.2 The Subcommittee considered that the remaining minutes were an accurate record of the meeting that took place on 6 December 2016.

2 Therapeutic Group Review

Previous recommendations and action points

2.1 The Subcommittee reviewed a summary of active recommendations and action points from the 2014 and 2016 Subcommittee meetings and noted the status update and relevant PTAC minutes.

2.2 The Subcommittee noted that the completed recommendations and action points, and those with no further action required, would be removed from the summary list.

2.3 The Subcommittee noted that the supplier of lanthanum had recently submitted an application to Medsafe and that PHARMAC staff expect a funding application would be submitted following Medsafe approval.

2.4 The Subcommittee noted its recommendation made in December 2016 that pneumococcal, zoster and hepatitis B vaccines be funded for patients with CKD Grades 4 and 5, and PHARMAC should seek relevant funding applications for these vaccines and indications. The Subcommittee noted that the Immunisation Subcommittee reviewed this recommendation at its July 2017 meeting and requested evidence be provided for their review at a future meeting. The Subcommittee requested that it be updated on the outcomes of the Immunisation Subcommittee review.

2.5 The Subcommittee noted its 2016 recommendation that rituximab for membranous nephropathy be reassessed for A2 antibody positive with rapidly deteriorating renal function. PHARMAC has not received an application to date and will follow this up. The Subcommittee considered that the wording of this recommendation should be amended to better reflect the intended patient group. The Subcommittee considered this group should be people with membranous nephropathy, A2 antibody positive, unresponsive to standard therapy and with severe nephrotic syndrome. Members estimated there would be 30 to 50 patients that may fit within this group.

Review of funding applications

2.6 The Subcommittee noted the list of outstanding funding applications and funding decisions which had been completed since the 2016 meeting.

2.7 The Subcommittee noted that widened access to enoxaparin for dialysis patients was funded from 1 July 2017.

Nephrology-related pharmaceuticals review

2.8 The Subcommittee noted a review of funded pharmaceuticals relevant to nephrology provided by PHARMAC staff.

Ferric carboxymaltose

2.9 The Subcommittee noted ferric carboxymaltose was listed in Section B (Community Schedule) from 1 October 2017 subject to Special Authority criteria. Members noted PHARMAC received significant feedback during consultation, including from nephrologists and members of the Subcommittee regarding the use of IV iron in renal disease. The Subcommittee noted the criteria were amended to include a direct pathway to ferric carboxymaltose without a trial of oral iron for patients with chronic renal disease stage 3 or more as they do not absorb oral iron.

2.10 Members noted feedback was also received requesting the duration of Special Authority approval (currently 3 monthly) be extended, to avoid repeat applications for indications where longer term use may be appropriate. The Subcommittee considered the requirement for 3 monthly renewal was clinically appropriate and posed no issue for use in chronic renal disease.

Colecalciferol

2.11 The Subcommittee noted that a proposal for a liquid vitamin D preparation suitable for paediatric patients remains under assessment by PHARMAC. Members noted the difficulties with preparing a liquid preparation from the hard gelatin capsule that is currently funded. Members noted the capsule presentation was appropriate for most patients. The Subcommittee noted PTAC advice regarding this application and the reworded proposed Special Authority criteria. Members agreed with PTAC regarding the fiscal risk of listing a liquid preparation for any age group.

Renal multivitamin

2.12 The Subcommittee noted updated expenditure and patient uptake data on the renal multivitamin listed in October 2015. Members noted that as of 1 February 2018, 3,840 patients have had a Special Authority approval for this product. Members noted PHARMAC estimated there would be up to 4,800 patients in New Zealand who would meet the criteria.

Potassium citrate supplements

2.13 The Subcommittee noted an update on the continued work to source a suitable potassium citrate tablet or capsule formulation. Members noted that PHARMAC will keep the

Subcommittee informed of progress on the registration status of a potassium citrate tablet formulation.

Anticoagulants

The Subcommittee noted that there is generic competition for enoxaparin expected in the near future, as a biosimilar application has been submitted to Medsafe. Members noted PHARMAC would run a competitive process or directly negotiate with suppliers for reduced pricing. The Subcommittee did not have any concerns about the listing of a new brand of enoxaparin in regard to patients with renal disease.

Oncology and immunosuppressants

Tacrolimus

2.14 The Subcommittee noted that a proposal to widen access to tacrolimus has been assessed by PHARMAC and is now ranked as an option for investment. The proposal is to widen access to include patients with non-transplant indications who require long-term systemic immunosuppression and have trialled ciclosporin and discontinued because of unacceptable side effects or inadequate clinical response.

Rituximab

2.15 The Subcommittee noted their interest in the results of the MENTOR study regarding the use of rituximab in membranous nephropathy in adults. Members noted there is no further publication to date, however, preliminary data was discussed at the American Society of Nephrology Kidney Week in late 2017.

Cardiology agents

2.16 The Subcommittee noted information from PHARMAC regarding first-line cardiovascular medicines that have a unique use profile in New Zealand compared to other countries. Members noted this can present a supply risk and risk to patients if therapy is interrupted due to stock issues. The Subcommittee considered it would be very helpful to provide advice and share information to prescribers regarding these issues.

Agents affecting the Renin-Angiotensin System – ACE inhibitors

2.17 The Subcommittee noted cilazapril is the most commonly prescribed ACE-inhibitor in New Zealand. The Subcommittee noted in patients with renal disease, ramipril has the most evidence of benefit.

Beta blockers

2.18 The Subcommittee noted metoprolol is the most commonly prescribed beta-blocker in New Zealand. The Subcommittee noted in patients with renal disease, bisoprolol and carvedilol are the agents of choice as they are well tolerated in patients with impaired renal clearance. Atenolol and sotalol are usually avoided as they require dose reduction as they are renally cleared.

Calcium Channel Blockers

2.19 The Subcommittee had no comments on the use of calcium channel blockers in patients with renal disease.

3 Matters Arising and Correspondence

Calcitriol liquid

3.1 The Subcommittee noted PHARMAC had received a clinician funding application for calcitriol liquid. Members noted that calcitriol liquid 1 mcg/ml was delisted from the Pharmaceutical Schedule in February 2014 due to a global discontinuation from the supplier following product quality issues.

3.2 The Subcommittee noted that calcitriol liquid would primarily be used in paediatric patients with metabolic bone disorders of chronic kidney disease. Members noted that the application considered there were 40-50 children in New Zealand with chronic end stage renal failure, who have raised parathyroid hormone levels and would need supplementation with active vitamin D. Members noted that children with chronic kidney disease are at risk of delayed bone growth which is partly related to abnormalities in the vitamin D and parathyroid hormone axis. Members noted that vitamin D is used earlier in the treatment of childhood renal disease compared to adult patients. Uncontrolled and severe hyperparathyroidism leads to metabolic bone complications, treatment resistant anaemia and cardiac dysfunction.

3.3 The Subcommittee noted that calcitriol is the most bioavailable form of vitamin D that does not require further hepatic metabolism. Members noted that alfacalcidol is the alternative being used currently in New Zealand. Members noted that alfacalcidol requires metabolism by the liver (which may be impaired) and does not have a direct dose relationship to calcitriol dosing. Members considered that clinically there is no evidence that calcitriol is more efficacious than alfacalcidol. Members considered that patients using alfacalcidol in place of calcitriol need significantly higher volumes of medicine to reach equivalent effective doses and this can be problematic.

3.4 Members considered alfacalcidol would be clinically appropriate for the majority of paediatric patients and should remain the first line agent. The Subcommittee considered that there was an unmet need in patients with end stage renal disease who cannot tolerate the increased volume of liquid needed for alfacalcidol or cannot metabolise alfacalcidol. Members considered that 10-15 patients across New Zealand that fall into this group description. Members considered an alternative preparation is required for second line use in this small patient population.

3.5 The Subcommittee noted the cost of calcitriol liquid would likely be significantly more expensive that the approved alfacalcidol liquid preparation. The Subcommittee noted that there was not a registered calcitriol liquid product in New Zealand. Members noted Australia and the UK also do not have an approved product but access unregistered products. Members considered that PHARMAC should explore options for a registered or unregistered product for this patient group. Members considered that calcitriol or paricalcitol liquids should be considered, noting that paricalcitol, a synthetic Vitamin D analogue of calcitriol, is registered in the US and Canada.

Heparin

3.6 The Subcommittee noted that from 2017, there have been ongoing supply issues with heparin sodium injection 1,000 iu per ml, 35 ml vial and as an interim measure to cover the out-of-stock period, it has been necessary to utilise the alternative presentations of heparin sodium injection including the 1,000 iu per ml, 5 ml ampoule and 5,000 iu per ml, 5 ml ampoule.

3.7 The Subcommittee noted that PHARMAC was currently in the process of analysing tender bids and sought advice from the Subcommittee regarding the ongoing clinical need for 1,000 iu per ml, 35 ml vial if the 1,000 iu per ml, 5 ml ampoule remained available.

3.8 The Subcommittee noted the advice of the Tender Medical Subcommittee of PTAC at their February 2018 meeting that noted there could be an increased risk for patient safety with a risk of dispensing and administration error if multiple strengths were available, and hence sought the view of the Nephrology Subcommittee.

3.9 The Subcommittee noted that heparin sodium was currently being used in most patients undergoing haemodialysis to reduce the risk of thrombosis in extra-corporeal haemodialysis systems. The Subcommittee noted that in dialysis centres where multiple patients require heparin on a shift, the 1,000 iu per ml, 35 ml vials were used previously with a view to minimising wastage.

3.10 The Subcommittee noted that most haemodialysis centres would now be using the 1,000 iu per ml, 5 ml ampoule without problem. Two to three ampoules are usually required for each patient treatment, although some get by with less and some require more. The Subcommittee also noted that there were concerns from infection control associated with the use of multi-use 1,000 iu per ml, 35 ml vials.

3.11 The Subcommittee noted Auckland DHB now rarely uses 5,000 iu per ml, 5 ml ampoules, although these have historically been used for central line locks. The Subcommittee noted this could cause confusion if both vial sizes were available in the same clinical areas.

3.12 The Subcommittee considered there was no ongoing clinical need for the 1,000 iu per ml, 35 ml vials if the 1,000 iu per ml, 5 ml ampoules of heparin sodium remained available.

Cinacalcet

3.13 The Subcommittee noted that in May 2017 PTAC had considered the minutes of the December 2016 Nephrology Subcommittee meeting and a letter from the Nephrology Subcommittee regarding the funding of cinacalcet for patients with severe symptomatic secondary/tertiary hyperparathyroidism.

3.14 The Subcommittee noted that in summary, PTAC:

- considered its previous recommendations to decline funding for use of cinacalcet in primary, secondary and tertiary hyperparathyroidism were based on the lack of evidence of a long-term clinical benefit in these patients; and that funding for these indications could be re-considered once new published evidence was available to support its use in these settings.

- considered an application would be welcomed for the funding of cinacalcet in patients post renal transplant with severe hypercalcaemia requiring treatment as a bridge to parathyroidectomy, supported by evidence for its use in this setting.

- acknowledged the expert opinion of the Subcommittee and supported the changes proposed for the current calciphylaxis criteria, noting that assessment of the potential impact of this should be undertaken by PHARMAC.

3.15 The Subcommittee considered that the suggested amendments to remove the calcium level restriction from the calciphylaxis criteria would likely result in an increase of up to 4% of dialysis patients accessing funded cinacalcet but considered based on clinical experience it would more likely to be a maximum of around 30-60 patients.

3.16 The Subcommittee considered that removing the requirement to trial bisphosphonates and sodium thiosulfate would result in a very small number of additional patients accessing funded cinacalcet, most of whom would be terminal.

3.17 The Subcommittee acknowledged that there was no evidence to support the use of bisphosphonates and only retrospective studies for the use of thiosulfate in the treatment of patients with calciphylaxis. However, the Subcommittee acknowledged that the evidence for thiosulfate was superior to cinacalcet and ideally clinicians would want to use both thiosulfate and cinacalcet.

3.18 The Subcommittee considered that there were currently access issues to thiosulfate in the DHB hospital setting and use of this agent varied between treatment centres, despite its unrestricted listing on the Hospital Medicines List (HML).

3.19 The Subcommittee noted the next step would be for PHARMAC to update its analysis following advice from this meeting regarding the proposed changes to the cinacalcet criteria for calciphylaxis. The Subcommittee considered there is a need for guidelines to support the management of calciphylaxis consistently across New Zealand and this could be suggested to the National Renal Advisory Board to develop.

3.20 The Subcommittee considered that there remained a significant unmet health need for patients with severe tertiary hyperparathyroidism who were unable to undergo parathyroidectomy. The Subcommittee considered that these patients experience significant pain and are generally unable to receive pain treatment due to its renal excretion. The Subcommittee considered that although there is a lack of evidence for long term benefit from cinacalcet, it appears effective at controlling calcium in these settings. The Subcommittee considered that funding of cinacalcet as a palliative treatment would improve the quality of life for these patients.

3.21 The Subcommittee noted that the National Renal Advisory Board has suggested that the population who would benefit from cinacalcet could be defined as:

1. Either:
   1.1. Patient has tertiary hyperparathyroidism and markedly elevated PTH with hypercalcaemia; or
   1.2. Patients has symptomatic secondary hyperparathyroidism, elevated PTH with metastatic calcification or bone pain, Browns fractures, PTH related atypical fractures or severe proximal myopathy; and
2. Patient is on renal replacement therapy; and

3. Any of the following:
    3.1. Patient has undergone repeated unsuccessful parathyroid exploration with inability to localise residual parathyroid tissue; or
    3.2. parathyroid tissue is surgically inaccessible; or
    3.3. Both:
        3.3.1. Parathyroid surgery is not feasible; and
        3.3.2. Cinacalcet to be used as a bridge to kidney transplantation.

3.22 The Subcommittee considered that access to cinacalcet should be widened to include patients with hyperparathyroidism and kidney disease subject to the above clinical criteria. The Subcommittee considered the funding of cinacalcet should be reviewed by PTAC in light of its advice regarding unmet health need in this population.

3.23 The Subcommittee noted a funding application for the use of cinacalcet in the post-transplant setting for patients with severe hypercalcaemia requiring treatment as a bridge to parathyroidectomy has not been received to date, however, would be welcomed.

4 Sevelamer carbonate

Application

4.1 The Subcommittee considered an application from Sanofi-Aventis New Zealand Limited to fund sevelamer carbonate (Renvela) for the treatment of hyperphosphatemia for patients with chronic kidney disease.

Recommendation

4.2 The Subcommittee **recommended** that sevelamer carbonate be listed on the Pharmaceutical Schedule with a medium priority for patients meeting the following criteria:

All of the following:
1 Patient is on dialysis and is expected to be on dialysis for at least 12 months;
2 Patient is currently on a calcium-based binder; and
3 Patient's calcium-phosphate product is at least 4.5 $mmol^2/L^2$.

Discussion

4.3 The Subcommittee noted that applications for sevelamer hydrochloride had been reviewed by PTAC and the Nephrology Subcommittee on multiple occasions in 2013 and 2015 and it had been recommended for decline based on poor quality and mixed strength of evidence and safety concerns. Members noted PTAC previously requested that an application for sevelamer carbonate be submitted for consideration based on safety concerns for the hydrochloride salt of sevelamer.

4.4 The Subcommittee noted that PHARMAC had received an application for sevelamer carbonate from a supplier in 2016 and further submissions in 2017 and 2018 addressing the Factors for Consideration and previous PTAC and Subcommittee comments. Members noted the Renvela brand of a carbonate formulation was Medsafe approved in August 2015. Members noted generic versions of sevelamer carbonate are also available internationally, however are not currently approved by Medsafe.

4.5 The Subcommittee reviewed all previous submissions, all previous PTAC and Subcommittee minutes, the 2018 submission and its documentation.

4.6 The Subcommittee noted sevelamer hydrochloride and sevelamer carbonate have the same mechanism of action. Sevelamer carbonate is a buffered formulation shown not be associated with any negative effect on serum bicarbonate concentrations and metabolic acidosis. Members noted the supplier considered that sevelamer hydrochloride has been reported to be associated with small increases in metabolic acidosis in dialysis patients in a dose dependent manner.

4.7 The Subcommittee noted the applicant's view that mortality rates in patients with renal disease had been decreasing in Australia since the introduction of sevelamer and had not been decreasing over the same period in New Zealand. However, the Subcommittee considered there was no direct cause and effect demonstrated in the ANZDATA and it was not good evidence of the benefit of sevelamer treatment as a number of other changes had also occurred in those countries at the same time. Members also noted the transplant rates in Australia and New Zealand are significantly different.

4.8 The Subcommittee reviewed evidence of the relationship between calcium and phosphate levels and mortality and concluded there is a correlation between appropriate calcium levels and mortality, as well as a correlation between appropriate phosphate levels and mortality.

4.9 The Subcommittee discussed a meta-analysis of randomised trials comparing sevelamer to calcium-based binders (Patel et al. Clin J Am Soc Nephrol 2016;11:232-44). Members considered this paper reported that sevelamer led to a lower coronary artery calcification and lower mortality rates compared with calcium salts.

4.10 The Subcommittee discussed another meta-analysis of randomised trials of phosphate-binding agents in adults with chronic kidney disease, including sevelamer and calcium-based binders among other agents (Palmer et al. Am J Kidney Dis 2016;68:691-702). It concluded that sevelamer led to significantly lower rates of all-cause mortality when compared to calcium-based binders (odds ratio 0.39, 95% CI 0.21-0.74). The same analysis also reported that calcium salts did not show an improvement over placebo (odds ratio 1.20, 95% CI 0.21-6.77).

4.11 The Subcommittee discussed a third meta-analysis comparing calcium-based binders to non-calcium based binders (Jamal et al. Lancet 2013;382:1268-77). This paper also reported that non-calcium based binders had lower mortality rates.

4.12 The Subcommittee also discussed a further systematic review and network meta-analysis comparing phosphate binders (Sekercioglu et al. PLoS ONE 2016;11(6):e0156891). The Subcommittee noted this review concluded that the use of calcium results in higher mortality than either form of sevelamer with moderate quality evidence, and this raised questions on whether the use of calcium in this setting was appropriate.

4.13 The Subcommittee considered that the evidence for sevelamer carbonate is limited to meta-analyses, with no randomised controlled trials, however members considered the evidence base is sufficient and is unlikely to improve. Members noted that diarrhoea is a common adverse effect with sevelamer and is usually dose related. They also noted that the risk of metabolic acidosis with the hydrochloride product requires monitoring of

bicarbonate levels. Members considered it is reasonable to fund sevelamer carbonate on the evidence available and that it offers cardiovascular and mortality benefits, however it would not reduce the need for dialysis. Members discussed that, based on the evidence, it is possible that calcium-based binders may do more harm than good and so part of the benefit of funding sevelamer would be to reduce the harm done by calcium salts.

4.14 The Subcommittee considered that restrictions should be placed on sevelamer carbonate given its cost, and that clear criteria would be needed given the large potential patient pool. Members considered the estimated patient numbers were low and underestimated the potential patient uptake.

4.15 The Subcommittee noted the proposed criteria from the supplier and considered it would be preferable to use the calcium phosphate product as a measure of severity in the criteria. Members considered it would be preferable to have no calcium level as this could be easily manipulated and the use of the coronary artery calcification score has a limited role in clinical practice and is not widely used. Members noted it would be appropriate to restrict sevelamer to patients who would be on dialysis for at least 12 months, targeting patients on long-term dialysis and who have already tried a calcium-based phosphate binder. Members noted compliance-focussed criteria could also be considered. The Subcommittee noted improved phosphate control would be an appropriate measure of success.

4.16 The Subcommittee discussed alternate presentations of sevelamer carbonate and considered that sachet presentations might be beneficial for children.

5 Long-acting erythropoietin

Application

5.1 The Subcommittee considered a clinical information package from Roche Products (New Zealand) Limited (Roche) for their product - methoxy polyethylene glycol epoetin beta (Mircera). This submission was prepared by Roche at the request of PHARMAC staff with the intended purpose of PHARMAC seeking clinical advice to determine whether longer-acting erythropoietin's should be included in the next Request for Proposals (RFP) for erythropoietin.

5.2 PHARMAC staff had also received an expression of interest from Amgen about seeking updated clinical advice on their product - darbepoetin alfa (Aranesp).

Recommendation

5.3 The Subcommittee **recommended** the long-acting erythropoietin's be included in the next RFP but given the lack of improved health benefits over short-acting products, they should only be funded if cost-neutral to current short-acting therapies considering any health system and patient cost offsets.

Discussion

5.4 The Subcommittee noted that only erythropoietin α and erythropoietin β have been funded in in New Zealand in recent times. PHARMAC has asked the Subcommittee to consider the health benefits and suitability of the long-acting agents, namely methoxy polyethylene

glycol epoetin beta (Mircera) and darbepoetin (Aranesp), which have also been referred to as continuous erythropoietin receptor activators (CERAs).

5.5 The Subcommittee noted erythropoietin α was the currently funded brand and was usually administered once or twice weekly. The Subcommittee noted the long-acting agents can enable weekly, fortnightly and possibly even monthly administration.

5.6 The Subcommittee noted a Cochrane network meta-analysis that included studies up to 2014 (Palmer et al. Cochrane Database Syst Rev;(12):CD010590). The Subcommittee considered there were little significant differences for the important outcome measures including cardiovascular mortality or hypertension. The Subcommittee considered the authors' conclusions were appropriate. The Subcommittee noted that although CERA did result in some meaningful improvements in quality of life, no comparisons versus the short acting agents were reported, making comparison difficult.

5.7 The Subcommittee noted a study from United Kingdom (Mahon & Docherty. EDTNA ERCA J. 2004;30:34-7) that explored the issue of adherence in members of the National Kidney Federation (NKF). The Subcommittee noted 2705 completed questionnaires were returned, although the overall response rate was low. 31% of those taking erythropoietic agents admitted missing a dose in the last 6 months, with lower rates in those dosing less frequently. The Subcommittee noted there was a patient preference for less frequent injections.

5.8 The Subcommittee noted an industry authored study (Pannier et al. Curr Med Res Opin. 2007;23:3025-32) which assessed injection site pain. The study found that there is possibly less injection site pain with Mircera versus darbepoetin, but the Subcommittee considered this conclusion was limited by the small sample size of only 84 healthy volunteers.

5.9 The Subcommittee considered that the use of long-acting agents may result in some time savings in dialysis units where many people receive their erythropoietin injections.

5.10 The Subcommittee considered that the strength of evidence for a health benefit with the long-acting agents was weak. The Subcommittee considered that there may be a small quality of life benefit in some patients resulting from reduced injection frequency. The Subcommittee noted that there may be some savings to patients and the health system if a health professional or carer are needed to administer the injections. The Subcommittee noted that many of these patients also require subcutaneous injections of insulin, so funding longer-acting agents may not remove the need to administer frequent subcutaneous injections.

5.11 The Subcommittee considered those who may benefit most from less frequent injections would be those not receiving hospital-based haemodialysis and those who require assistance from caregivers to administer, including children. The Subcommittee considered that if listed the uptake would be reasonably large amongst renal patients.

6 Medical Devices update

6.1 The Subcommittee noted a presentation by PHARMAC staff outlining PHARMAC's work towards management of hospital medical devices and procurement activity that is underway. Members noted PHARMAC had recently released an RFP on the supply of

haemodialysis equipment and products in February 2018. Members noted PHARMAC intends to establish national listing agreements (National Contracts) with suppliers to secure the supply of Haemodialysis Equipment and Products used by DHBs in hospital and community settings, including treatment provided in patients' homes.