

MEMORANDUM

To Australian and New Zealand Intensive Care Society (ANZICS) – New Zealand Branch
New Zealand Intensive Care Unit (ICU) Directors
College of Intensive Care Medicine Australia and New Zealand (CICM) – New Zealand National Committee
New Zealand Society of Anaesthetists (NZSA)
Australian and New Zealand College of Anaesthetists (ANZCA) – New Zealand National Committee
Australasian College of Emergency Medicine (ACEM) – New Zealand Faculty

CC District Health Board (DHB) Chief Medical Officers
DHB Chief Pharmacists
DHB C-Suite
Central Region Technical Advisory Service (Central TAS)
New Zealand Hospital Pharmacists Association (NZHPA)
New Zealand College of Critical Care Nurses (NZCCCN)
New Zealand Anaesthetic Technicians Society (NZATS)
PHARMAC's ad hoc Critical Care Advisory Group (CCAG)
Ministry of Health:

- Andrew Simpson, Chief Medical Officer, Chair COVID-19 TAG ICU subgroup
- Nigel Raymond, Chair COVID-19 TAG Clinical subgroup
- Ian Town, Chief Science Advisor
- Andi Shirtcliffe, Chief Pharmacist
- Chris James, Manager Medsafe
- Louise Chamberlain, COVID-19 TAG Liaison

From Ken Clark, Medical Director, PHARMAC

Subject Update on supply of critical care medicines in the context of COVID-19

Date 6 May 2020

Dear colleagues,

I hope this finds you well as we progress through our national response to COVID-19 in Aotearoa New Zealand.

I'm following-up to our memorandum of 22 April 2020 (attached) as we've received feedback that it would be helpful to provide additional detail about supply constraints relevant to critical care medicines – namely propofol, fentanyl injection 50 mcg per ml, 2 ml ampoules and suxamethonium..

General issues of medicines supply

COVID-19 is likely to have global impacts on medicine manufacture and supply chains for at least the remainder of 2020, and we are expecting that supply issues may continue to emerge. We continue to work closely with all our suppliers to minimise any impacts on medicine and medical device supply.

The most up to date source of information regarding supply concerns can be found on the PHARMAC website: <https://www.pharmac.govt.nz/information-for/covid-19-pharmacs-response/>. We are constantly updating this page, so we encourage you to use our website as a reliable source for information regarding medicine supply in Aotearoa New Zealand.

We have received questions about PHARMAC's role, and approach to managing medicines supply more generally. Detailed answers to some common questions are set out in Appendix One.

Propofol supply

Propofol is in short supply both locally and internationally.

Action:

- Use alternatives to propofol where clinically appropriate
 - Share with us ways you and your colleagues are conserving propofol, so that we can share these ideas with others where appropriate.
 - Do not stockpile propofol, as this will impact on equitable access to stock across Aotearoa New Zealand and makes it very difficult for suppliers and PHARMAC to forecast future demand.
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- The local and international short supply is partly due to the international COVID-19 situation that is placing considerable demand on health care services in other countries. Compounding this, propofol had been subject to supply difficulties prior to the advent of the COVID-19 pandemic.
 - PHARMAC is actively working with the contracted supplier of propofol, as well as other suppliers, to ensure we continue receiving stock of this vital medicine.

- As Aotearoa New Zealand moves down COVID-19 alert levels and anticipated changes to clinical practice occur, including an increase in elective procedures, we consider it very likely that propofol usage in New Zealand will increase. We would like to reassure the sector that a complete “out of stock” scenario is unlikely if usage is carefully managed. However, risks to ongoing supply remain, and therefore please exercise caution by taking the actions set out above.
- Detailed information regarding national stock levels (as at 5 May 2020) can be found in Table 1 of Appendix Two.
- Internationally some clinical groups have developed consensus statements, guidelines or recommendations to assist with managing propofol demand. For example, the UK approach can be found here: <https://icmanaesthesiacovid-19.org/drug-demand-supply-guidance>.

We are aware that, in response to the earlier memo, some DHBs have considered and/or implemented measures to conserve propofol stock for use where there is no suitable alternative. These measures include:

- minimising the use of total intravenous anaesthesia (TIVA) where possible,
- reserving larger vial sizes of propofol for use in the ICU setting,
- looking at alternatives to propofol where appropriate (such as morphine with midazolam), and
- adjuncts to reduce propofol requirements (such as ketamine, fentanyl, dexmedetomidine, remifentanyl).

We are conscious that ANZCA has guidelines that caution against the use of a single ampoule or vial for more than one patient.

We would be delighted if you and your own groups could share with us your approaches, so we are able to also share this with others.

- We are aware that, to conserve propofol stocks, there may be an increase in demand for other pharmaceuticals such as morphine and midazolam injections, and volatile anaesthetic agents (i.e. isoflurane, desflurane and sevoflurane). We have been in discussion with suppliers of these medicines seeking that they increase their stockholding, which they are doing. There are no current supply interruption issues for these medicines.
- We have received feedback that some DHBs may have been ordering excess quantities of propofol. We remind you that, especially now, this approach is likely to result in inequitable access to important medicines for patients in Aotearoa New Zealand and makes it very difficult for suppliers and PHARMAC to forecast future demand.

Fentanyl injection supply

Fentanyl injection - 50 mcg per ml, 2 ml ampoules - are in short supply in Aotearoa New Zealand

Action:

- Use alternatives to fentanyl injection 50 mcg per ml, 2 ml ampoules where clinically appropriate
- Prepare for the need to use unapproved fentanyl injections (in accordance with section 29 of the Medicines Act)

- Share with us ways you and your colleagues are conserving fentanyl injection 50 mcg per ml, 2 ml ampoules, so that we can share these ideas with others where appropriate
 - Do not stockpile fentanyl injection 50 mcg per ml, 2 ml ampoules, this will impact on equitable access to stock across Aotearoa New Zealand and makes it very difficult for suppliers and PHARMAC to forecast future demand.
- The fentanyl 50 microgram per ml, 2 ml ampoule short supply is partly due to the international COVID-19 situation that is placing considerable demand on pharmaceutical production facilities outside of Aotearoa New Zealand.
 - Further information regarding fentanyl 50 microgram per ml, 2 ml ampoule stock levels (as at 5 May 2020) can be found in Table 2 of Appendix 2.
 - PHARMAC is actively working with the contracted supplier of fentanyl injection 50 microgram per ml, 2 ml ampoule, as well as with other suppliers, to ensure we continue receiving stock of this vital medicine.
 - We are aware that there may be some clinical scenarios where the only suitable option is fentanyl injection 50 microgram per ml, 2 ml ampoule. The contracted supplier has arranged for some alternative unapproved stock to be brought to Aotearoa New Zealand for supply in accordance with section 29 of the Medicines Act 1981.

The supplier is working with Medsafe so that Medsafe can assess whether this alternative stock could be granted a provisional approval under section 23 of the Medicines Act 1981. There is additional detail available on the Medsafe website about this: <https://www.medsafe.govt.nz/Medicines/policy-statements/COVID19Fentanyl.asp>.

We will advise Hospital Chief Pharmacists about this as soon as Medsafe has made its decision, in the meantime, you should take steps to prepare for the potential use of an unapproved medicine.

- Alternatives to the fentanyl 50 microgram per ml, 2 ml ampoule should be used where possible. We are aware that some DHBs have already started to consider using alternatives. We have been advised that by the CCAG the following can be considered as funded alternatives to fentanyl 50 microgram per ml, 2 ml ampoule (depending on the clinical circumstances);
 - Fentanyl inj 50 mcg per ml, 10 ml ampoule
 - Fentanyl inj 10 mcg per ml, 10 ml syringe
 - Fentanyl inj 10 mcg per ml, 50 ml bag
 - Fentanyl inj 10 mcg per ml, 50 ml syringe
 - Fentanyl inj 10 mcg per ml, 100 ml bag
 - Fentanyl inj 20 mcg per ml, 50 ml syringe
 - Fentanyl inj 20 mcg per ml, 100 ml bag
 - Fentanyl patches
 - Morphine sulphate injection
 - Oxycodone hydrochloride injection
 - Methadone injection

We would like to reassure you that there are no current supply issues with any of the above presentations of fentanyl or other medicines. However, we note that global supply chains are rapidly evolving, and therefore caution should be exercised.

- We remind you that, especially now, ordering excess quantities of any of the above medicines is likely to result in inequitable access to important medicines for patients in Aotearoa New Zealand and makes it very difficult for suppliers and PHARMAC to forecast future demand.

Suxamethonium injection supply

Suxamethonium chloride injection is in short supply in Aotearoa New Zealand

Action:

- Use alternatives to suxamethonium where clinically appropriate
 - Prepare for the need to use unapproved suxamethonium injections (in accordance with section 29 of the Medicines Act)
 - Share with us ways you and your colleagues are conserving suxamethonium, so that we can share these ideas with others where appropriate
 - Do not stockpile suxamethonium injection, this will impact on equitable access to stock across Aotearoa New Zealand and makes it very difficult for suppliers and PHARMAC to forecast future demand.
- PHARMAC is actively working with the contracted supplier of suxamethonium injection, as well as with other suppliers, to ensure we continue receiving stock of this vital medicine.
 - The CCAG has advised us that alternatives that could be used in the event that suxamethonium chloride is not available include rocuronium, atracurium besylate, vecuronium bromide and pancuronium bromide.

Concluding comments, and a request

We know it has been a difficult time with the COVID-19 situation and the necessary societal response required. It is likely to remain difficult for medicine and medical device supply for some time. The global COVID-19 response has caused significant ongoing disruptions to international supply lines for many products, e.g. with quarantines slowing or halting activities in manufacturing plants or affecting transportation and ports. PHARMAC works hard to mitigate supply risks, so that supply outages are avoided wherever possible. But with the number and size of such threats to international supply, this is challenging – so good communication as well as a commitment by us all to carefully approach our usage of medicines and devices is so important.

In terms of stockpiling and other behaviours, practitioners of course will be aware of the need to [Choose Wisely](#) and their [professional responsibilities when resources are limited](#).

In summary, we are asking that you:

1. Share this information with your colleagues, to help ensure national awareness
2. Share best practice approaches with your peers, and us, about ways to proactively conserve propofol stock as clinically appropriate
3. Share best practice approaches with your peers, and us, on the proactive use of funded alternatives to fentanyl injection 50 microgram per ml, 2 ml ampoule
4. Prepare for the need to use unapproved products for some critical care medicines in accordance with section 29 of the Medicines Act as appropriate
5. Continue to purchase stocks in a way that reflects demand, do not stockpile
6. Alert PHARMAC to any difficulties you are experiencing in accessing stock, for any medicine.

7. Use the PHARMAC website as a source of reliable information regarding any current supply constraints.

I hope this information will address the questions you've shared with us to date. This information will also be added to the PHARMAC website, and I encourage you to share this widely with your colleagues.

We will continue to update our [website](#) with information as the situation evolves. Please contact me at ken.clark@pharmac.govt.nz if you have any specific questions or concerns.



Ken Clark MBChB FRANZCOG FRCOG FRACMA
Acting Medical Director

Appendix 1

Frequently asked questions:

1. *Why hasn't PHARMAC acted sooner to secure supply?*

PHARMAC holds contracts with a large number of medicine and medical device suppliers (but not all).

In general medicine contracts require suppliers to hold a minimum of 2 months of stock on hand (based on usual usage).

In February 2020, PHARMAC staff began work to ensure that suppliers of critical care medicines were increasing their stock holdings in Aotearoa New Zealand to roughly 6 months of stock on hand (in anticipation of an increase in usage should COVID-19 patients begin presenting to critical care settings in large numbers). Many suppliers were able to meet this request, but some were not. Some suppliers identified COVID-19 would impact their ability to maintain supply.

PHARMAC sought advice from clinical experts, including the CCAG, regarding ways to manage these specific supply issues. Communications such as this form one part of our overall strategy for managing supply to ensure Aotearoa New Zealand patients continue to receive the best possible health outcomes in the context of COVID-19.

2. *What about other medicines used in critical care – are there any supply issues with these?*

Part of our approach in responding to the COVID-19 pandemic has been to work directly with all contracted suppliers to understand whether there are any impacts to their supply chain as a result of the global COVID-19 supply situation.

We have proactively and specifically requested suppliers of critical care medicines to increase their stock holdings to roughly 6 months of stock on hand in anticipation of an increase in demand. Where suppliers have indicated that this may not be possible we have worked with suppliers of funded alternatives to understand their current stock holdings.

Where there are supply constraints that we are aware of, these are published on our website here: <https://www.pharmac.govt.nz/information-for/enquiries/> - this is updated constantly, so it's a reliable source of truth about the issues facing us on a day to day basis.

3. *Can PHARMAC create a central supply distribution model (or national "stockpile") of critical care medicines?*

No, PHARMAC doesn't purchase or distribute medicines. We are a funding agency. We rely on the health system; DHBs and the private health sector to purchase responsibly, via the established national supply chain infrastructure.

4. *Why can't PHARMAC waive the section 29 requirements in these exceptional circumstances?*

PHARMAC is not responsible for the regulation of medicines in Aotearoa New Zealand. Legislative requirements are the responsibility of the Ministry of Health.

We are working closely with Medsafe and suppliers to ensure that registered products are available wherever possible.

5. *What are the supply levels for consumables and other medical devices needed in the critical care setting?*

DHBs, via established national supply chain infrastructures, purchase and manage their own stockholdings of devices. You should contact your DHB to understand current supplies.

6. *Does PHARMAC have a contract, and therefore a role in supply chain management, for all medicines used in DHB hospitals?*

Where a medicine is listed in Section H of the Pharmaceutical Schedule (also known as the Hospital Medicines List, or HML), without a specified brand and price, or with an “example” brand but no price, PHARMAC does not hold a contract with a supplier.

An example of this is thiopental [thiopentone], which is listed in Section H as follows:

General Anaesthetics  

Thiopental [Thiopentone] sodium   

Inj 500 mg ampoule

Any brand

We are able to use our relationships with suppliers to try to assist to resolve supply issues, but PHARMAC does not have any contractual leverage in such cases to compel any action. The suppliers of these medicines also have no obligation to inform PHARMAC of supply issues or potential issues.

If, however, we are made aware of a supply issue for any non-contracted product, we are often able to assist with finding a suitable alternative.

7. *What is PHARMAC doing to manage supply to the private health sector?*

PHARMAC contracts only require suppliers to supply sufficient volumes of their products for use in the public health system. Ensuring continuity of supply for private hospitals is outside of PHARMAC’s scope.

We have been in communication with some private hospitals about supply issues. The suppliers are typically the same companies, and all of government approaches that have been taken to secure supply for the public system (will likely have benefits for private hospital supply as well).

Appendix Two

Supplies of propofol and of fentanyl inj 50 mcg/ml, 2 ml

In this appendix, the stock on hand represents the volume held by the supplier and is calculated based on “usual”/past demand. PHARMAC has no visibility of stock on hand within specific DHB hospitals.

Table 1: Propofol supplies (current at 5 May 2020)

Presentation (Supplier)	Stock on hand	Stock incoming
10 mg per ml, 20 ml (Fresenius Kabi)	2 months	Normal shipment quantity May/June 2020
10 mg per ml, 50 ml (Fresenius Kabi)	2 weeks	2 months, split into two shipments the first in early May 2020 and the second in early June 2020. Additional stock not expected beyond this.
10 mg per ml, 100 ml (Fresenius Kabi)	2 months	Shipment expected in June/July 2020 sufficient stock will be supplied to cover both 50 ml and 100 ml presentations
10 mg per ml, 20ml (Link)		5 months (expected late May 2020) (Note = an unapproved medicine)

We are in discussions with two other suppliers (Baxter and Aspen) regarding potential additional supplies of propofol for Aotearoa New Zealand.

Table 2: Fentanyl injection 50 mcg per ml, 2 ml ampoule supplies (current at X May 2020)

Presentation (Supplier)	Stock on hand	Stock incoming
Fentanyl (Boucher and Muir)	< 1 week	1.2 months (late May)
Fentanyl (GH)	0.5 months	0.5 months (Note = an unapproved medicine)
Fentanyl (Pfizer)	Nil	2 months (late May)
Fentanyl (Link)	Nil	1 month, (late May) (Note = an unapproved medicine)