



Each blood donation saves 3 lives.

Maintaining blood supply and safety during COVID-19 pandemic at the Blood Establishment

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Hong Kong Red Cross Blood Transfusion Service



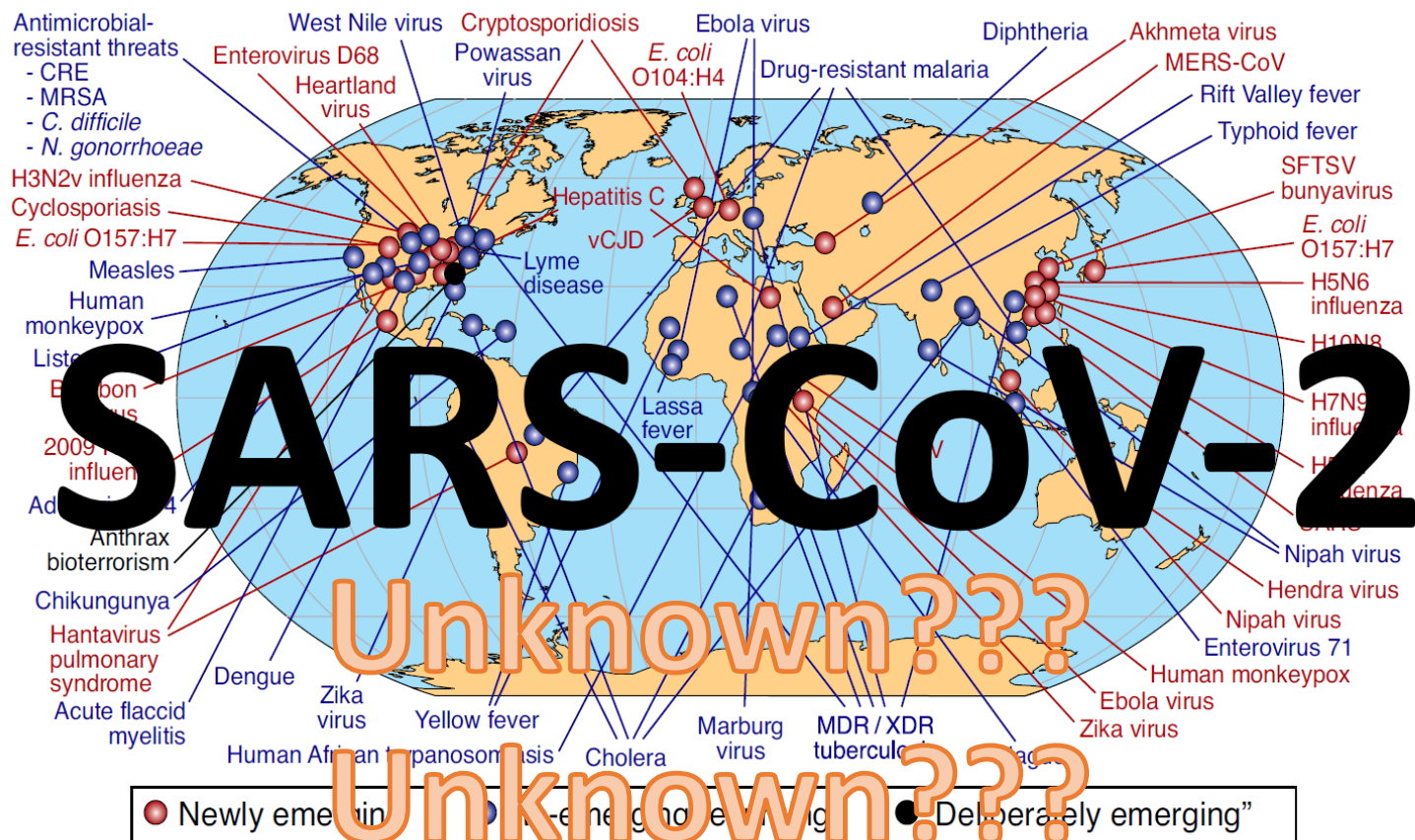
Background

- Sufficiently stable and safe blood supply is not easy to maintain
 - with limited shelf life
 - only collected from voluntary non remunerated donors; also affected by external factors – typically holidays, weather, infectious disease outbreak
 - unpredictable demand in quantity, type, blood group, often within a very short time to save lives



Each blood donation saves 3 lives.

FIGURE 1 Global examples of emerging and re-emerging diseases



C. difficile: Clostridium difficile; CRE: carbapenem-resistant Enterobacteriaceae; E. coli: Escherichia coli; MDR: multidrug-resistant [tuberculosis]; MERS-CoV: Middle East respiratory syndrome coronavirus; MRSA: methicillin-resistant Staphylococcus aureus; N. gonorrhoeae: Neisseria gonorrhoeae; SFTSV: severe fever with thrombocytopenia syndrome virus; XDR: extensively drug-resistant [tuberculosis].



Each blood donation saves 3 lives.

Issues and Challenges

- Blood is an essential medicine and it relies solely on donation from healthy donors in the community.
- Before and during COVID-19, blood is still needed for different groups of patients. From short lived platelet to red cells and plasma, continuous and non interrupted supply is crucial.
- **BUT**, scheduled donation appointments and blood drives are cancelled because of “Stay at Home” or Lockdown
- On top of common myth – “Will I get infection during blood donation or blood donation can do harm?” A new question is **“Will I get COVID-19 at blood center as we are advised to stay home as far as possible?”**



Each blood donation saves 3 lives.

**Switching to Pandemic mode
does not mean that we do
not treat our existing
patients nor emergency!**



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Supply vs Demand

Imminent Problems encountered during COVID-19 Pandemic

1. “Lockdown” or Stay at Home ,
2. Significant reduced public activities
 - Reluctant to offer venues for mobile blood drives and
 - not willing to go out
3. Home office work – cancellation of scheduled mobile blood drives
4. Suspension of school and universities
5. Lack of confidence and fear of acquiring infection during blood donation (from venepuncture, environment, staff, during travel to/ from donation venues)
6. Uncertain but ongoing blood demand



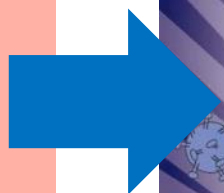
Each blood donation saves 3 lives.

Safety first
and then
ensure Demand
could be met!



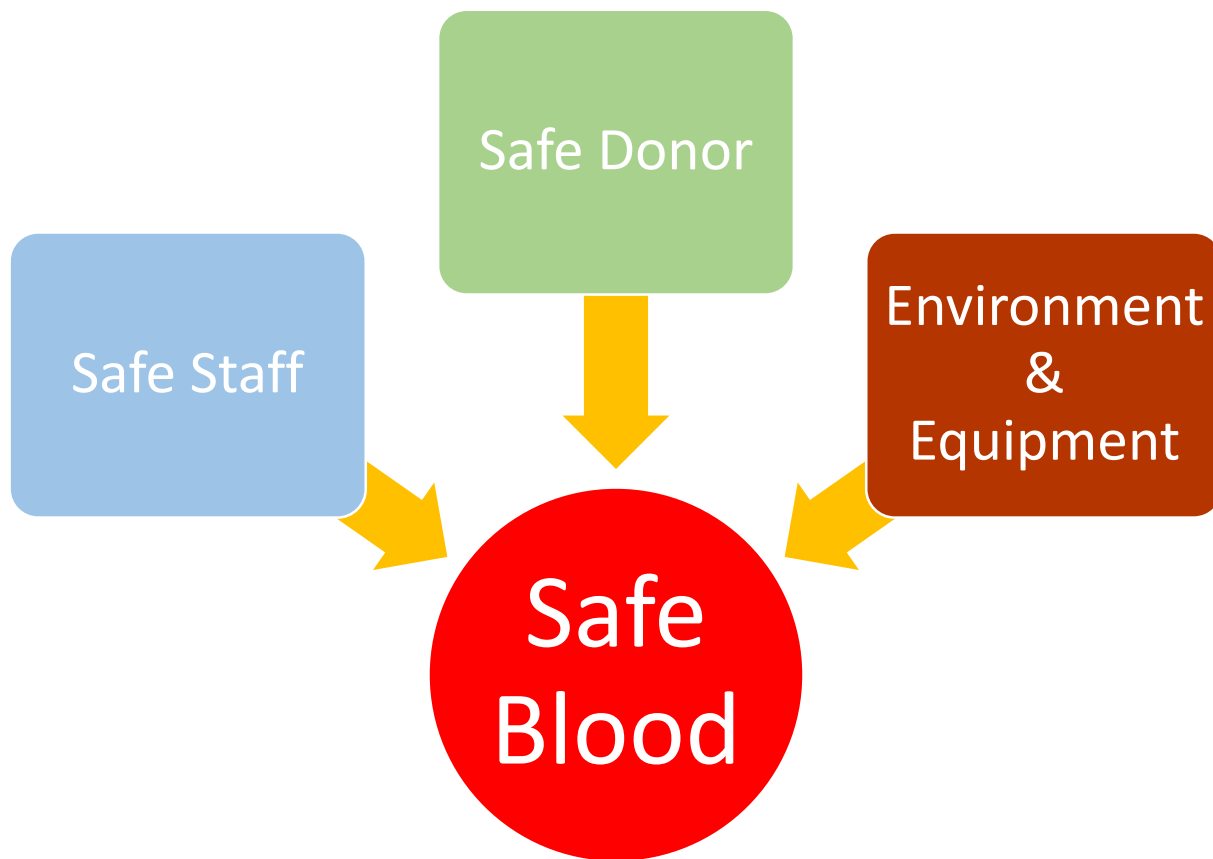
Each blood donation saves 3 lives.

Donors transforms into a safe “Super Hero”!





Each blood donation saves 3 lives.





Safe Blood

- No blood donation screening test available for SARS-CoV-2. But reported to have viraemia in blood donors¹ and donation given by COVID-19 confirmed cases²
- Pre – donation
Key elements: travel history, contact history, symptoms exclusion
- Post – donation
Reminder for symptoms reporting
- Pathogen reduction: theoretical effective and now with published evidence³

¹ Chang, L., Zhao, L., Gong, H., Wang, L. & Wang, L. Severe Acute Respiratory Syndrome Coronavirus 2 RNA Detected in Blood Donations. *Emerg Infect Dis* **26**, doi:10.3201/eid2607.200839 (2020).

² Kwon, S. Y., Kim, E. J., Jung, Y. S., Jang, J. S. & Cho, N. S. Post-donation COVID-19 identification in blood donors. *Vox Sang*, doi:10.1111/vox.12925 (2020).

³ Keil, S. D. et al. Inactivation of severe acute respiratory syndrome coronavirus 2 in plasma and platelet products using a riboflavin and ultraviolet light-based photochemical treatment. *Vox Sang*, doi:10.1111/vox.12937 (2020).



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Safe Donor → Safe Blood

1. All prospective donors who are febrile and have respiratory tract symptoms are advised to not to enter blood collection venues and seek medical consultation immediately.
2. Before entering blood collection venues, all prospective donors are required to wear surgical mask, have their temperature check and use alcohol hand rub.
3. Surgical mask should be worn all the time at blood collection venues.
4. Alcohol based hand rubs is provided at convenient area such as reception and resting area to facilitate donors for enhancing hand hygiene.
5. All prospective donors are advised to arrange advance booking via Apps or phone booking as far as possible **to avoid waiting time and to have a short stay for donation**
6. Remind public donors not come in big groups and not gather.
7. Avoid to bring in accompanied persons.

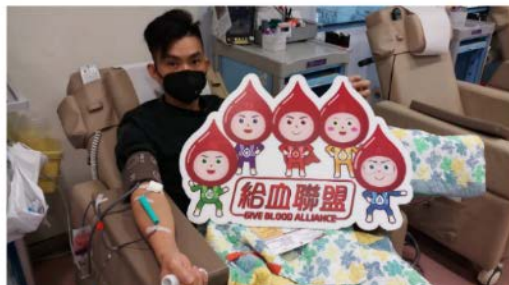




Each blood donation saves 3 lives.

Donors

1. advised to book appointment;
2. not come in big group;
3. need to wear masks all the time;
4. take temperature before entering;
5. frequent use of alcohol hand rub.
6. short stay at donation venue





Each blood donation saves 3 lives.

Healthy Staff

- Same as donors
- Temperature and symptoms checked before reporting duty
- Wear mask all the time
- Wear glove for venepuncture
- Frequent use of alcohol hand rubs





Each blood donation saves 3 lives.

Clean Environment

- Social distancing as far as possible (donor chair to space out)
- Frequency of environment cleaning is increased through outsourced staff.
- High touch area is also frequently disinfected.
- Ventilation is maintained at high speed at all time to increase air change.
- Lidded rubbish bins are provided for disposal of surgical masks.
- ***Alcohol hand rub is available in the venue for disinfection.***

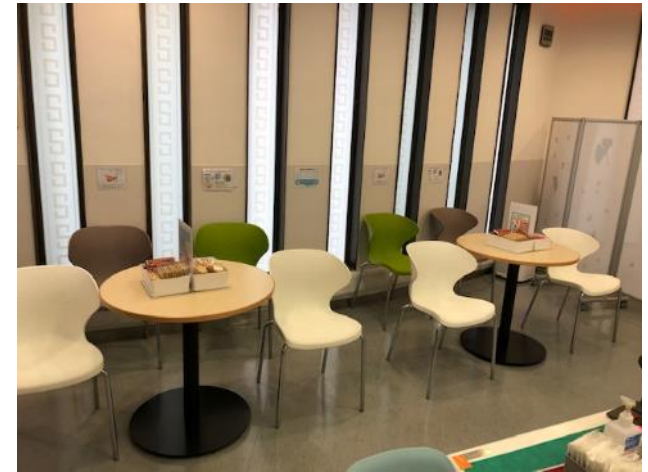




Each blood donation saves 3 lives.

Disinfection of Environment and equipment

- Per GMP requirement, cleanliness is essential.
- Selecting an appropriate disinfectant that is suitable to use e.g.
 - 1:99 diluted household bleach can be used for general household cleaning.
 - 1:49 diluted household bleach is used to disinfect surfaces or articles contaminated with vomitus, excreta, secretions or blood.
 - Or use Neutral Disinfectant Cleaner (Ecolab Inc, Minnesota US)
- Frequency: before start of blood drive, as frequent as possible preferably once after every donation





Each blood donation saves 3 lives.

Donation process

- Staff
 - To wear gloves for venepuncture
 - To use alcohol hand rub before each procedure
- Donor and staff to wear face mask all the time
- Change of bed sheet and disinfection of donor chair after every donation
- Standard blood precaution procedure for packaging





Each blood donation saves 3 lives.

Communication with Public and Donors

- In addition to poster/ easy roller banner of latest infection control measures, the message on
 - blood demand, appointment booking, shortening of the stay and avoidance of gathering at blood collection venue
 - as handy tips are repeatedly emphasized in different platforms (in particular Social Media).
- A supplementary poster to post up to remind public *who have returned from the countries that need quarantine* or **are under medical surveillance**, not to enter blood collection venues.
- Mass media to help to reinforce the above messages.



Each blood donation saves 3 lives.

Handy tips

- Addresses, phone numbers and opening hours of donor centres
- Deferral policy concerning travel and contact history
- Precautionary measures already taken and required for prospective donors
- Blood is always needed!



58,280

People Reached

10,751

Engagements

Book

783

134 Comments 33



Other safety measures

- Post donation reminder
- Cross checking of confirmed cases if blood donation has been made at asymptomatic stage

DIN

AFTER BLOOD DONATION

- Develop signs or symptoms of an infection within 4 weeks (e.g. common cold, fever, etc.); or develop hepatitis, tuberculosis or malaria within 6 months.
- Decide your blood should not be used.
- Revise the information you provided in the Blood Donation Registration Form.

Please contact us at:
2710 1333 / 2710 1210
 (Office hours) (Outside office hours)

九龍區 KOWLOON	香港區 HONG KONG	新界區 NEW TERRITORIES
輸血服務中心總部 Headquarters Donor Centre ☎ 2710 1202/1333	銅鑼灣捐血站 Causeway Bay Donor Centre ☎ 2834 2084	沙田捐血站 Shatin Donor Centre ☎ 2603 0100
旺角捐血站 Mongkok Donor Centre ☎ 2770 5930	中區捐血站 Central District Donor Centre ☎ 2526 1420	荃灣捐血站 Tsuen Wan Donor Centre ☎ 2414 2378
觀塘捐血站 Kwun Tong Donor Centre ☎ 3148 1375	西九龍捐血站 West Kowloon Donor Centre ☎ 2507 7733	元朗捐血站 Yuen Long Donor Centre ☎ 2478 6000

POST DONATION ADVICE

Over the next **12 hours**

- ✓ Drink plenty of fluid to replenish volume loss.
- ✓ The plaster can be removed after few hours.
- ✓ Avoid heavy lifting to prevent bruising of venipuncture site.
- ✓ Avoid strenuous exercise.

HANDLING OF ADVERSE REACTION

Fainting

Take a seat or lie down immediately and raise your legs to increase blood flow to the brain.

Loosen tight clothing and belts.

Remain calm, take slow and long deep breaths.

Move to a safe distance from passers-by.

Delayed bleeding

Delayed bleeding may occur following blood donation. If there is bleeding underneath the plaster, it will gradually subside and stop within 3 weeks.

Apply pressure to the bruise within 10 minutes of donation; if necessary, use ice for pain relief.

Itching / Numbness

If there is itching, numbness, redness, swelling, or pain at the venipuncture site, please stop the donation and consult your doctor.

Iron Absorption Tips

- Increase intake of iron-rich food.
- Vitamin C-rich food enhances iron absorption.
- Avoid coffee or tea during meals.
- Complete the whole course of oral iron supplement to replenish the iron store.

鐵人食單 IRON Feast

口服鐵質補充劑

Download on the App Store

GET IT ON Google Play

Download NOW! HK Blood APP

Facebook eDonor Donation due date calculator



Each blood donation saves 3 lives.

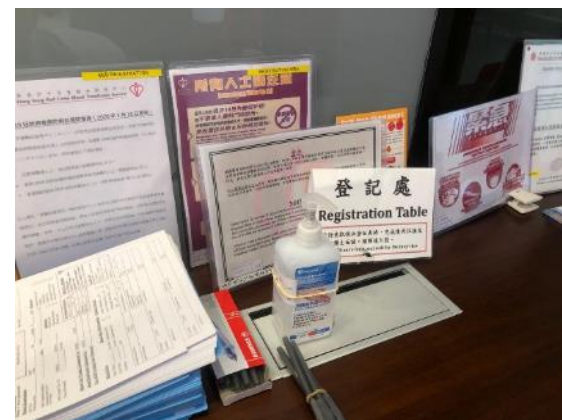
Is mobile blood drive possible?

- Though mostly cancelled, with support from sponsors, they can proceed.
- Better prepare a bigger site with less donation (than before)
- It serves better as donors need to travel less (stay home restrictions)
- Same spacing and social distancing requirement as fixed donor centers
- With these measures, we even have mobile blood drive held at acute hospitals!



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Mobile blood drive through supportive sponsor



“we fully prepared and demonstrated to our staff that they are safe to donate blood!”



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Balancing Blood Supply and Demand





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Who still demand blood?

1. Existing and Ongoing (**Predictable**)
 - Cancer and leukaemia patients
 - Transfusion dependent thalassaemia major
2. Emergency (**not Predictable**)
 - Trauma
 - Emergency operations
 - Organ transplantation
3. Others
 - e.g. Pregnancy related



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The Red Cross Is Seeing a “Significant Drop” in Blood Donations Due to COVID-19

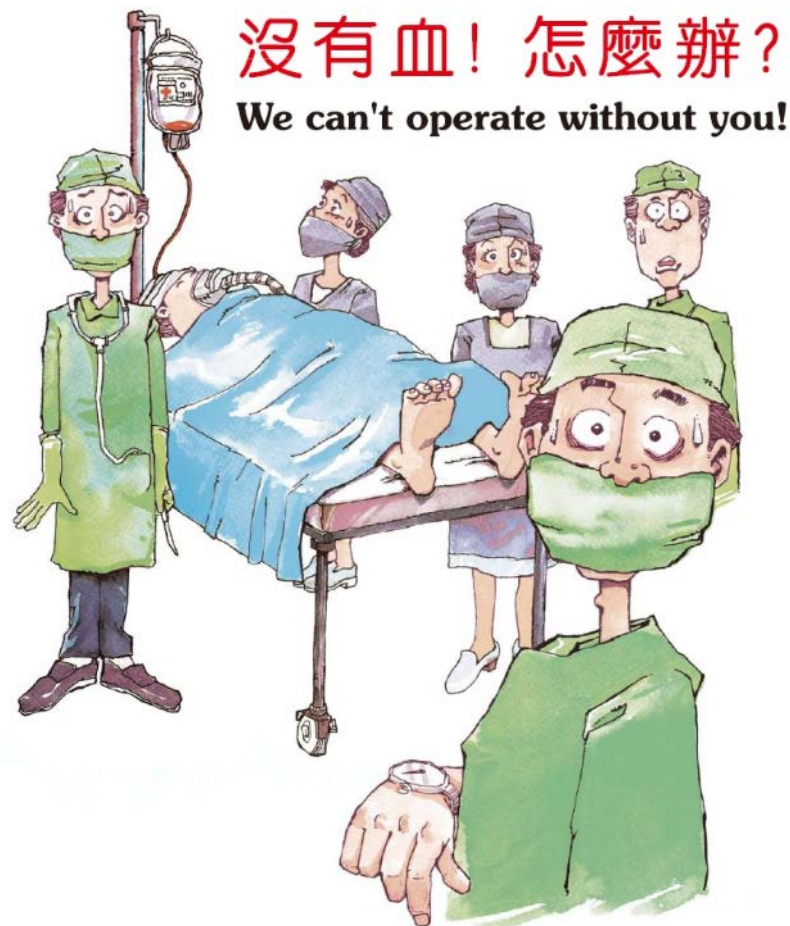
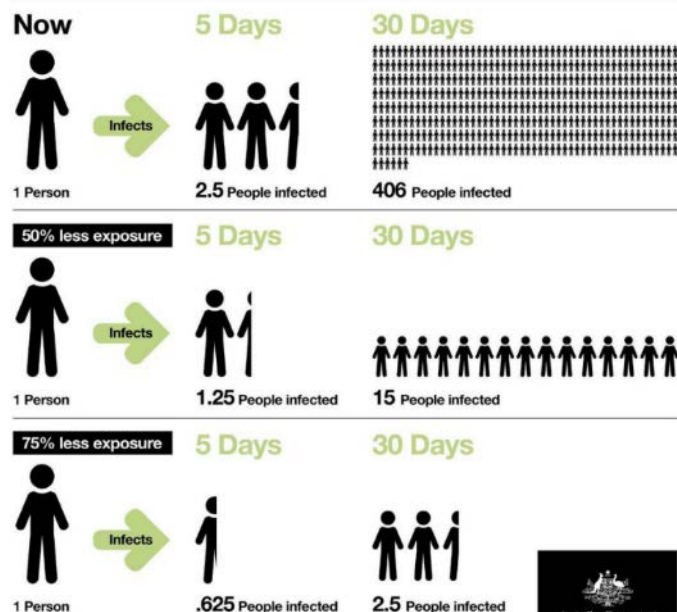
“This is going to end up in an unprecedented situation if we’re not careful.”



By Korin Miller Mar 14, 2020

Why social distancing matters

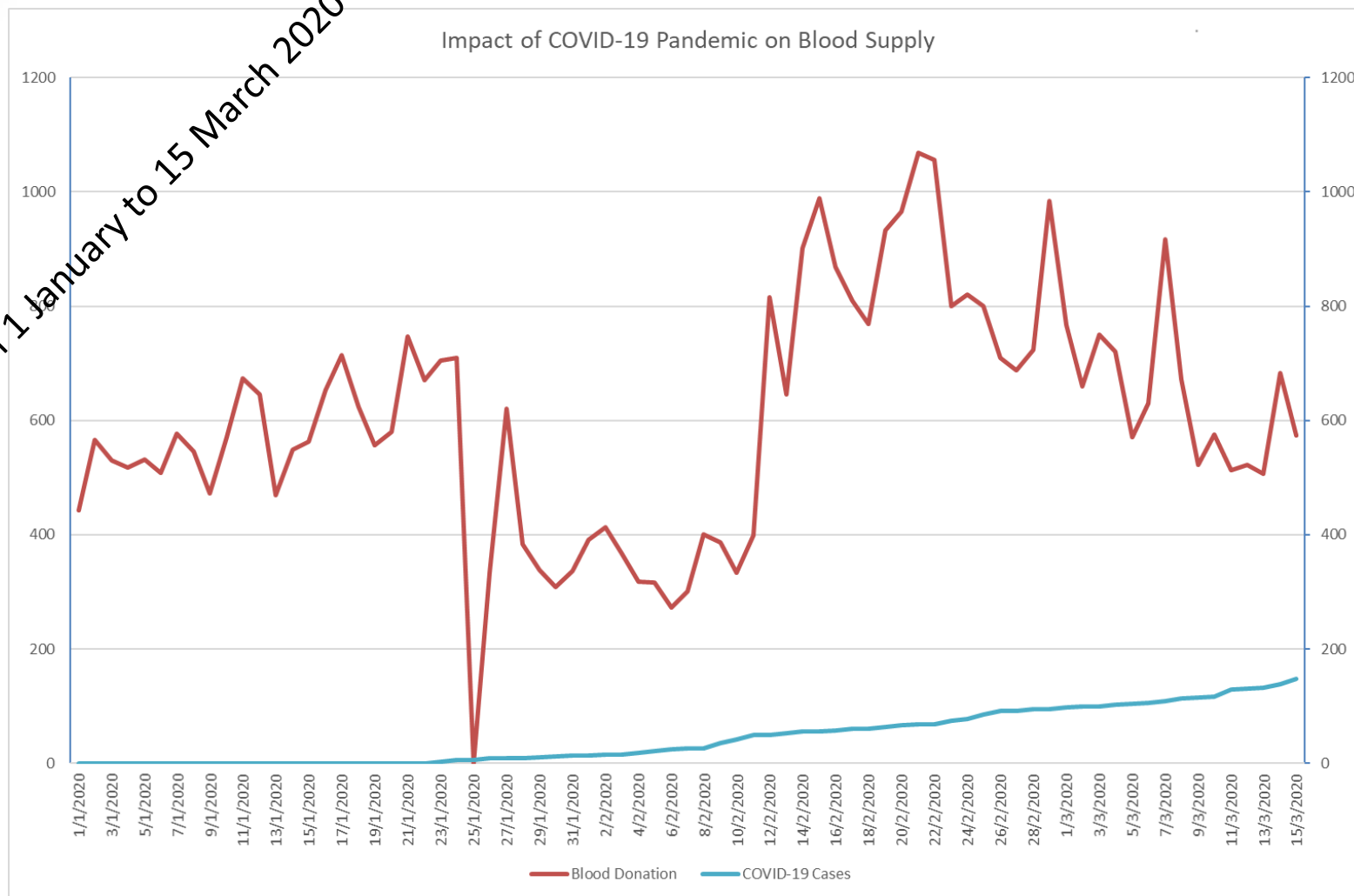
Social distancing of 1.5 metres decreases the exposure of coronavirus (COVID-19).





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From 1 January to 15 March 2020







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We still need ongoing donation!



血癌小戰士 緊急呼籲捐血



我是陳敖天

請立即行動

87,363 People Reached 5,638 Engagements

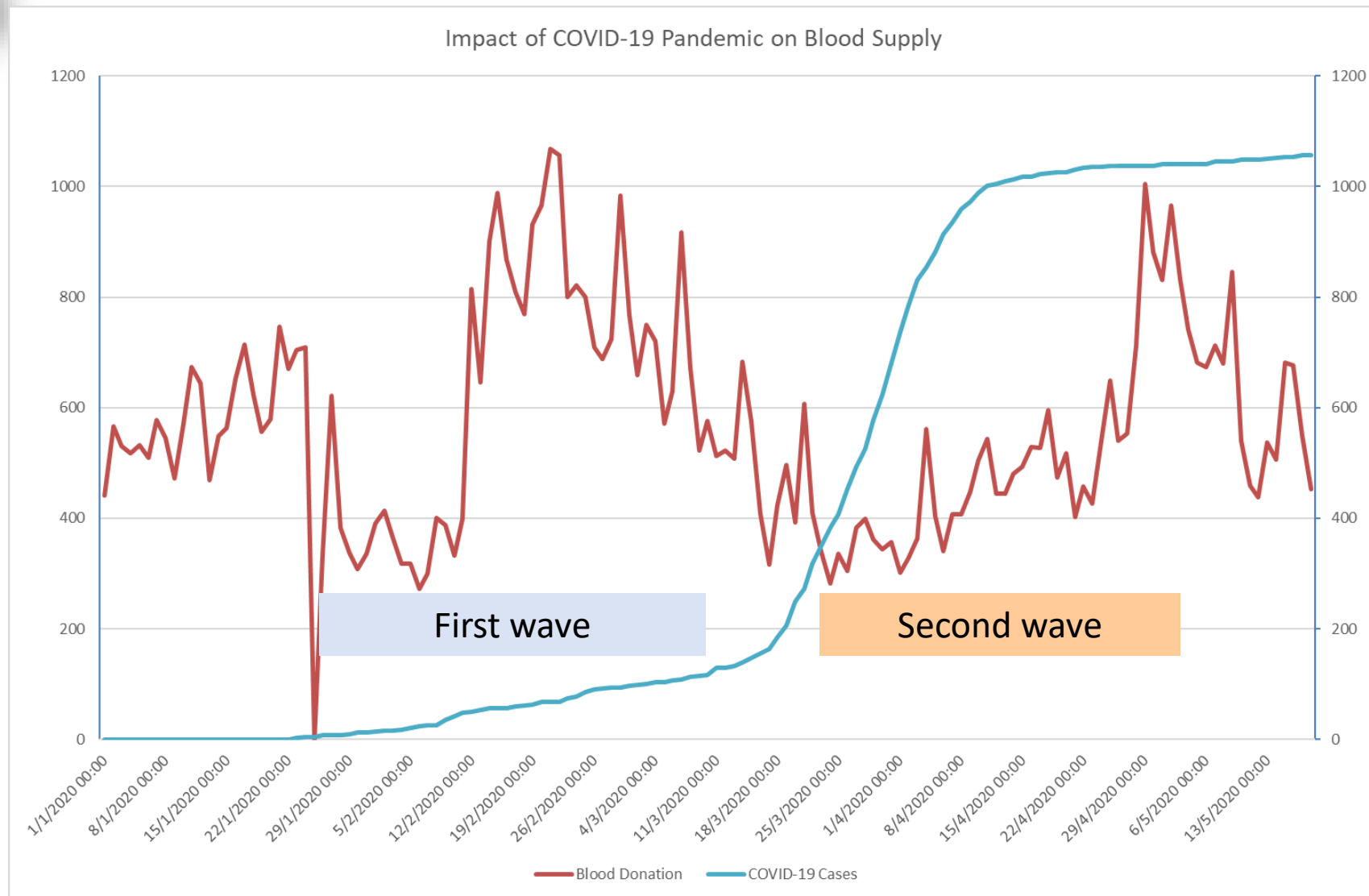
Boost Post

767 73 Comments 757 Shares

“What if there is no blood product...”

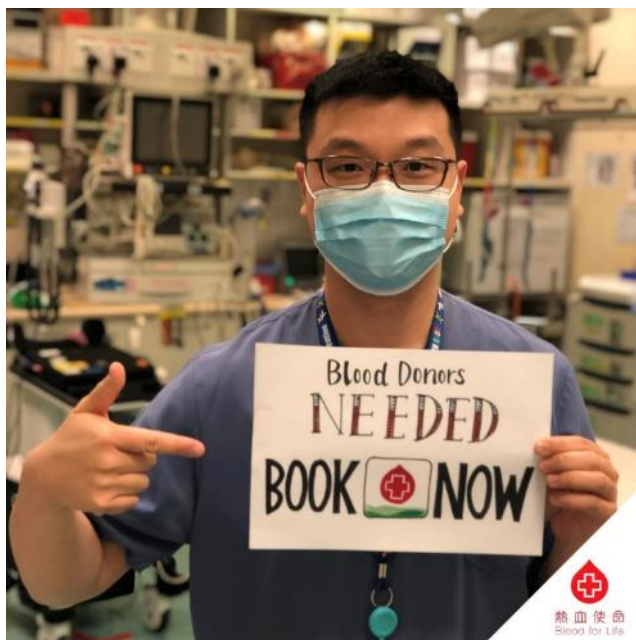


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Stock never last long. Sadly, it happened!

血庫存量極低
Alarming Blood inventories





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Other measures to meet transfusion demand

1. Advocate the use of alternative measures instead of blood transfusion
2. Adhere strictly to transfusion guideline
3. Reduction of non-emergency services (also partially resulted from high load of COVID-19 patients)
4. (Ongoing communication with clinicians on the latest blood supply and demand situation)



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Should also work at blood demand side!

- **Patient Blood Management** and transfusion appropriateness should be well practiced. *(They should be put up and emphasized again and again. We voiced out in early February at our Central Command Committee)*

NATIONAL BLOOD AUTHORITY AUSTRALIA Blood management during COVID-19

June 2020

Blood donation is an essential service – if donors are healthy and well, they can and should continue to donate blood. You can make a difference to help maintain inventories now, more than ever, it is essential that blood and blood products are ordered and transfused appropriately. There are no inventory shortages in Australia at this time. Blood and blood products supplied by the Australian Red Cross Lifeblood are our central blood suppliers for plasma and various specialty units. Blood will still be needed for a number of situations, such as trauma, postpartum haemorrhage, haemorrhagic end-stage patients and organ donors. Some blood conservation strategies that are important during this time will include activities you can already undertake – this may, for example, include blood conservation. Remember that this is a national emergency that can assist in making appropriate decisions.

1. Local Patient Blood Management and appropriate practice and clinical use practices will help maintain blood and blood product inventories.

Before the decision to transfuse is made, all of the risks, benefits and the full range of available therapies should be considered. This may be assisted by more appropriate transfusion products that can be used.

- **1.1** [B1B Guidelines](https://www.blood.gov.au/pbm-guidelines) <https://www.blood.gov.au/pbm-guidelines>
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2. Local inventory management practices will reduce wastage and ensure product is available for appropriate use.

It is vital for health providers holding stock and blood products to ensure appropriate utilization of precious resources. Appropriate ordering of all blood products and ordering of inventory in products are essential to ensure product is available to all patients in need. It is not appropriate to increase stock levels as this could put strain on supply.

- **2.1** www.blood.gov.au/pbm-guidelines
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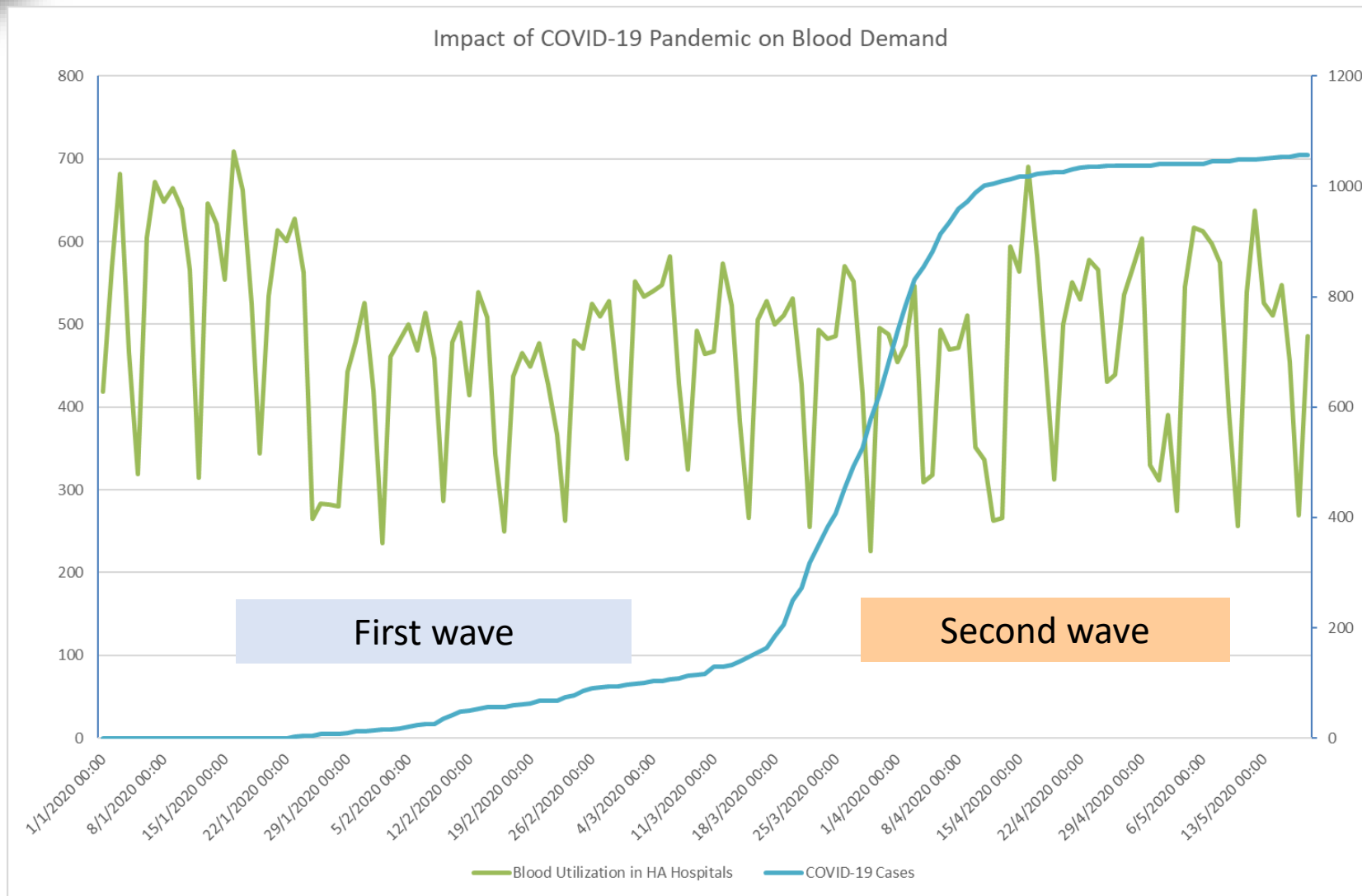
3. Local contingency planning and management will ensure inventory and ensure product is available for appropriate use.

It is vital for health providers holding stock and blood products to ensure appropriate utilization of precious resources. Appropriate ordering of all blood products and ordering of inventory in products are essential to ensure product is available to all patients in need. It is not appropriate to increase stock levels as this could put strain on supply.

- **3.1** www.blood.gov.au/pbm-guidelines
- **3.2** www.blood.gov.au/pbm-guidelines
- **3.3** www.blood.gov.au/pbm-guidelines
- **3.4** www.blood.gov.au/pbm-guidelines
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- **3.65**



Each blood donation saves 3 lives.





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Are we comfortable to switch to “normal” mode?



Each blood donation saves 3 lives.



COVID-19 battle takes toll on New York City blood supply: Mayor

The city's blood center is down to a two-day supply.

By **Bill Hutchinson**

18 May 2020, 02:18 • 7 min read





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Blood Shortage Looms in U.S.

— Needs rising, supplies not keeping pace, forcing blood banks and hospitals to economize

by [Ryan Basen](#), Enterprise & Investigative Writer, MedPage Today May 21, 2020



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With Americans under stay-at-home orders, blood donations have plummeted -- and now as elective surgeries are returning in many parts of the country, concerns about a national blood shortage are emerging.



Each blood donation saves 3 lives.

Other roles of Blood Service in COVID-19 Pandemic

- Collection of convalescent plasma
 - (experience in apheresis collection and donor management; better quality in processing and storage of the collected plasma)
- Sero-prevalence of COVID-19 infection in the population



Conclusion

- Previous experience and early implementation of measures enable us to secure blood safety and supply during this difficult and unpredictable period
- **Measures to restore and gain public and donor confidence in blood donation are extremely important**
- Support from staff and many others including donors and sponsors are indispensable to secure the blood supply
- However, we are still working on strategies against the ongoing difficulties and uncertainties.



Each blood donation saves 3 lives.

Acknowledgement

Our Applause to

- All selfless healthcare workers and people who work hard day and night to combat COVID-19 and keep us safe
- All our generous donors and sponsors who help to secure local blood supply in meeting patients' transfusion need during this difficult time
- All our staff who spare no effort to maintain the blood collection service