



Design an affordable dialysis machine

First prize: \$100,000

The latest research on the global burden of kidney disease, newly published in *The Lancet*, carries grim tidings. Medical researchers at The George Institute for Global Health have calculated that somewhere between 5 and 10 million people in the world need dialysis right now for terminal kidney failure, but only 2.5 million have access to it, mostly due to cost – the rest will die an unpleasant death. The news gets worse: the number of people on dialysis is set to rise to 5 million by the year 2030, and most of the increase will be in developing countries.

Prevention measures will help, so will improved incomes, better living standards and better nutrition. But despite all this, there are now and will continue to be many millions of people who need dialysis to stay alive, at least until they can get a kidney transplant, and large numbers of these people will continue to die into the foreseeable future.

Dialysis machines purify the blood, replacing an essential function of the kidneys. They currently cost \$10-20,000 or more each, and need to be attached to elaborate water purification systems which often cost the same again. So the world urgently needs an affordable dialysis machine, one that runs on solar power and can easily purify and use water from any source.

To tackle this challenge, three of the leading players in global kidney health have joined together to create a world-wide competition, with a prize of \$100,000, to design the world's first truly affordable dialysis machine. The prize is sponsored by The George Institute, the International Society of Nephrology and the Asian Pacific Society of Nephrology with the support of the Farrell Family Foundation.

To win the prize your machine will

- Do just as good a job as traditional dialysis machines
- Run off rechargeable batteries and solar power
- Take water from any source and purify it on the spot
- Have a target manufacturing cost of \$1000
- Meet all the standard safety requirements for blood pumps

While the prize is bound to create interest at university engineering departments, innovation think tanks and industry labs, anyone can enter. The best entry will win the money. We will help you to build a prototype, and if it works, the revenues will be shared between the sponsors and the inventor. Entries close on Thursday 31st December 2015 and the winner will be announced on World Kidney Day, March 2016.



To find out more on how you can change the face of dialysis forever, please visit:
www.georgeinstitute.org/projects/dialysis-competition



The Affordable Dialysis Prize – Rules Of Entry

By submitting an entry for the prize, You, the Entrant, agree to these rules, which create a contract between You and The George Institute, so please read them carefully before entering.

1. The Affordable Dialysis Prize (the Prize) is organised and administered by The George Institute for Global Health, the International Society of Nephrology and the Asian Pacific Society of Nephrology (the Sponsors).
2. By submitting an entry form and a design (together, an Entry), Entrants agree to comply by these Rules.
3. Anyone can apply other than current employees of any Sponsor or their immediate family members.
4. Entries should be submitted by midnight on Thursday 31st December, 2015 Sydney time.
5. Late Entries will not be accepted.
6. Entrants should fill in an entry form, which can be downloaded from The George Institute's website. The form includes contact details of the Entrant and a brief description of the new machine
7. The entry form should be submitted by email together with all additional engineering details of the machine, including PDFs, images and/or videos to dialysisprize@georgeinstitute.org.au
8. Entries must include sufficient engineering detail and specifications to allow the building of a working prototype.
9. The winning Entry will be awarded US \$100,000. The Judges may, in their absolute discretion decide not to award the Prize if none of the Entries is considered to sufficiently meet the criteria listed below or to divide it between Entries which the Judges decide are equally worthy.
10. A judging panel will be appointed by the Sponsors. Entrants agree that the Judges' decision will be final.
11. The Sponsors may choose to approach unsuccessful entrants who submit ideas of interest or commercial value separately.
12. The Entries will be judged on the following criteria:
 - a. Efficacy – ability to successfully and safely provide dialysis
 - b. The ability to safely filter and purify water from any source.
 - c. Affordability – target manufacturing cost US\$1000 per unit
 - d. Low running costs
 - e. Portability
 - f. Use of renewable energy
 - g. Ease of manufacture
 - h. Simplicity of maintenance
 - i. Robustness – capable of being used in challenging environments, such as remote areas of developing countries.
13. Any personal information submitted as part of an Entry will be treated by The George Institute in accordance with its Privacy Policy, which may be viewed at The George Institute's website.
14. All Intellectual Property Rights (IP) in an Entry submitted will remain the exclusive property of the Entrant. The Sponsors will have the right to retain and use all entry materials submitted, and any images depicted in them, in any promotion or for any non-commercial purpose.
15. The Entrant grants The Sponsors first right of refusal to negotiate the terms of further development and potential commercialisation of an Entry in its entirety or of some aspects of an Entry.
16. All Entries will be treated as confidential by the Sponsors. Entrants acknowledge that successful commercialisation and future development of an Entry will depend among other things on adequate and timely IP protection and maintaining confidentiality. Failure by an Entrant to maintain confidentiality or secure IP protection for their Entry may lead to disqualification.
17. The Entrant warrants that:
 - a. its Entry is original and that it is the legal owner of, or has the right to use, all IP in relation to the Entry;
 - b. use of the Entrant's Entry and associated IP by The George Institute or any other Sponsor will not result in any third party liability or obligations towards any third party;
 - c. its Entry is not the subject of any threatened or pending litigation, claim or dispute which may give rise to litigation;
 - d. the submitted design remains confidential and has not been previously used, shared with third parties or submitted in any other competition;
 - e. it has not previously granted, assigned or otherwise dealt with its Entry or any related IP to any third party; and
 - f. The George Institute's use of the Entry will not violate any agreement which the Entrant has signed with any other party.
18. Each Entrant consents to the Sponsors using its name and prize information for advertising, public relations and promotional purposes without further compensation.
19. Entrants agree to indemnify the Sponsors and the Judges against any claims which may arise from an Entry being submitted.
20. Any wilful breach of these Rules by an Entrant may cause the Judges to reject the relevant Entry.

The full competition rules are available at the George Institute website www.georgeinstitute.org



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