

THE LONGITUDE PRIZE

Three hundred years ago, the British Government threw open a challenge – the Longitude prize – to solve what was considered one of the greatest problem of that century. The original problem 300 years ago was about how to pinpoint a ship's location and finding its longitude when at sea. All the best brains worked but amazingly, it was a humble carpenter and watch maker, John Harrison, who solved it. He designed the chronometer, a portable timepiece that tells the time in your home town and hence tells you how far away you are from home. The Prize has now been relaunched by UK's Prime Minister and is being conducted by UK's Innovation Foundation – Nesta.

This time a public vote was held to decide what the question of the century was. The problem chosen was antibiotics. It is clear that antimicrobial resistance is constantly outpacing humans' efforts to overcome it. Doctors are forced to act on imprecise information, and hence buckle under the pressure and prescribe antibiotics. The neatest way to solve this appears to have a quick, cheap, simple and accurate test to diagnose bacterial infections anywhere in the world. The challenge thrown out in this Longitude Prize is open for anybody who can develop a point-of-care rapid diagnostic test which is easy-to-use, accurate, affordable and available to anybody in the world to confirm a bacterial infection. The prize is now open for submissions. The winner will receive a bounty of 10 million pounds! (<https://longitudeprize.org/challenge/antibiotics>)

PATIROMER FOR HYPERKALEMIA

The FDA has approved a new drug for the treatment of hyperkalemia. Patiromer is available as a powder which is to be mixed in water and taken orally. It acts by binding to potassium in the gastrointestinal tract. There must be a 6 hour interval between its use and another drug. It may cause hypomagnesemia, bloating and constipation. It may be useful in patients with chronic renal failure, and in those on medications such as renin-angiotensin-aldosterone-system (RAAS)-inhibiting drugs. It works slowly and is not recommended in emergencies. (<http://www.medscape.com/viewarticle/853049>)

ARE THE WHO-RECOMMENDED CESAREAN RATES TOO LOW?

So far, the WHO has recommended that a caesarian rate of 10-15/100 live births is optimal to balance neonatal *versus* maternal morbidity and mortality. This was a consensus opinion based on the observation that some countries with the lowest perinatal mortality rates had cesarean delivery rates lesser than 10 per 100 live births. However, the story differs

from country to country. In Latin American hospitals, increasing cesarean delivery rates from 10% to 20% was associated with greater preterm delivery and neonatal mortality. In Asian hospitals, there was a higher risk of maternal mortality and morbidity from cesarean deliveries. Conversely, in Africa, where the median cesarean delivery rate was 8.8%, the risk of neonatal death was lower in facilities having higher elective cesarean rates.

A recent study analyzed the relationship between caesarian rates and maternal *versus* neonatal morbidity and mortality. Population and health data were obtained for all 194 WHO member states from the World Bank World Development Indicators (WDI) database for the year 2012. They found that the optimal cesarean delivery rate in relation to maternal and neonatal mortality was approximately 19 cesarean deliveries.

They suggest that previously recommended national target rates for cesarean deliveries of 10-15/100 live births may be too low, and this single number may not be applicable to all countries. We need to analyze our own national data to decide the right number for India. This needs meticulous and extensive data collection. (*JAMA 2015;314:2263-70*)

BIGGER IS NOT BETTER

A recent Cochrane review from University of Cambridge has proved that availability of large sized food portions and large size tableware results in people eating more than they should. The CDC has also released data showing that a cup of fountain soda has increased by 4 times in volume and burgers and fries three times in volume compared to the 1950's. Eliminating larger portion sizes is estimated to reduce daily caloric intakes by 12-16% in UK adults and by 22-29% in US adults.

An article in the BMJ discusses various policy changes that the government could take to reduce public overconsumption and obesity. The authors have suggested that foods and drinks which have high calories should have small serving sizes. Price promotions for large serving sizes must be restricted. Tableware such as cups, plates and glasses should be smaller in size. They feel the government should negotiate with the food industry, and use disincentives and sanctions if necessary for non-participation in voluntary agreements. Considering that in the UK, 25% of adults, 19% of adolescents and 10% of children are obese and the monetary consequences of this is 5.1 billion pounds each year, the government is looking at all the data pretty seriously. Urban India is going the same way and must learn from the mistakes of the West before it is too late. (*BMJ 2015;351:h5863*)

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