

MedNut Mail

The How, When, Where, Which and Why of pharmacotnutrition

Climate change – a personal reflection

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<https://medicationsandnutrition.online>

Commentary

Call for emergency action to limit global temperature increases, restore biodiversity, and protect health: Wealthy nations must do much more, much faster is the headline in a recent *American Journal of Clinical Nutrition*, Volume 114 (4):1267-1269, <https://doi.org/10.1093/ajcn/nqab281>

It sounds great, but ...

This editorial is a reflection about a recent 7+ year battle with a mining company's specific mining license application with which I have had a sustained, peripheral involvement.

The proposed mine site's location includes being situated 350 m from a river that provides both local town water supply and water for the irrigation of a significant food bowl situated immediately downwind. This food bowl is the primary source of Melbourne's summer salad vegetables.

The mining license application was for mineral sands and also present in significant quantities are uranium, thorium, radium, cadmium, lead, mercury, arsenic, etc. These substances can contaminate land, water and air and therefore confer significant in perpetuity contamination ie the land would not be able to be used for food production again post mine.

The entire mining license application process has such a profound pro-mine bias that it is not visible ie the biases are accepted as the norm. This is apparent in the very limited public access for very limited periods, and as infrequently as possible; the Technical Reference Group (TRG) is unlikely to include expertise on soil science, botany, hydrology, significant health representation, agriculture, horticulture, and yet they make decisions that impact or are impacted by all these factors. As the members of the TRG remain anonymous, so their suitability for each unique proposal is not available for scrutiny. The mining companies have access to many of these people both directly and through the Minerals Council – the local community and general public does not have similar access.

As the consequences of the mine became apparent the community became very organised and militant

- ultimately changing the local Council from one that supported the mine to one that opposed the mine,
- submitting so many objections that an EES (Environmental Effects Statement) was required. Note – this was not initially required ie the proposal would have been rubberstamped.

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The EES document is not legally required to be factual – and in this case - wasn't.

There is no requirement for the mining company to provide projected medium and long term health impacts – and in fact the tax payer subsidizes the mining sector in this matter as we pay all those health costs. I suggest it would be appropriate for the mining license application process to include a health bond similar to the requirement for a rehabilitation bond, and I suggest it be eye-wateringly high as the costs of cancers, earlier-onset diabetes, heart diseases, the neurodegenerative disorders, the mental health diagnoses, etc are all expensive in treatment, loss of capability, and loss of productivity.

Toxic metals have profound short, medium and longterm negative health impacts as they accumulate in the body – a primary cause of harm is their ability for molecular mimicry which means they can hop on many of the nutrient transporters causing displacement of both nutrients and therapeutic interventions (prescribed medicines), and thus negatively altering health outcomes.

Ultimately the Minister makes the decision whether to approve the EES or not – and is only guided by the EES Hearings process and relevant Department recommendations; one can speculate about the amount of background “influence” being applied by various parties, especially the pro-

mining related parties who would be taking advantage of their exceptional access to relevant key personnel.

In this case the Minister deemed the environmental impacts are unacceptable – a very recent decision.

However, there are several mining licenses for the surrounding areas, and this mining company or another, is likely to apply again and so the entire community will potentially go through the very expensive, biased process again.

The mining company has left a significant number of plastic bags of ore samples on the land, out in the weather, the external bags are deteriorating and the core samples breaking down ie leaking their (harmful) contents into the environment (air, soil, water) – so much for “responsible” mining company behaviour.

What will you do if you see a mining license application in your community? Your lobbying needs to be sustained, consistent and organised; the community needs to understand the extent of the consequences of the mine and not just see “high-paying jobs” (which are typically limited for locals). This mine would have created 400 mining-related jobs at the expense of 11,000 horticultural and tourism jobs.

Will you be an expert witness, or objector on some aspect of -

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- health?
- protection of the food supply ie food security?
- toxic metal impacts on health, environment?
- contamination of land, water, air?
- structural pro-mine biases inherent in current governmental processes in relation to mining license applications?

Conclusion

The headline *Call for emergency action to limit global temperature increases, restore biodiversity, and protect*

health: Wealthy nations must do much more, much faster is fine in principle but our governmental processes don't support this view and require significant brave changes to accommodate the call to action.

The association with pharmaconutrition may seem indirect however the consequences are very direct - toxic metal contamination is becoming more widespread and the consequences include alteration to both availability of nutrients and therapeutic interventions (prescribed medications).

Case study

Medical History with Nutritional Aspect

Amputation	<input type="checkbox"/>	Constipation	<input type="checkbox"/>	Dysphagia	<input type="checkbox"/>	MND	<input type="checkbox"/>
Anaemia	<input type="checkbox"/>	CVA	<input type="checkbox"/>	Enteral Feed	<input type="checkbox"/>	MS	<input type="checkbox"/>
Arthritis	<input checked="" type="checkbox"/>	CVD	<input type="checkbox"/>	Falls	<input checked="" type="checkbox"/>	Osteoporosis	<input type="checkbox"/>
Cancer	<input type="checkbox"/>	Dementia	<input type="checkbox"/>	Fracture	<input type="checkbox"/>	PD	<input type="checkbox"/>
CCF	<input type="checkbox"/>	Dentures	<input checked="" type="checkbox"/>	Frailty	<input type="checkbox"/>	Pressure Area	<input type="checkbox"/>
Chest Infection	<input type="checkbox"/>	Depression	<input type="checkbox"/>	Gout	<input type="checkbox"/>	Renal	<input type="checkbox"/>
COAD	<input type="checkbox"/>	DM Type 1	<input type="checkbox"/>	Hypertension	<input checked="" type="checkbox"/>	Ulcer	<input type="checkbox"/>
Confusion	<input type="checkbox"/>	DM Type 2	<input type="checkbox"/>	Incontinent	<input type="checkbox"/>	UTI	<input type="checkbox"/>
Food Allergies	<input type="text"/>						
Other:	<input type="text" value="B12 def, vit D def, deafness, blindness"/>						

Biochemistry with Pharmaconutritional Consequences

No recent relevant data available

Medications That May Adversely Affect Nutritional Status

Drug	Vits + Mins	bpp >90%	N/V	C/D	Wt	App	Tst	Thir	Sal	Drlg	d m	Dys	BSL
ASTRIX	C, Fe	<input checked="" type="checkbox"/>	NV				<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
GOPTEN		<input type="checkbox"/>	N	D			<input checked="" type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LASIX	(40 mg/day) Ca, Cl, K, Mg, Na,	<input checked="" type="checkbox"/>	NV	CD		↓	<input type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
NEO-B12		<input type="checkbox"/>	NV	D			<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OSTELIN	(1/day)	<input type="checkbox"/>					<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PANADOL OSTEO		<input type="checkbox"/>	NV	CD			<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TARGIN		<input type="checkbox"/>	NV	CD		↕	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>					<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extra drug:	<input type="text"/>												

Comments – medication and nutrition impacts (direct and indirect) only

No recent relevant biochemistry.
Advisable to check plasma proteins (albumin, total proteins) as they are the primary transporters for two of the prescribed drugs and hypoproteinaemia may alter their effects.

Astrix + vitamin C (960 mg/day) attenuates drug-induced gastric damage.

Lasix increases urinary excretion of calcium, magnesium, potassium, sodium and thiamine.

Both Lasix and Gopten decrease zinc availability.

Currently prescribed neo-B12 - which is due now. Evidence indicates elevated B12 levels diminish cognitive function; advisable to check B12 levels and if well within acceptable range or elevated then advisable to either -

- review frequency of administration and consider 6-monthly rather than 3-monthly,

- have a B12 "holiday" for a year, recheck status and if within low-acceptable range then recommence interventions if required.

Dietary levels of caffeine intake in conjunction with paracetamol inhibit antinociception.

Concurrent ingestion of paracetamol and iron result increased rate of iron absorption and decreased extent of drug absorption. If an iron intervention is commenced then advisable to administer at a different time from paracetamol in order to minimise risk of drug-nutrient interactions.

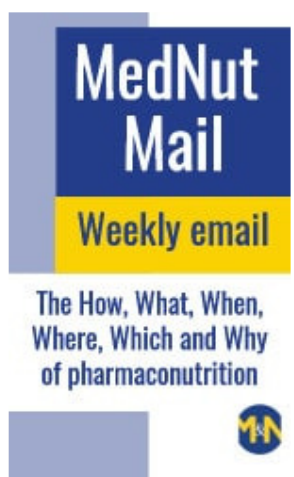
Naloxone component of targin is an OCT2 inhibitor ie inhibits transport of thiamine into the kidneys.

What else would you include?

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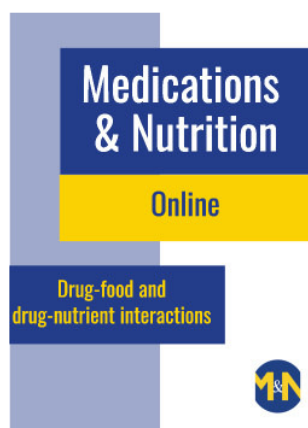
Medications have profoundly and positively changed health outcomes however they do generally come with some nutritional harms. By identifying and addressing the nutritional harms, optimal health outcomes are closer to being achieved.

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