Optimising Cancer Outcomes in Wales using the Innovative, Pre-Optimisation and Prehabilitation Programme (POP)

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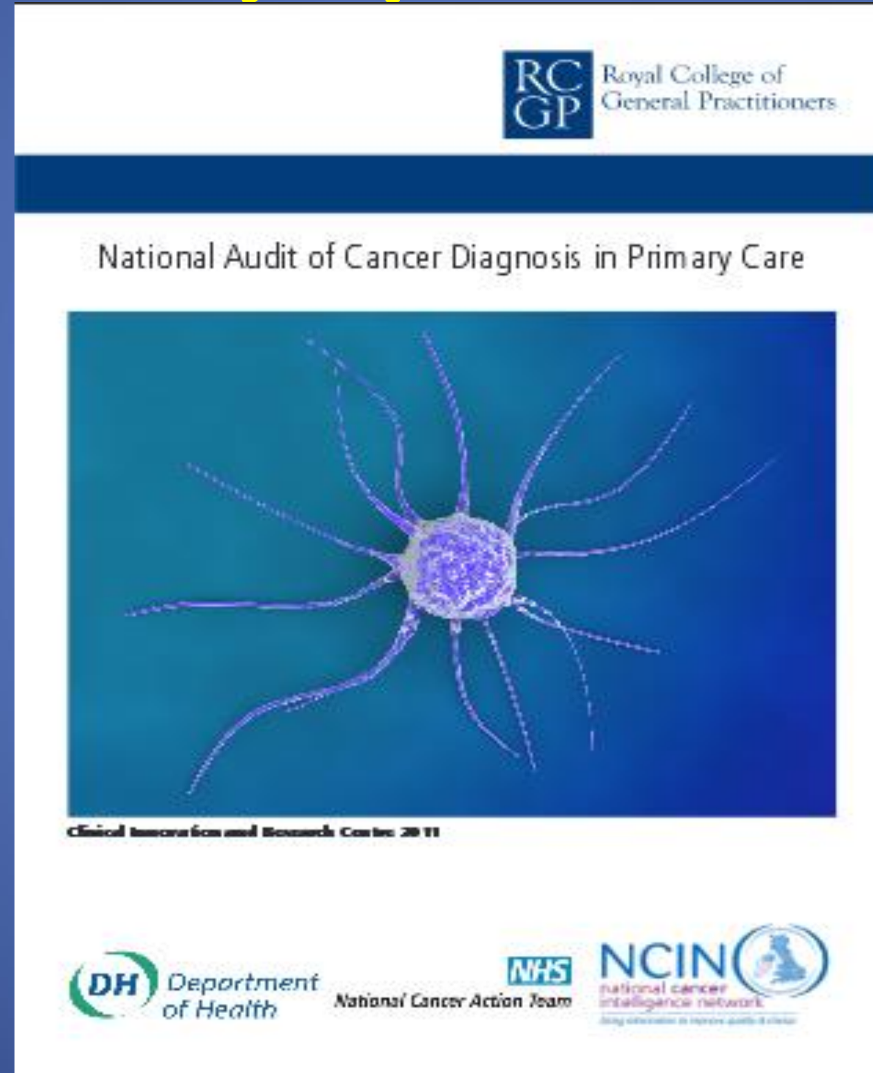
Marathon des Sables

Marathon de Cancer

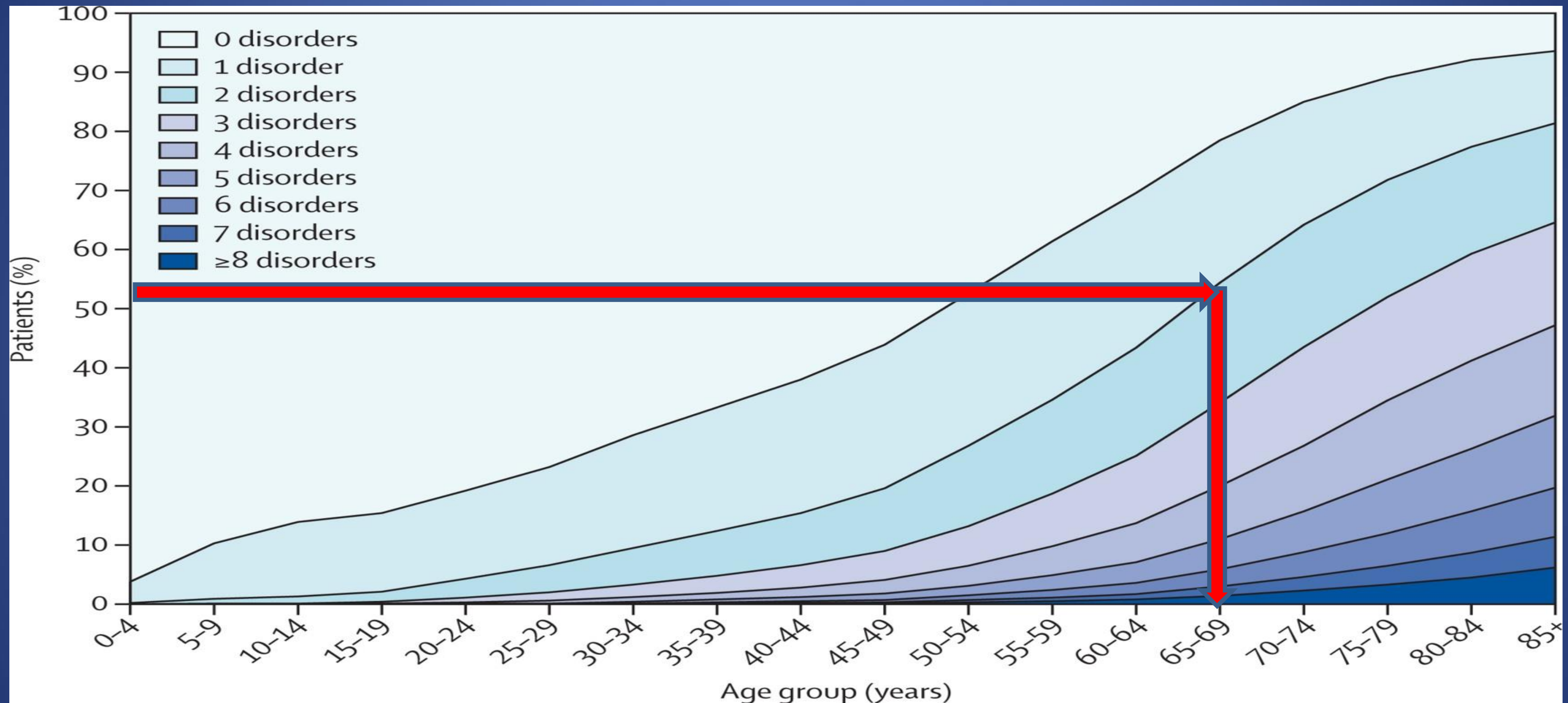
Continues for weeks, months

For some.........................years

Our Cancer Patients do not just have Cancer symptoms .....



Barnett *et al*, 2012 Lancet



The Lancet 2012 380, 37-43DOI: (10.1016/S0140-6736(12)60240-2)

ELSEVIER

Affect of Deprivation

- Onset of multi-morbidity occurred **10–15 years earlier** in people living in the most deprived areas compared with the most affluent, with socioeconomic deprivation

What impacts on Cancer Outcomes?

Pre-treatment Risk

Modifiable	Acquired	Innate

Lifestyle

- Smoking
- Alcohol
- Nutrition
- Activity

Acquired:

- Sarcopenia
- Fitness
- Emotional resilience
- Comobidity
  - IHD, COPD, AF, anaemia

Innate:

- Age
- Gender
- Genetic
- Health literacy

Surgery is still the main hope a cure for people diagnosed with cancer

What we Know

- Less ‘fit’ patients are more likely to die
- Less ‘fit’ patients have a more complicated recovery
- Fitness affects outcomes of cancer patients
- Strengthening the inspiratory muscles may improve the rate of recovery and post-operative complications

- ‘Teachable moment’ - opportunity to embed sustained changes in health behaviour

Can prehabilitation make surgery a viable option for a newly diagnosed patient with lung cancer who is initially deemed to be too high of a risk for surgical resection?

1. Are all the people who can have surgery for their cancer being offered surgery?
   a. If not, why not?
2. Are those being offered surgery having the best chance of recovery and survival from their surgical care?
3. Are those patients who cannot have surgery living with the best possible quality of life?
4. Can we change post cancer treatment behaviours with prehab?

Impact of Cancer on Future Health

- Cancer Survivors are more likely to develop cardiovascular disease, diabetes and osteoporosis as well as further second primary cancers

  Brown *et al*, 1993; Travis *et al*, 2006

- These are linked with behaviours such as smoking, diet and physical activity

  Hu *et al*, 2001; Mokdad and Ford, 2003; US Department of Health and Human Services, 2004; Warburton *et al*, 2006

- Studies have shown that the majority of cancer patients do not change their health behaviour after cancer diagnosis and treatment follow up 2 years

  Williams K, Steptoe A, Wardle J. Is a cancer diagnosis a trigger for health behaviour change? Findings from a prospective, population-based study. *British Journal of Cancer*. 2013;108(11):2407-2412. doi:10.1038/bjc.2013.254.

The BMJ editorial

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Editorials

Prehabilitation: preparing patients for surgery

BMJ 2017 ; 358 doi: https://doi.org/10.1136/bmj.j3702 (Published 08 August 2017)
Cite this as: *BMJ* 2017;358:j3702

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Major surgery is like running a marathon—and both require training

The impact of surgery leads to significant homeostatic disturbance.[1] The surgical stress response is characterised by catabolism and increased oxygen demand. The extent and duration of the stress response is proportionate to the magnitude of surgery and the associated risk of developing postoperative complications.[2]

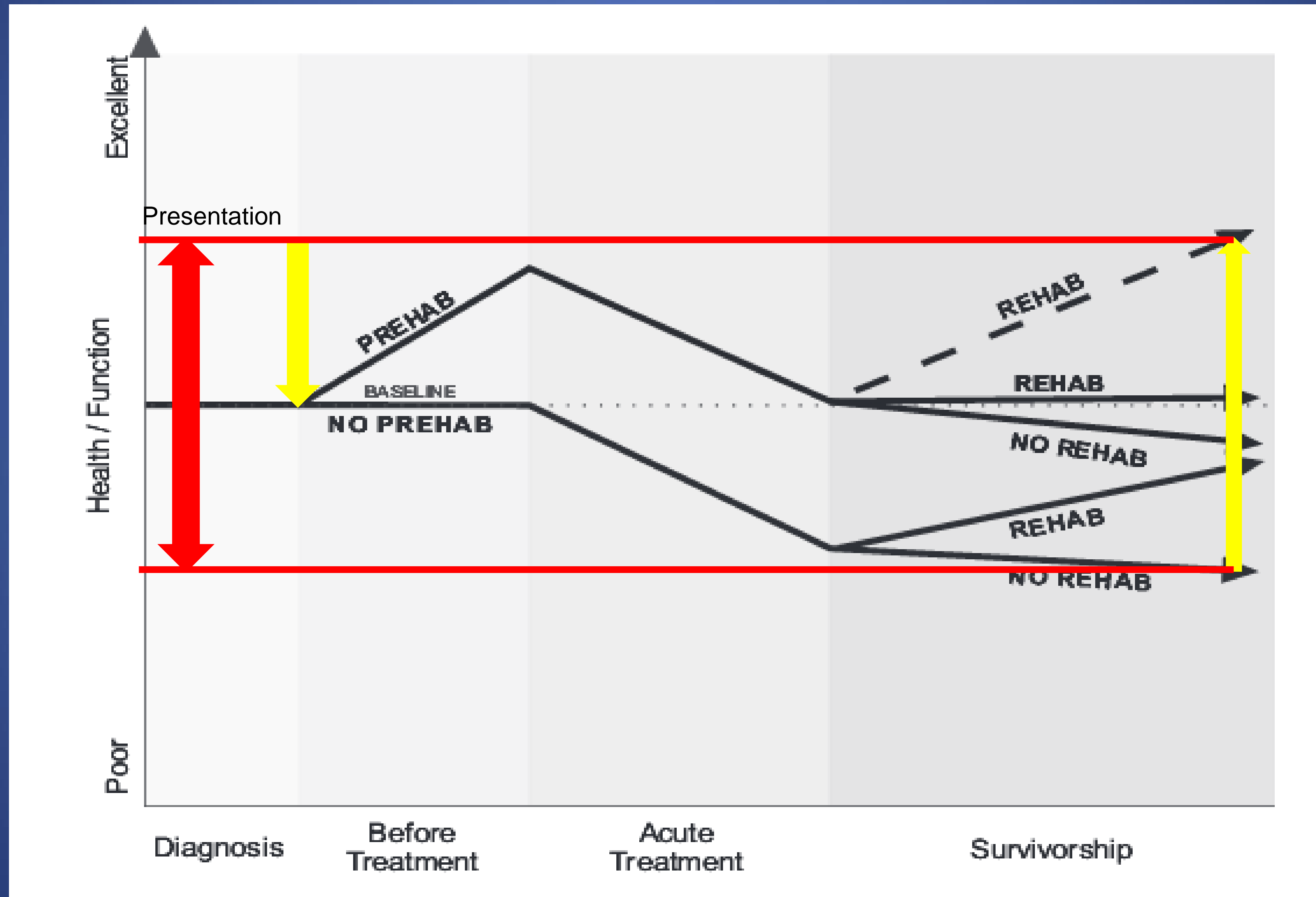
Cancer prehabilitation is defined as:

“ A process on the cancer continuum of care that occurs between the time of cancer diagnosis and the beginning of acute treatment and includes physical, nutritional and psychological assessments

.......and provide interventions that promote physical and psychological health to reduce the incidence and/or severity of future impairments”

Silver JK, Baima J, Mayer RS. Impairment-driven cancer rehabilitation: an essential component of quality care and survivorship. CA Cancer J Clin 2013;63:295-317

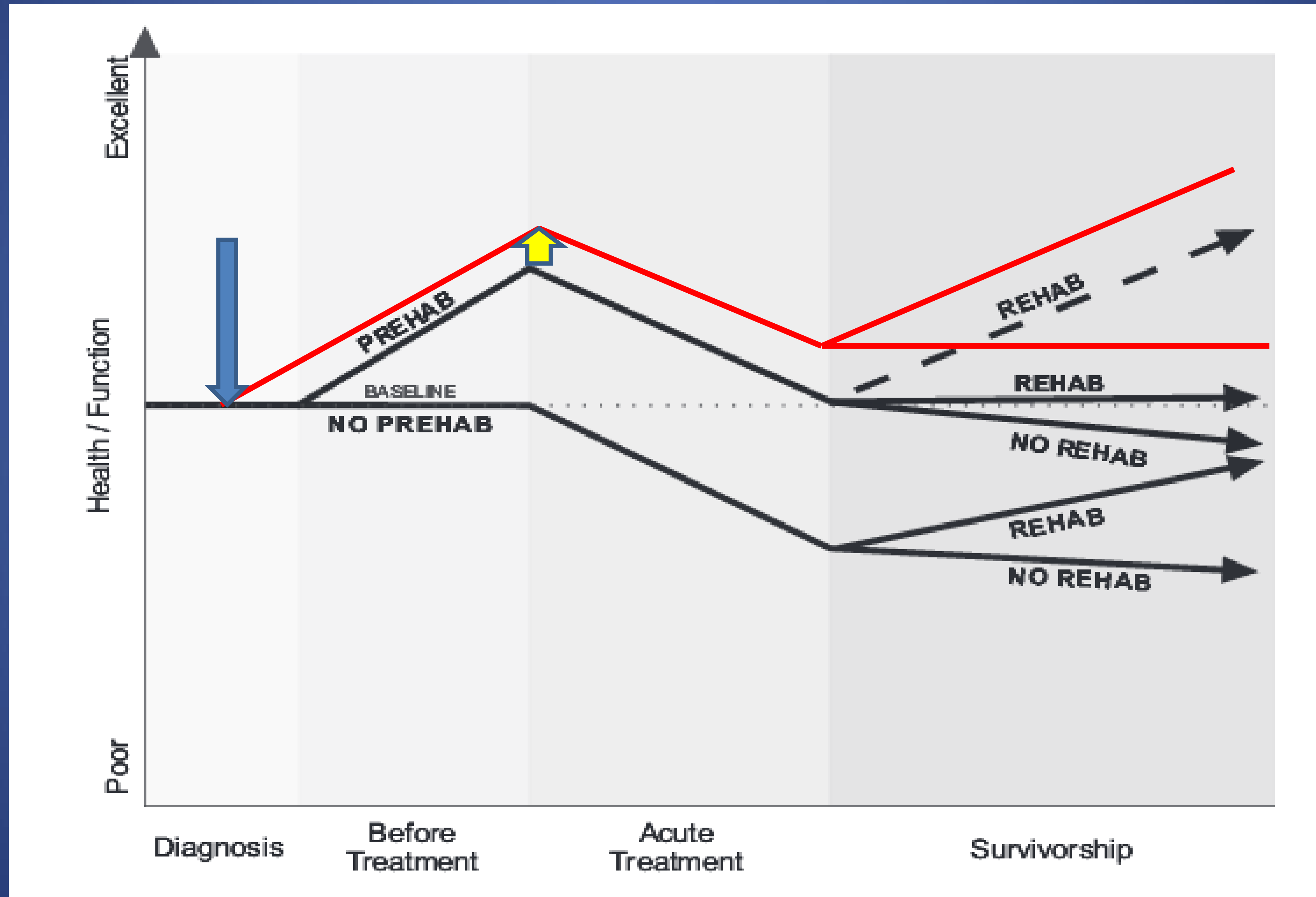
Opportunities for Optimisation



When to Start Prehab?

- Mindful that stage migration in some cancers can happen at 54 days so the prehabilitation needs to be timely and not hold up treatment in any way
- 1st point of contact in secondary care - ? Outpatient dept
- Optimise patient whilst diagnostics and decisions being made pre-treatment
- Some patients won't have a cancer diagnosis but 'teachable moments' may improve future health

Opportunities for Optimisation



So what does our POP look like?

Our programme is.....

Unique

person-centred,

innovative

and holistic

Background to POP Programme

- Funded awarded via the Cancer Implementation Group April 15
- Circa £380K over 3 years
- Project team in place April 16
- Programme reports via Cancer Implementation group
- National and Local Task and Finish Groups

Our PREHAB clinical model

- Is innovative in timing and composition
- Promotes self management, resilience and adoption of changes to behaviours
- Is an aggregation of clinical and holistic interventions
  - protein loading/ nutritional counselling
  - At home inspiratory muscle training/ home exercise
  - promotion of physical activity using pedometers
  - coping and wellbeing strategies
  - Lifestyle advice
  - Optimisation and screen for comorbidity

Who received Prehab?

1. We aimed to provide the support our patients needed and wanted.

2. All patients were **evaluated** to **understand** and be able to **respond** to their need for:

Nutrition, muscle strength, body composition, sarcopenia, performance status, 6 min walk, frailty, fatigue, HRQoL plus others, emotional status, anaemia and glycaemic control

Results so far

July to date: Aneurin Bevan UHB

Sept to date: Cardiff and Vale UHB

July (physio only) ABMU

Dec to date: Regional ‘prehab’ ABMU/Hywel Dda

170+ patients undergone prehab for suspected lung cancer

2 : 3 female:males

Aged: 73 years (range 54-87)

Risk of Patients

- Smokers : 25% current smokers
  - 90% referred for smoking cessation as part of prehab
- Alcohol : all drinking within recommendations
- Physical Activity: 15% immobile

No patients exceeding 150mins /week (WHO)

40% COPD: 25% Diabetes 23% HT

24% anaemic 30% - inflammatory: ⬆CRP

Outcomes

- All self-reported measures show improvements from baseline to start of cancer treatments.
- Early findings suggest improvements in 6 minute walk, muscle strength, fatigue, and nutrition.
- All participants currently evaluate PREHAB as ‘good’ or ‘excellent’
- We have moved patients from a palliative to a curative care pathway, resulting in improved potential for survival.
- Moreover, for surgical patients, PREHAB reduces time spent in hospital, with fewer admissions to critical care.
- Value based care

Delaying Surgery for Prehab?

- Very controversial due to stage migration of tumours
- We have delayed patients so far for surgery for prehab due to perceived risk
- MDTs changing opinions
- Cancer Standards and waiting times

What do our patients think?

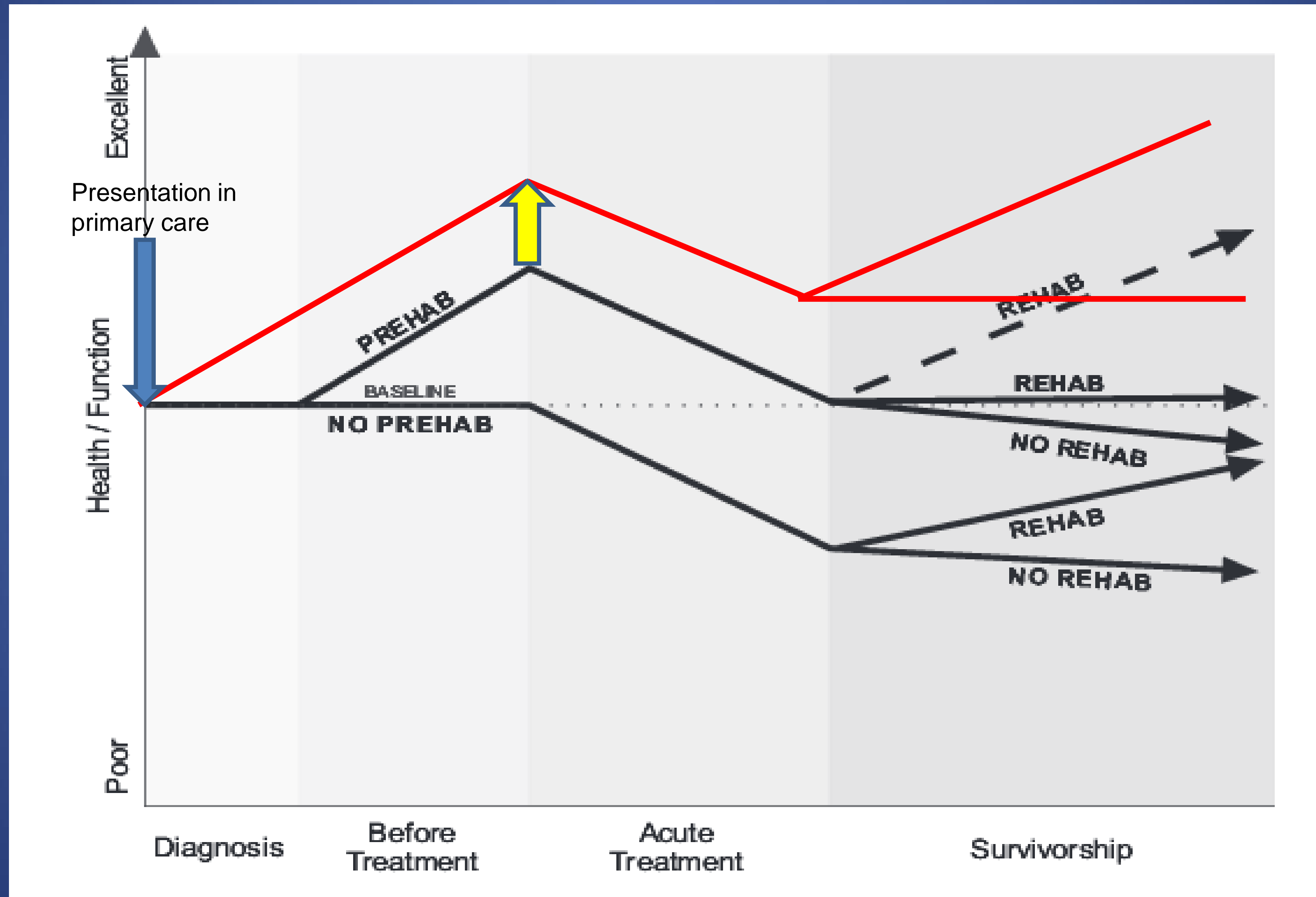
- Timing right
- Programme right
- Acceptable
- Would they change anything?
- Explanation of prehab?
- Recommend to friends and family ?

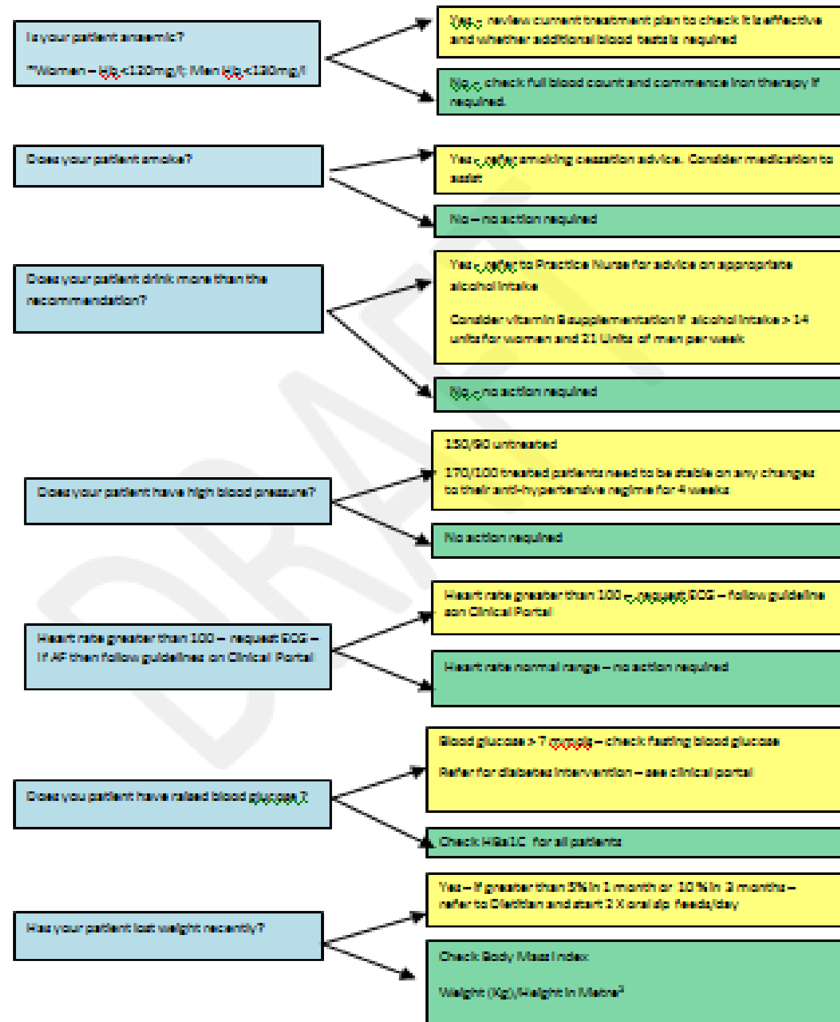
YES

Mr Philip jones

The big question is –
Can this happen in Primary Care?

Opportunities for Optimisation





Version 1.0 March 5th 2014

'Fit For List' – Optimisation Bundle

Is your patient anaemic?
**Women – Hb <120mg/l; Men Hb <130mg/l

Yes – review current treatment plan to check it is effective and whether additional blood tests is required

No – check full blood count and commence iron therapy if required.

Does your patient smoke?

Yes – refer smoking cessation advice. Consider medication to assist

No – no action required

Does your patient drink more than the recommendation?

Yes – refer to Practice Nurse for advice on appropriate alcohol intake

Consider vitamin B supplementation if alcohol intake > 14 units for women and 21 Units of men per week

No – no action required

Does your patient have high blood pressure?

150/90 untreated

170/100 treated patients need to be stable on any changes to their anti-hypertensive regime for 4 weeks

No action required

Heart rate greater than 100 – request ECG – If AF then follow guidelines on Clinical Portal

Heart rate greater than 100 – request ECG – follow guideline son Clinical Portal

Heart rate normal range – no action required

Does you patient have raised blood glucose?

Blood glucose > 7 mmols – check fasting blood glucose

Refer for diabetes intervention – see clinical portal

Check HBa1C for all patients

Has your patient lost weight recently?

Yes – if greater than 5% in 1 month or 10 % in 3 months – refer to Dietitian and start 2 X oral sip feeds/day

Check Body Mass Index

Weight (Kg)/Height in Metre^2

The Bundle Components

1. Review and optimisation of existing co morbidities (register)
2. Anaemia?
3. Smoking?
4. Alcohol?
5. High Blood pressure?
6. AF?
7. Raised blood glucose?/ HBa1C
8. Nutrition?
9. Exercise?

Summary

- Pre treatment optimisation in primary care is feasible

- 44% of the patients recruited needed some

  form of intervention and optimisation at the initial stage in primary care

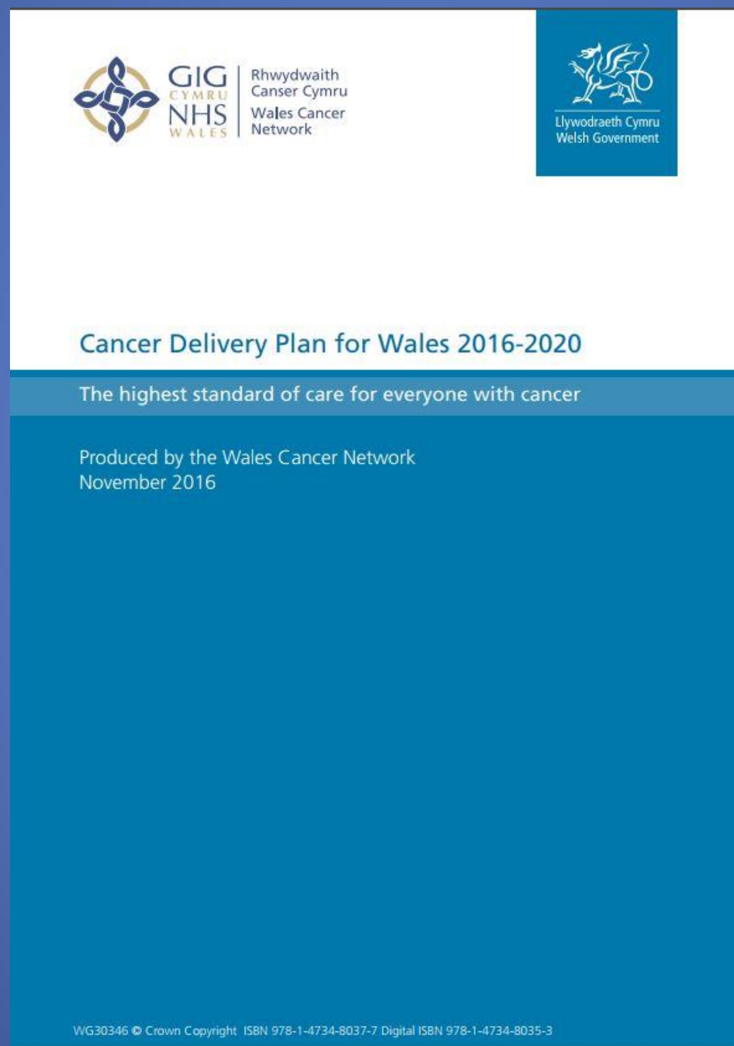
UK wide Implementation

"Prehab has the potential to impact cancer outcomes more than advances in oncological treatments"

"Really important and exciting area for research and development"

IMPACT

The Cancer Delivery Plan


GIG CYMRU NHS WALES
Rhwydwaith Canser Cymru
Wales Cancer Network
Llywodraeth Cymru
Welsh Government

Cancer Delivery Plan for Wales 2016-2020

The highest standard of care for everyone with cancer

Produced by the Wales Cancer Network
November 2016

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Stakeholder Event

#prehabimproveslives
GIG NHS
Cydweithrediad Iechyd GIG Cymru
NHS Wales Health Collaborative
#prehabimproveslives
GIG NHS
Cydweithrediad Iechyd GIG Cymru
NHS Wales Health Collaborative

National Plan for Prehabilitation and Enhanced Recovery Implementation

- Len Richards CEO Cardiff and Vale UHB taking Lead
- Developing Programme Management Plan
- Implementation Plan

In Summary

- Prehabilitation dramatically benefits patient care and outcomes
- Patients really like it - not a burden as originally perceived
- First time to our knowledge that Prehab has directly influenced survival in cancer care
- Medical colleagues claim that our prehab model has more survival benefit than oncological treatments
- Key now is to maximise benefit further by starting in primary care
- Offers a ‘teachable moment’ for behavioural change

Acknowledgments

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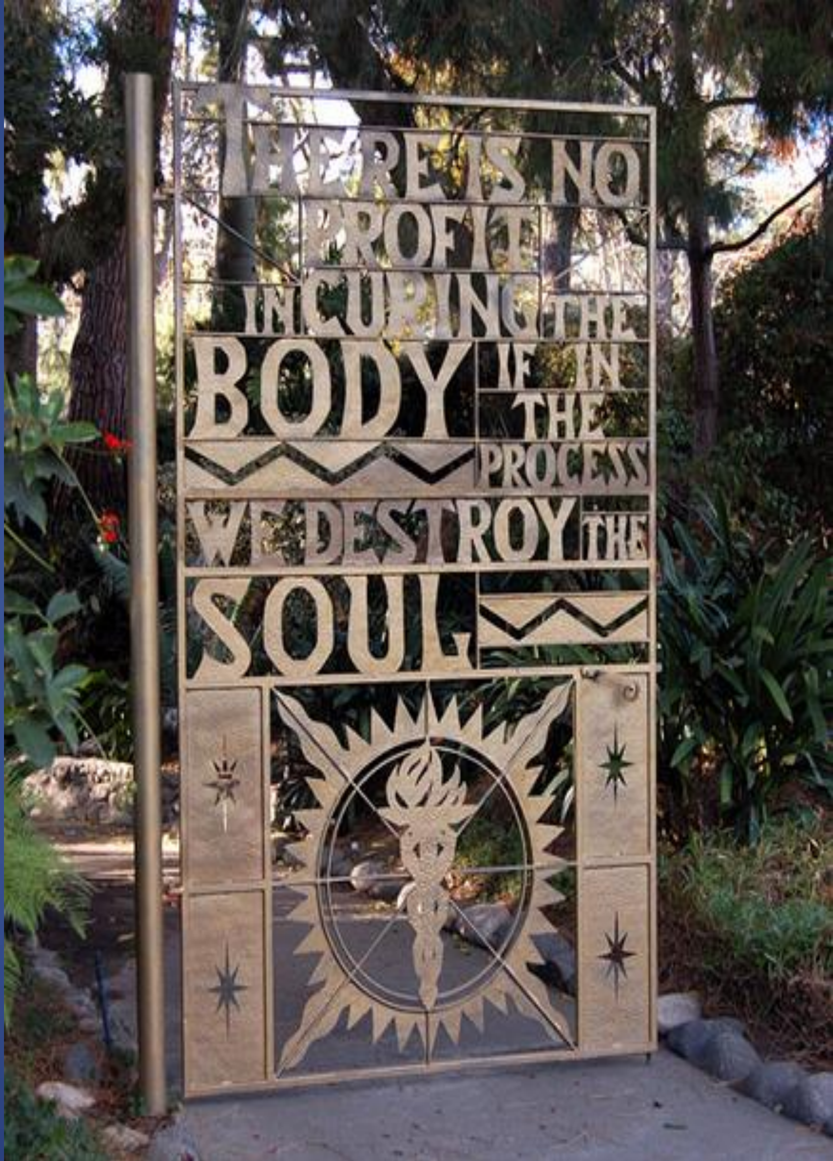

Samuel H. Golter

"There is no profit in curing the body, if in the process, we destroy the soul."