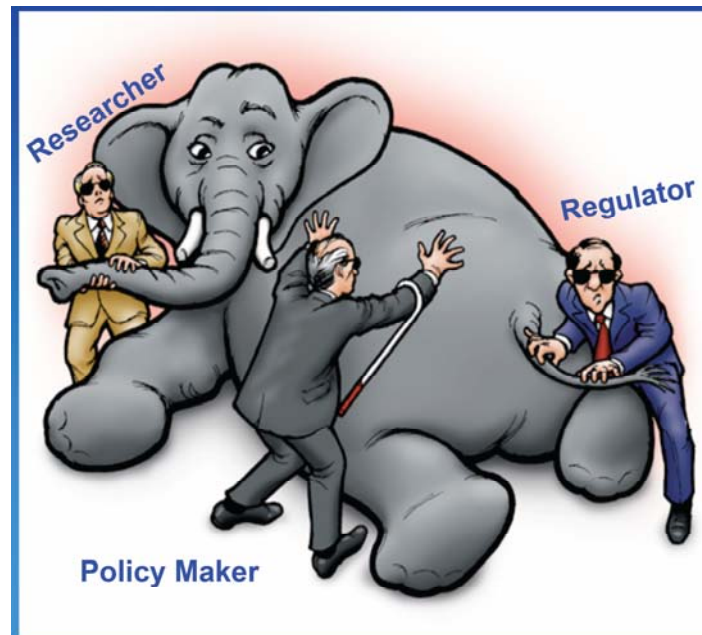


# Improving the Diagnosis & Management of IDA in Australia Barriers, Enablers & Priorities



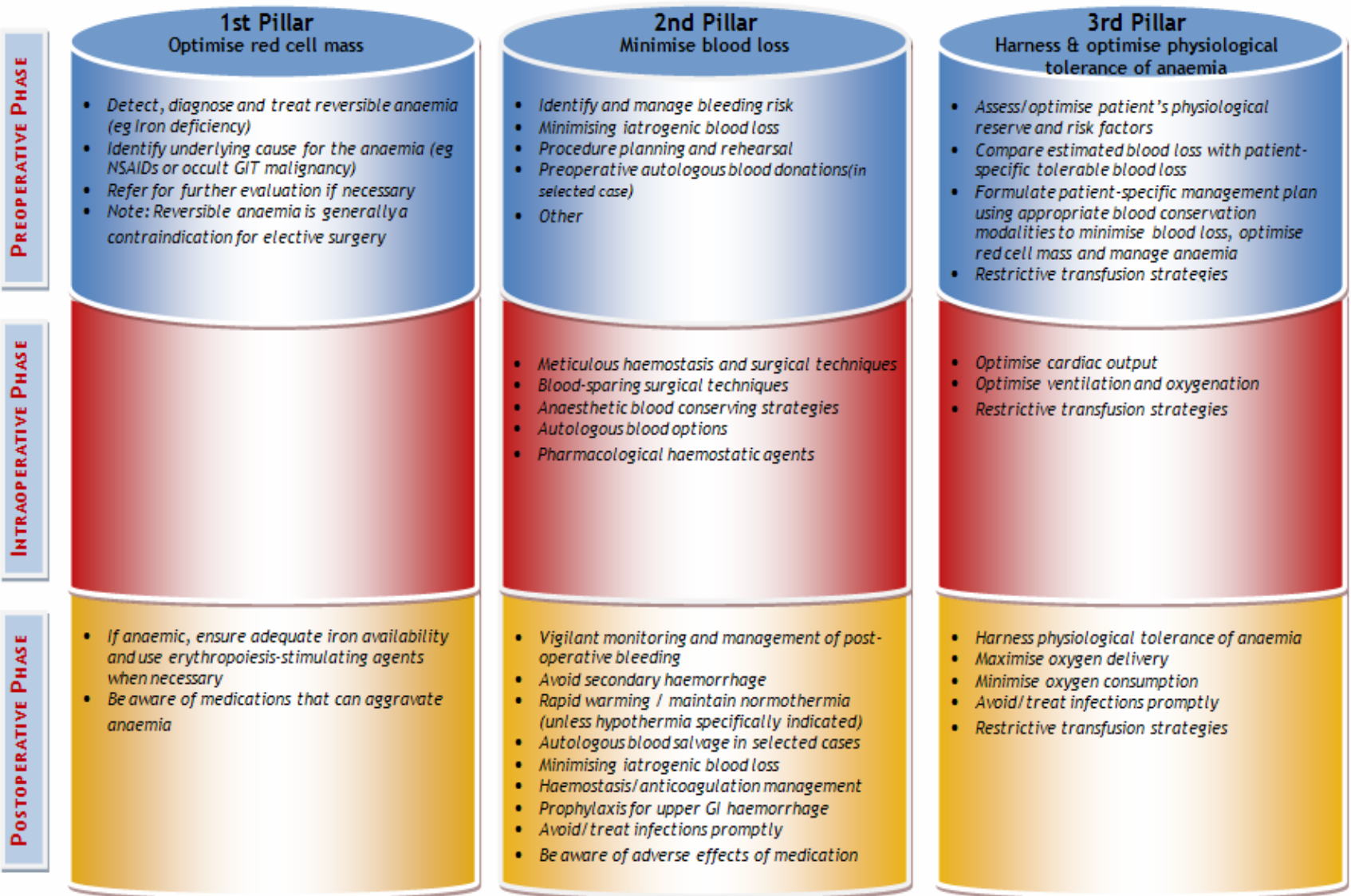


# 3 Pillars of Blood Management

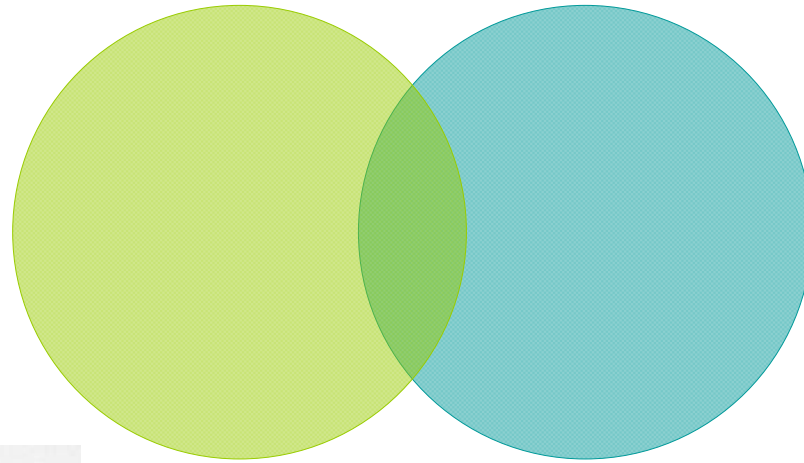
- ✓ Optimise haemoglobin
- ✓ Minimise blood loss
- ✓ Tolerance of normovolaemic anaemia



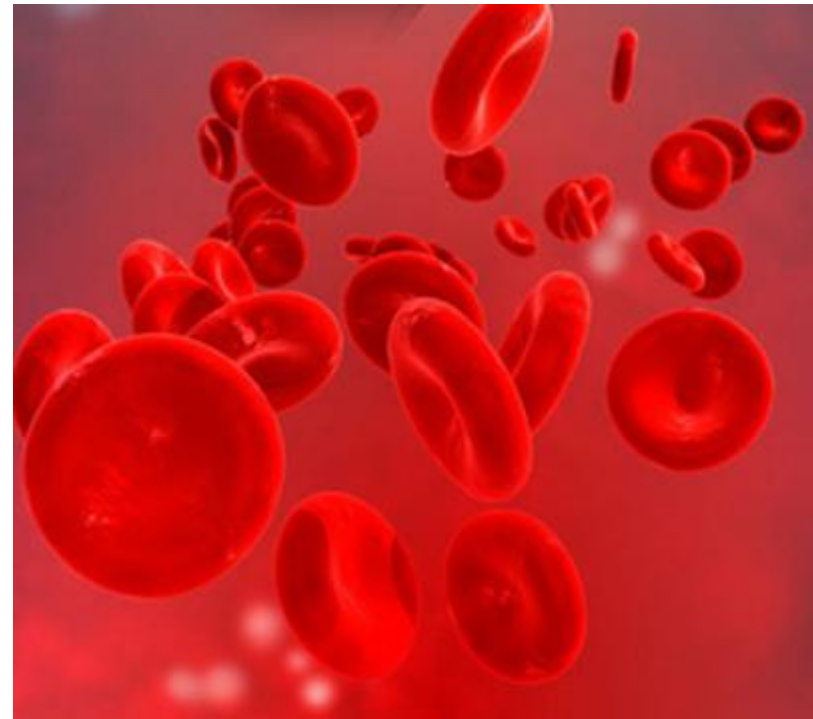
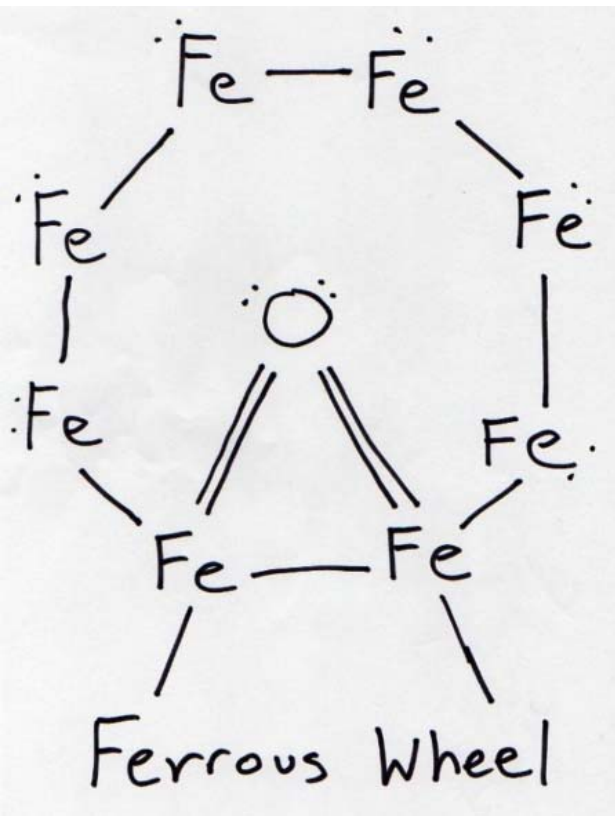
# The Three Pillars of Multidisciplinary Multimodal Patient Blood Management

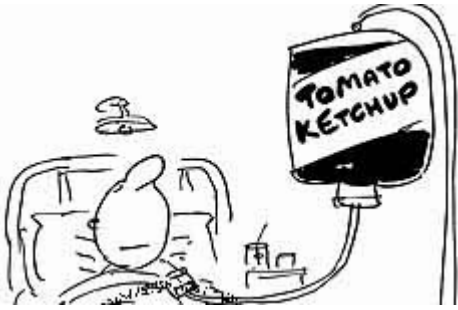


Iron  
Deficiency



Patient  
Blood  
Management





# IDA in Hospitalised Patients

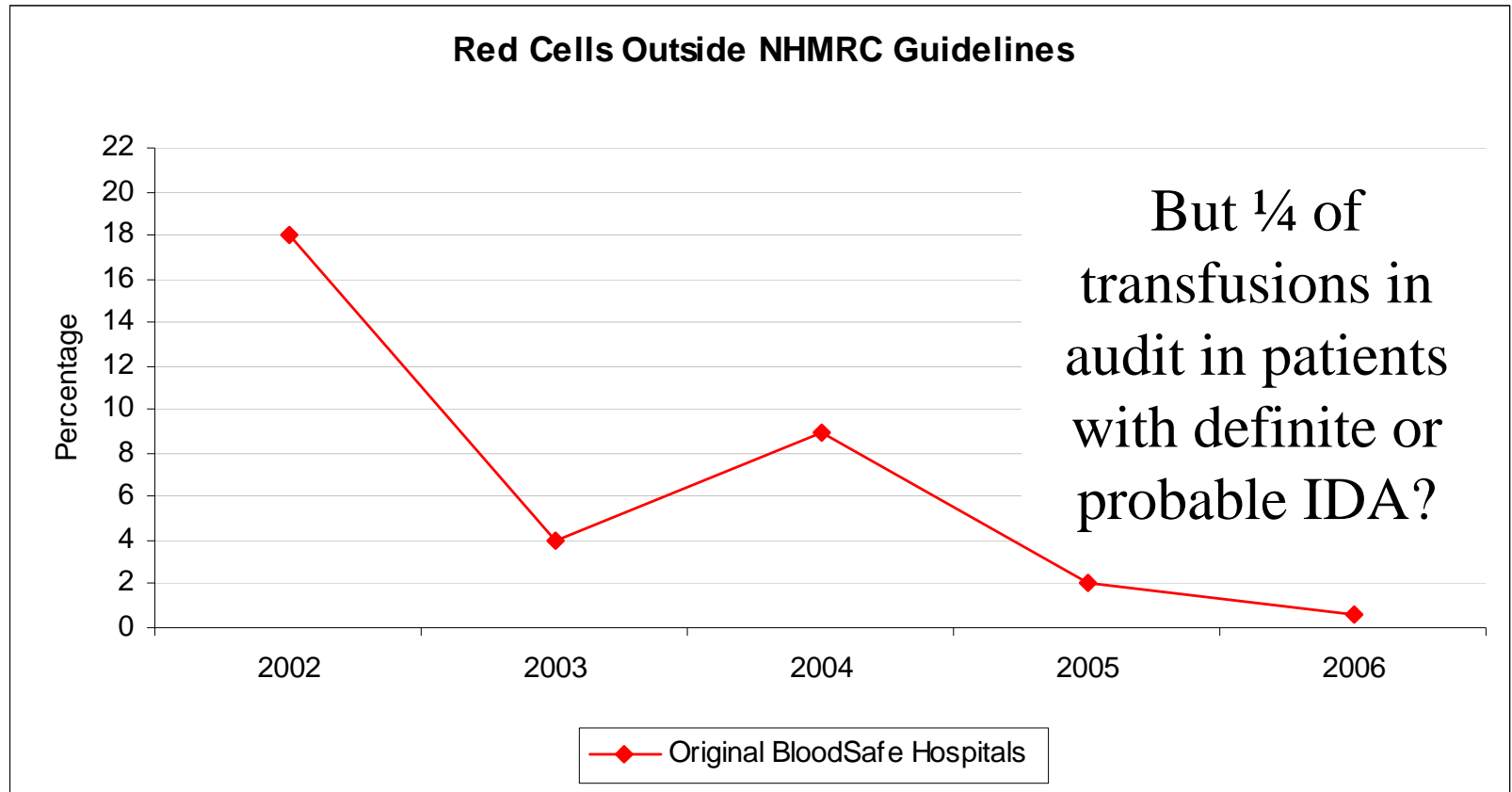
- Retrospective casenote review of pt with IDA
- 119 pt in 2.5 years in 1 hospital in Victoria
  - **24/66 transfused had no iron**
  - 12/53 not transfused had no iron

**55% managed according to proposed guidelines**  
(9% in cardiac patients)

Gibson et al IMJ 2006



# Transfusion outside NHMRC Guidelines



# Australia's own "all natural" iron supplement that gentle on the stomach...



- BONUS tissue transplant in each bag!
- Prescribed simply with the aid of a pen



# Which treatment?

Approx cost of product per unit of red cells



\$4.20



\$12 iron polymaltose &  
\$26 iron sucrose



\$350





# Iron Deficiency Anaemia

## Real but neglected

Background paper prepared by ANZSBT  
Clinical Practice Improvement Committee



# Benefits

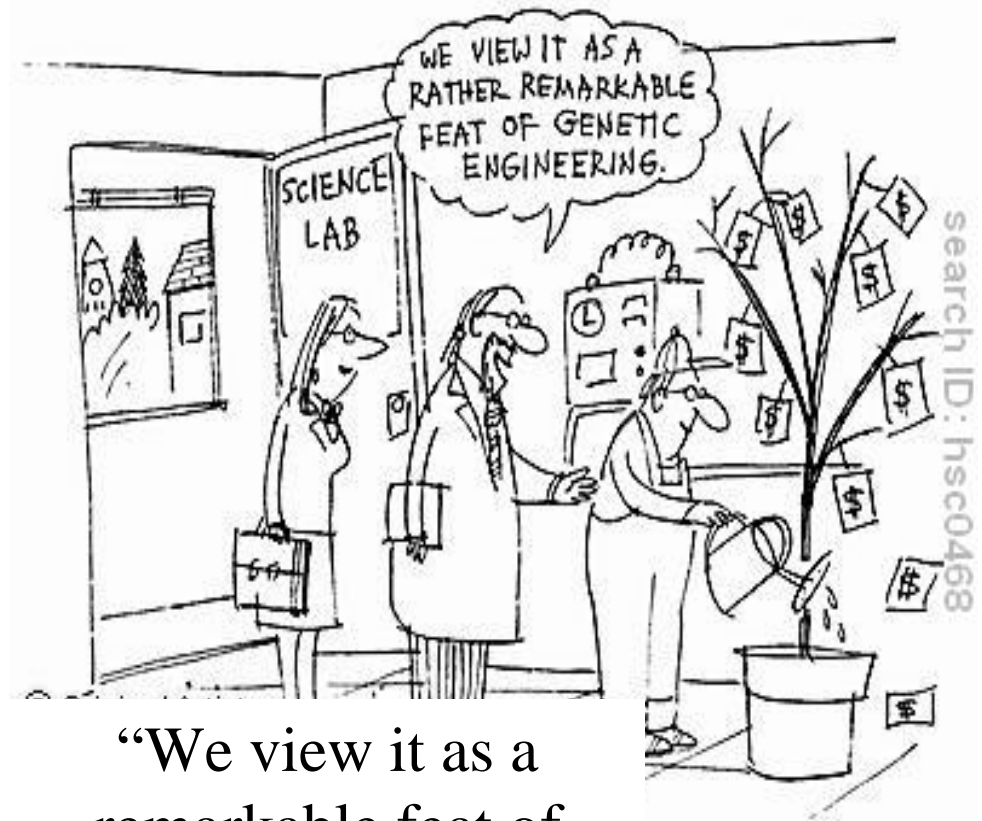


- Patient outcomes
  - Safe & appropriate treatment & detection of underlying causes
  - Productivity / quality of life
  - Indigenous health
- Blood supply
  - Appropriate use of donors' free gifts
  - Donor health
  - Sufficiency & avoiding shortages
- Effective healthcare resource utilisation
  - Anaemia in aging population

# National Iron Deficiency Anaemia Meeting 1<sup>st</sup> May 2009

## Supported by:

- ANZSBT
- ARCBS
- NSW Blood Watch
- Vic Blood Matters
- SA BloodSafe



“We view it as a remarkable feat of genetic engineering.”


# **Give the man a chop: PM's mid-air meal snap linked to diet**

**Matthew Benns**

April 5, 2009

COULD the Prime Ministerial tantrum that reduced a flight stewardess to tears indicate an iron deficiency? The PM has apologised for blowing up at the woman after he did not receive the non-red-meat meal he had requested on a VIP flight from the Pacific Islands Forum in Port Moresby in January.

Could the Prime Ministerial tantrum  
indicate iron deficiency?



# Chaired by Prof James Isbister

## Facilitated by Bernie Harrison

- **Dr Amanda Thomson** Haematologist
  - **A/Prof Katie Allen** Paediatric Gastroenterologist Allergist
  - **Dr Lynn Aston** Transfusion Medicine Specialist
  - **Prof Chris Baggoley** CE, Australian Commission on Safety and Quality in Healthcare
  - **Peter Barclay** Pharmacist
  - **Dr Robert Bird** Haematologist
  - **Julie Bland** NBA
  - **Dr Ivor Cavill** Haematologist
  - **Carolyn Der Vartanian** Blood Watch Program
  - **Bettina Douglas** Nurse Practitioner, CKD
  - **Shannon Farmer** WA PBM Program
  - **Dr Steve Flecknoe Brown** Haematologist
  - **Dr Bernd Froessler** Anaesthetist
  - **Prof Peter Gibson** Gastroenterologist
  - **Prof Hans Gombotz** Anesthesiology/Critical Care
  - **Bernie Harrison**, CEC & BloodWatch
  - **Axel Hofmann** WA PBM Program
  - **Dr Chris Hogan** NBA
  - **Dr David Kardachi** GP & Hospitalist
  - **Elsbeth Kay**, National Prescribing Service
  - **Zoe Kelly** NICS
  - **Dr Ross Kerridge** Anaesthetist
  - **Dr Claire McLintock** Haematologist & Obstetric Physician
  - **Prof Lawrence McMahon** Nephrologist
  - **Barbara Parker** Transfusion Nurse Consultant
  - **Dr Sant-Rayn Pasricha** ARCBS Registrar
  - **Dr Richard Pembrey** TGA
  - **Jennifer Roberts** NBA
  - **Dr Kathryn Robinson** Haematologist /BloodSafe
  - **Dr Simon Roger** Nephrologist
  - **Dr Helen Savoia** Haematologist
  - **Dr Richard Seigne** Anaesthetist,
  - **Prof Donat Spahn** Anaesthesiologist
  - **Jennifer Williams** CEO, ARCBS
  - **Dr Erica Wood** Haematologist, ARCBS & Blood Matters
  - **Dr Jo Zhou** Research dietitian
- Others involved but unable attend initial meeting:
- **Prof John Olynyk** Gastroenterologist
  - **Dr Ramdas Tampi** Haematologist
  - **Dr Lilon Bandler** Indigenous Health & Education

# Aims of the meeting...

Improving care for patients with IDA:

- Barriers
- Enablers
- Priorities
- Way forward- next steps & framework to support them

“Good to have you with us.  
We could do with some  
fresh blood in this place.”



"GOOD TO HAVE YOU WITH US, FARQUHAR. WE COULD DO WITH SOME FRESH BLOOD IN THIS PLACE"

# Scope of the meeting:

## **IDA** across the life cycle

- Diagnosis & investigation
- Treatment

## **Not** primarily about:

- prevention of ID at a public health level
- iron therapy in patients without IDA (eg pre-op)
- other types of anaemia



“Do I have to declare a major? Couldn’t I just be a stem cell?”



# 3 pillars of IDA

- Suspect and diagnose
- Find and treat cause
- Replace iron and monitor response



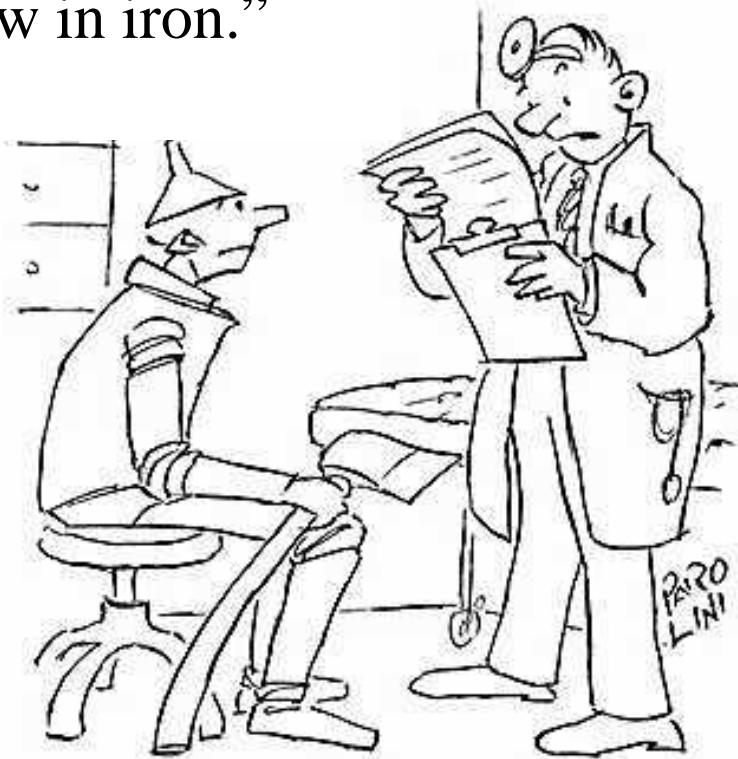


# Methods

- Brain storming sessions on:
  - Diagnosis (Dx) and Investigation (Ix)
  - Treatment (Tx)
- Group discussion on priorities
- Categorised barriers / enablers using [www.nhmrc.gov.au/nics/material\\_resources](http://www.nhmrc.gov.au/nics/material_resources)
- Report provided to National Patient Blood Management Steering Committee

# Barriers to Diagnosis & Investigation

“I can’t believe this!  
You’re low in iron.”



“I CAN’T BELIEVE THIS! YOU’RE LOW IN IRON.”



# The intervention itself

**Advantages in practice, feasibility, credibility, accessibility, attractiveness:**

- Significant advantages but low profile
- Lack of Australian consensus guidelines & tools
- No single universally available / reliable test for ID: need to synthesise multiple results
- IDA span the life cycle, can be pathological or physiological, associated with other comorbidities: complicates pathways Ix



# Individual Professional

**Knowledge, awareness, attitude, motivation to change, behavioral routines**

## **Diagnosis of IDA:**

- Lack of awareness at risk groups
- Mild anaemia not viewed as a problem
- Perception of anaemia as a diagnosis & cause not determined
- Need for systematic clinical assessment bypassed
- Poor understanding of interpretation- FBC & iron studies
- “Blood is safer than it’s ever been” thinking prevails with reflex transfusion
- Lack of understanding of implications of ID and anaemia in terms of other health issues eg cardiac function



# Individual Professional

## **Investigation of IDA:**

- Importance of excluding cancer / other significant pathology not recognised
- Over-reliance on faecal occult blood testing and difficulties in knowing when / which GI Ix are needed
- Direct referral to gastroenterologist before ID confirmed as cause of anaemia, and if ID, treatment not started
- Lack of urgency to aggressively treat IDA especially pre-op



# Patient

## **Knowledge, skills, attitude, compliance:**

- Lack of awareness / consumer information of anaemia & ID as a population health issue
- Acceptance of symptoms of anaemia as normal especially when develops slowly
- Unwillingness to present to GP
- Patients don't know how to articulate their symptoms
- "I'm tired" means many possible things



# Social Context

## **Opinion of colleagues, culture of network, collaboration, leadership:**

- Lack of visible leadership & clinical champions
- Iron seen as un-exciting for research or clinical practice
- Not enough “non-malignant” haematologists with expertise / interest in ID to help support best practice
- Little opportunity for exchange / collaboration across the multiple professional groups involved, no network
- Area seen as simple, unimportant, no major advances: not given much attention in education
- Lack of pathology education of undergraduates and junior doctors generally a problem



# Organisational Context

**Care processes, staff, capabilities, resources, structures:**

Pre-op:

- Insufficient capacity to handle Ix pre-op & pressure to treat
- Pre-op clinics act as a “gatekeeper” rather than “road maker”
- Responsibility for follow-up of pre-op blood tests is unclear & little support for junior drs, including for further Ix / follow-up
- Pre-op tests not reviewed until pt admitted on day of surgery
- Delays in receiving results of iron studies- not interpreted while patient available
- Lack of clear risk / benefit analysis re Ix & Tx with delay of surgery vs treat / operate now and Ix later



# Organisational context

## General:

- Lack of access to advice / expertise within & between specialties & lack of cooperation & communication
- Long waiting lists for gastroenterologists to undertake scopes
- Rapid access scope service / other secondary work up lacking
- No time / funding for consultative haematology service
- Lack of resources / training for nurses to be involved
- Convoluted care process for pts (doctor, tests, doctor, pharmacy)
- Lack of time, interest or capacity to deal with ID by GP's



# Economic & political context

## **Financial arrangements, regulations, policies:**

- Lack availability / funding for newer test of iron status
- Additional cost of hospital performing iron studies / other Ix
- Lack of incentives for GP's to manage anaemia
- Need to convince bureaucracy that IDA is major quality & safety issue that if addressed would save money
- Poor communication between primary & secondary health providers with fragmentation of patient health records



# Specific issues: lab testing

- Ferritin is acute phase reactant
- Unclear definitions of IDA in various contexts / lab ranges
- Red cell indices not utilized
- Pathology laboratories no longer issue helpful conclusions in reports “consistent with...”, “suggest...”
- Pathology comments do not bring together the info from more than 1 test, eg FBE, biochem, haematinics
- Unhelpful results reported- takes attention away from serum ferritin

# Barriers to Treatment of IDA

“Doctor told me to take  
plenty of iron”



search ID: dpan3081

*“Doctor told me to take plenty of iron.”*



# The intervention itself

## **Advantages in practice, feasibility, credibility, accessibility, attractiveness:**

- Misconception that iron therapies are unattractive due to SEs or risk
- Credibility and attractiveness limited by low level of published evidence & lack of Australian consensus guideline / tools
- Feasibility and accessibility limited by product availability and hospital systems
- Lack of an option for GP for parenteral iron except for IM



# Individual Professional

**Knowledge, awareness, attitude, motivation to change, behavioral routines:**

Confusion about iron therapies generally

- Lack of knowledge of where IV, IM, oral iron therapy fits in versus RBC transfusion, which product, how much
- Fear of anaphylaxis with IV iron & lack of understanding of comparative risks of transfusion
- Misconception that Tx of IDA will mask underlying diagnosis, and Tx should be delayed until all Ix are complete
- Cost of blood is invisible to clinicians



# Patient

## **Knowledge, skills, attitude, compliance:**

- Comparison of transfusion versus iron infusion information for patients lacking
- Blood transfusion sometimes seen as best / safest Tx
- Patient perception of bad side effects of iron therapy
- Over the counter status of iron leads to perception that it is not an important Tx



# Organisational Context

## **Care processes, staff, capabilities, resources, structures:**

- No recognised guidelines for treatment
- IV iron:
  - Long infusion time with lack of facilities for infusions to occur
  - No pathway / system to support IV therapy, cross referral too cumbersome
  - Inaccessibility of IV iron to GP's & lack of opportunity for IV iron use in primary care
  - IV iron sucrose use requires hospital drug committee approval
- Cost of drug determines what Tx is given rather than cost of resources/time
- Ease of use of blood as an alternative
- No burning platform to drive change
- Interface with primary care needs attention & central importance of GP in health system in Australia needs to be rebuilt



# Specific factors related to oral iron

- Too many iron supplements on the market with inadequate iron content (poor choice 'lolly' iron)
- Lack of oral iron preparations with intermediate doses of elemental iron
- Limited range of oral iron preparations including for paediatrics
- Poor compliance due to side effects of oral iron



# Economic & political context

## **Financial arrangements, regulations, policies:**

- Lack of item number for iron infusion compared to blood
- Industry is not interested in “cheap” products esp oral iron
- PBS availability of IV iron sucrose restricted to CKD – lack of incentive for sponsor to expand indications
- Industry interest in extending licensing for iron sucrose or getting licensing for new IV products such as iron carboxymaltose is limited in Australia
- Ability of funders to consider the full cost of transfusion in deliberation on funding of iron, ESAs etc as well as the potential cost of infusion time
- Lack of knowledge of socio-economic burden of untreated anaemia

# Solutions



"It's the hottest new diet! You attach this special modem to your stomach and upload your fat to a skinny person on the net!"





# Product Solutions

## **Specific Product Related Solutions**

- MBS Item Number for IV iron
- Myths related to iron therapy / specific guidance for Australian Products (MJA article)
- Expert group to determine algorithms / protocols for product use, & assess need for new products (IV & oral)
- Iron sucrose licensed for IDA (outside CKD) & on PBS
- Look at other groups that can sponsor guidelines & the framework of the generic NSW Off Label Policy
- Look at the role of expert reports to get TGA product information changed



# Laboratory Solutions

## **Laboratory results:**

- Engage with College of Pathologists re standardised & clinically meaningful format
- Utilise computer based systems – to integrate results relevant to anaemia
- Improved interpretation / synthesis of results
- Guidelines- at point of care & linked to reports
- Linking of private & public lab results



# Other Solutions

## **Education:**

- IDA guidelines with GP orientation
- National Prescribing Service education / audit
- Credentialing / accreditation

## **Coordination:**

- Move to a primary care model eg asthma
- Explore role of “peri-operative physician”, & one stop referral eg high risk clinic, anaemia clinic
- Coordination of patients journey required- role of coordinators
- Examine the pre-op process – core business of hospital
- Teamwork for improved management



# Dx & Ix Priorities

- **Result management-** interpretation, integration & access within & across sectors
- **Clinical ownership** of anaemia & accountability & responsibility defined at organisational level
- **Coordinated care pathways-** “roadmaker” not “gatekeeper” with fragmentation, patient centered & holistic with improved communication between clinicians
- **Awareness** of importance of anaemia (Dr & Pt), funding needs and impact of failure to Dx



# Barriers to Tx Priorities

- **Knowledge of Australian products**, how to replace iron stores
- **Access & choice of iron therapies** in Australia
- **Fear** of complications from oral and IV iron
- **Access to specialists-** diagnosis, reversal of cause of bleeding, therapy
- **Funding** to allow efficient delivery of IV iron (new products)
- **Confusion** with too many ineffective oral iron supplements
- **Cumbersome** systems- access to IV iron
- **Research** on iron polymaltose: safety, tolerability, infusion rates
- Perceptions re the role of TGA
- No item number for an iron infusion
- Patient information & evidence based guidelines lacking



# Next Steps...



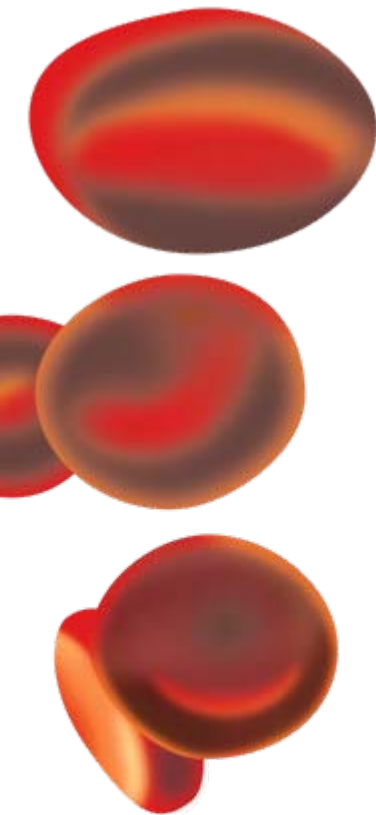
**RUNNING OUT OF STEAM?**





# Progress

- MJA article (writing group)
- Report and recommendations to National PBM steering committee
- Informal IDA clinical network
- Local pilot projects to address some of the issues
- National BloodSafe e-learning program



http://www.bloodsafelearning.com.au - flash\_file - Microsoft Internet Explorer

ModuleOne Risks and benefits logged in: David Peterson

## Professional practice

"Don't focus on the transfusion, focus on the patient's problem." - Prof James Isbister

Press play to view the video



1:31 / 3:47


http://www.bloodsafelearning.com.au - flash\_file - Microsoft Internet Explorer

ModuleOne Risks and benefits logged in: David Peterson

## Risk versus benefit

It is important that blood products are given only when clearly indicated - when the expected benefits are likely to outweigh the potential hazards. This can be explored further below.

**Benefit**  
**Risk**




70g/L 100g/L

Why NOT transfuse? Maybe transfuse? Why transfuse?

**70-100 g/L Maybe transfuse?** - When the haemoglobin is between 70 and 100 g/L, the decision to transfuse should be supported by other factors, such as the need to relieve clinical signs and symptoms of impaired oxygen delivery, or for a surgical procedure associated with significant blood loss.

For patients on chronic transfusion regimens or marrow suppressive therapy, it may be appropriate to maintain the haemoglobin above 80 g/L to control anaemia related symptoms.

Move the slider between the three sections of the haemoglobin grid to assist you with the decision to transfuse a **haemodynamically stable adult**.



Click here to view Prof. James Isbister and Dr. Ross Wilson discussing risk and benefit

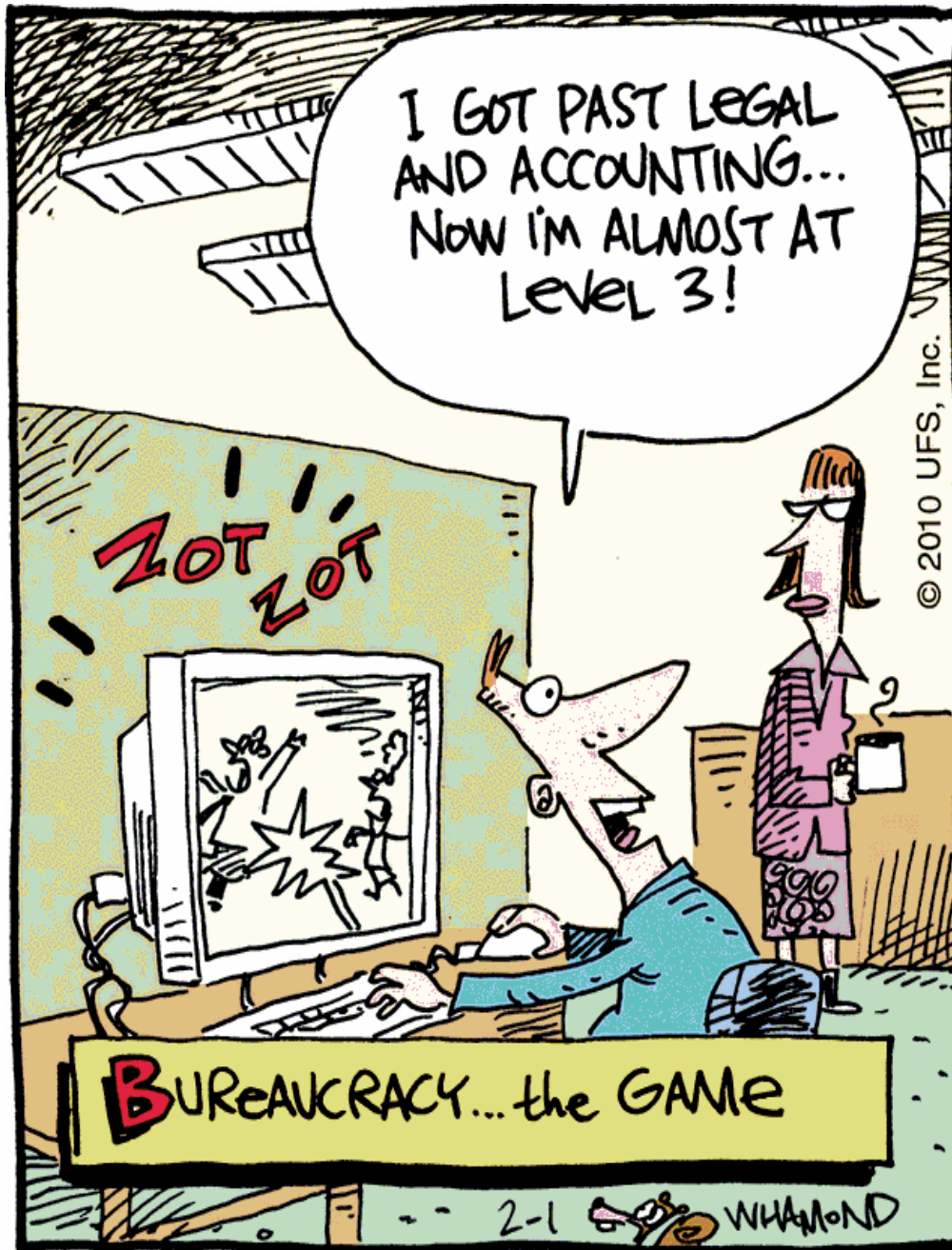
<<PREV NEXT>>

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BloodSafe e-learning program

www.bloodsafelearning.org.au







# How do you eat the elephant?



50:50



**A: with Losec**

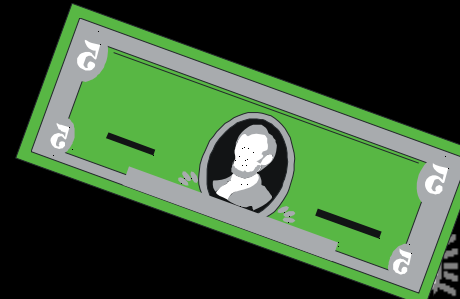
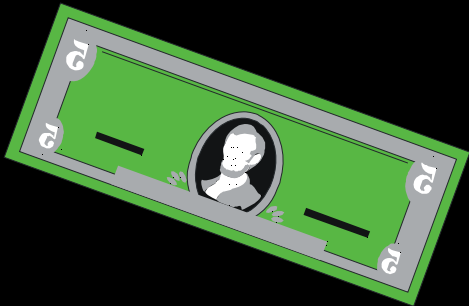
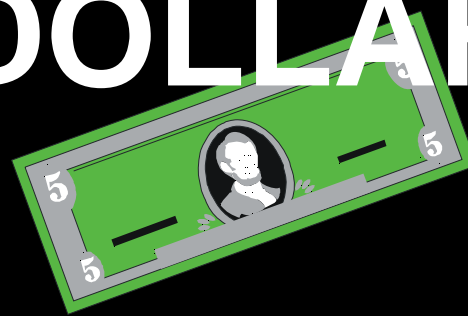
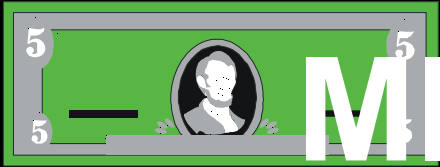
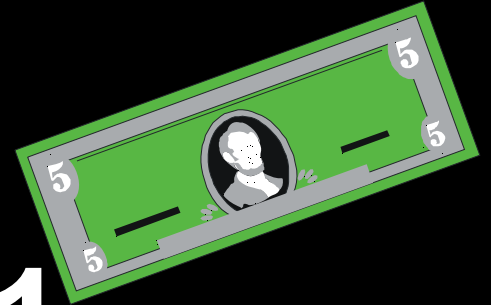
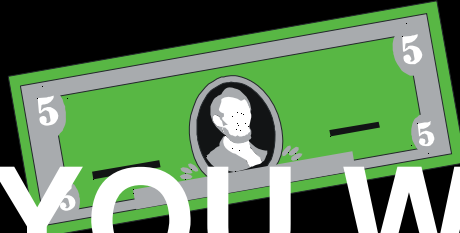
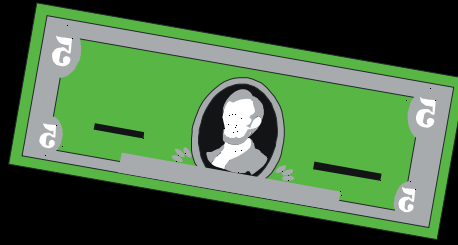
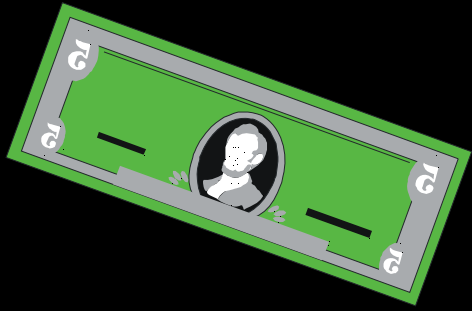
**B: with vitamin c**

**C: on empty stomach**

**D: with red wine**

15	●	\$1 Million
14	●	\$500,000
13	●	\$250,000
12	●	\$125,000
11	●	\$64,000
10	●	\$32,000
9	●	\$16,000
8	●	\$8,000
7	●	\$4,000
6	●	\$2,000
5	●	\$1,000
4	●	\$500
3	●	\$300
2	●	\$200
1	●	\$100

**YOU WIN \$1  
MILLION DOLLARS!**



Thank-you...

