



How to set up a new service

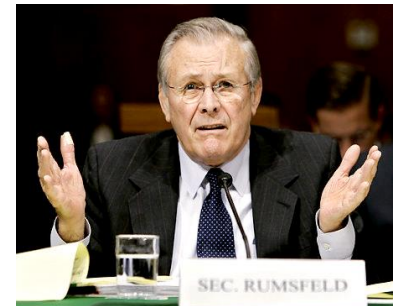
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Rumsfeld Theorem

- **Donald Rumsfeld American “Philosopher” late 20th and early 21st Century.**
- **Basic Theorem was 100% correct when describing the location and health status of the USA’s most wanted man**
 - “He's either alive and in Afghanistan or somewhere else, or he's dead.”



Extended Rumsfeld Theorem

There are known knowns. These are things we know that we know. There are known unknowns. That is to say, there are things that we know we don't know. But there are also unknown unknowns. There are things we don't know we don't know.

(Donald Rumsfeld)

Key to mitigate Known Knowns, explore Known Unknowns, and reduce risk from Unknown Unknowns *in advance*

Known Knowns

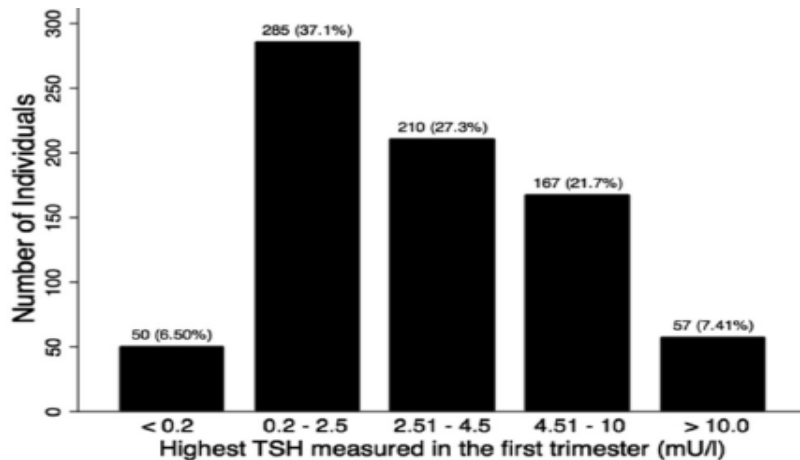
- **Are you the right person for this, will you have the right support ?**
- **Is this a thankless task that will make you miserable and your colleagues are keen to drop this on the “newbie” ? (beware lipstick on a pig)**

OR

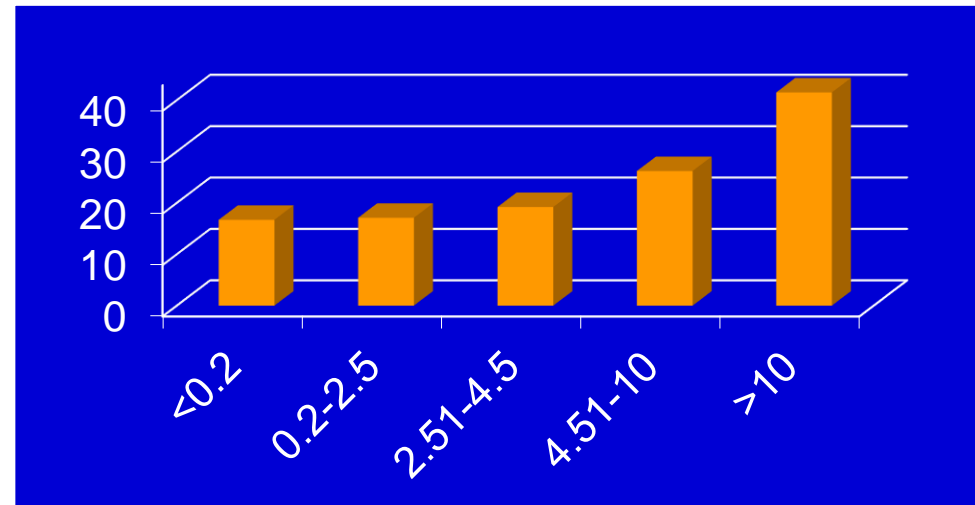
- **Does it align with what you want ?**
- **By doing this new service can you drop something you don't particularly like**
- **Negotiate *before* you start**

Reason for Virtual ANC Thyroid service

- **Thyroid disease is common in women of childbearing age. At least 1% of pregnant women are on levothyroxine. Dose needs adjusting and careful monitoring as associated with adverse outcomes including miscarriage, pre-term birth.**



% Fetal loss



TSH Levels and Risk of Miscarriage in Women on Long-Term Levothyroxine: A Community-Based Study

TSH
(mU/L)

Peter N. Taylor, Caroline Minassian, Anis Rehman, Ahmed Iqbal, Mohd Shazli Draman, William Hamilton, Diana Dunlop, Anthony Robinson, Bijay Vaidya, John H. Lazarus, Sara Thomas, Colin M. Dayan, and Onyebuchi E. Okosieme

Current Service

- **Current struggled to cope with demand due to space issues and time**
 - Referrals – late (many in second trimester)
 - Poor thyroid function monitoring (particularly prior to clinic attendance)
 - Dose changes were reactive not proactive
 - Patients had long waits up to 3 hours for a 10 minute consultation
 - TRabs tested on all women at substantial expense (£15) on up to 3 occasions.



Requirements

- **Right age group to do virtually.**
- **To give advice re compliance, drug interactions, dose adjustments and monitoring.**
- **Prepares us for universal thyroid screening in pregnancy**

Son of a builder



**I did not inherit any
building or DIY skills
BUT**

**I can suck in air and go
“Okay we can do that...
but it will cost”**

Dropped a MAU session

Known Knowns

- **Needed community midwives on board**
 - Cake and education model, be part of something
 - “Thyroid Pete”
 - Found a willing collaborator/victim on the inside
- **Referral system needed to be simple**
 - Asked the midwives what they would want
 - Email with simple inclusion criteria
 - Generated a new email account (separate from normal work allows future multi-user, protection from going under a bus chaos)
 - Automated answer

Inclusion criteria

- Patient reports current hypothyroidism or previous hypothyroidism
- Patient is on levothyroxine (liothyronine or armour thyroid)

Exclusion criteria (these patients to be referred to Medical ANC as before)

- Reports previous Graves disease, or overactive thyroid or hyperthyroidism
- Previous radio-iodine or thyroid surgery

- **Have ended up with these being broken**

Patient information		Referrer information	
Name of patient		Name of referrer	
		Midwife/GP (please circle)	
Patient Address		Referrer Address	
Patient contact information: Email and a phone number must be provided		Referral contact information Email and a phone number must be provided:	
Patient Landline:		Landline:	
Patient mobile:		Mobile:	
Patient Email:		Referrers email:	
NHS number	Hospital number	Gestational age	
Dose of Levothyroxine if known mcg	Year hypothyroidism diagnosed	Recent bloods TSH mU/l T4 pmol/l	Date of test

Known Knowns (cont)

- **Patients need information most is similar**
 - Information sheet (based on several others) midwives give them on first visit
- **Spoke to patients in current clinic**
 - Wanted to have less time in clinic and seen sooner. Endorsed virtual clinic and community midwife approach. Phone rather than email.
- **Patient outcomes from review are mostly similar**
 - (Afghanistan or somewhere else –
Dose change or same)

My secretary hates writing letters or answering the phone. Has fear of additional work

Dear Dr [~PAT.GP SURNAME/M~]

[~PAT.PAT TITLE/M~] [~PAT.FORENAME/M~] [~PAT.SURNAME/M~], DOB [~PAT.PAT DOB~]
[~PAT.PAT ADDR1/M~], [~PAT.PAT ADDR2/M~], [~PAT.PAT ADDR3/M~], [~PAT.PAT POSTCODE/U~]

Pre-existing hypothyroidism management in pregnancy

Your patient has recently been referred to our medical antenatal clinic for management of her hypothyroidism during pregnancy. In accordance with current guidelines, she will require regular monitoring of her thyroid status (every 6-8 weeks) during pregnancy aiming for TSH between 0.5-2.5 mU/l with a FT4 in the upper 1/2 of the laboratory reference range.

As you may be aware there is an increased demand for thyroid hormone during pregnancy. We have been in contact with [~PAT.FORENAME/M~] [~PAT.SURNAME/M~], and advised her to increase her levothyroxine dose from XXXX mcg to XXX mcg. We will be in regular contact with her during pregnancy to advise on levothyroxine dosing and monitoring .

If you have any queries or concerns please don't hesitate to get in touch via email at Thyroidanc.Uhw@wales.nhs.uk

Your assistance with facilitating thyroid function testing and adjusting her repeat prescriptions as required is greatly appreciated. Equally should the patient suffer or miscarriage or opt for a termination please do let us know quickly as we would not want to cause any offence or unnecessary distress.

[Signature etc]

Process

- **Booking Midwife emails referral form to thyroidanc.uhw@wales.nhs.uk (automated reply to confirm receipt).**
- **Midwife provides information sheet**
- **Email reviewed twice a week**
- **Phone contact made to patient**
- **Email sent to referring midwife summarising and plan and future bloods.**
- **Template letter sent to GP informing of dose change**
- **Patients offered to email when bloods taken contemplating phone**

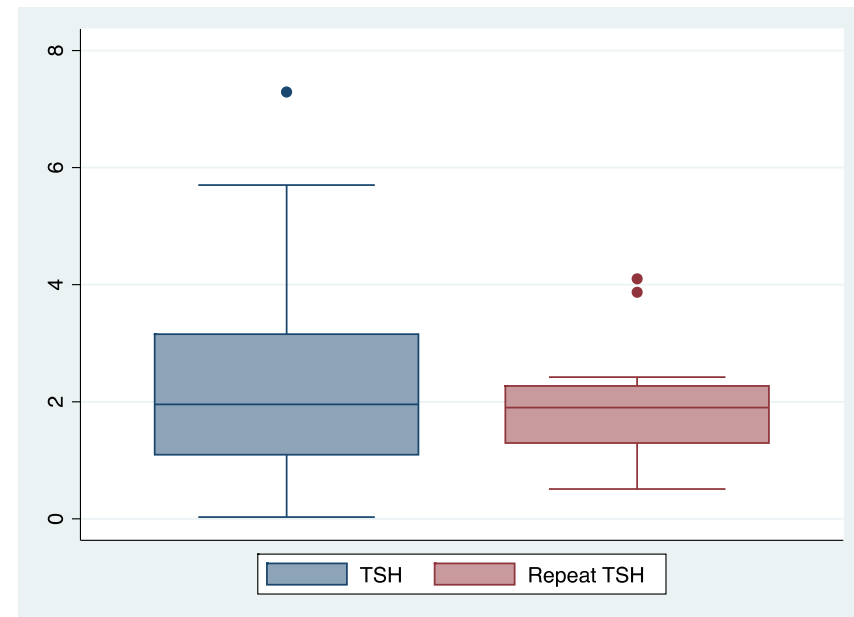
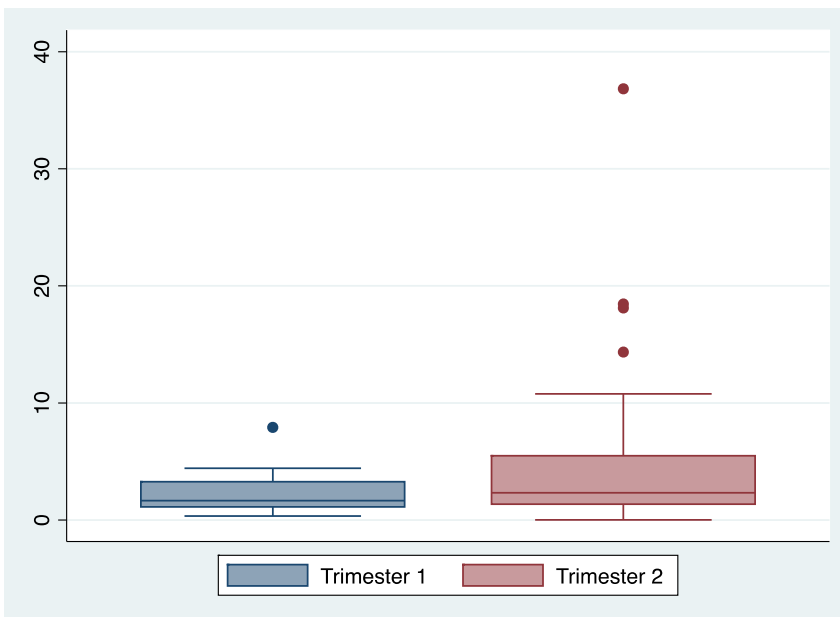
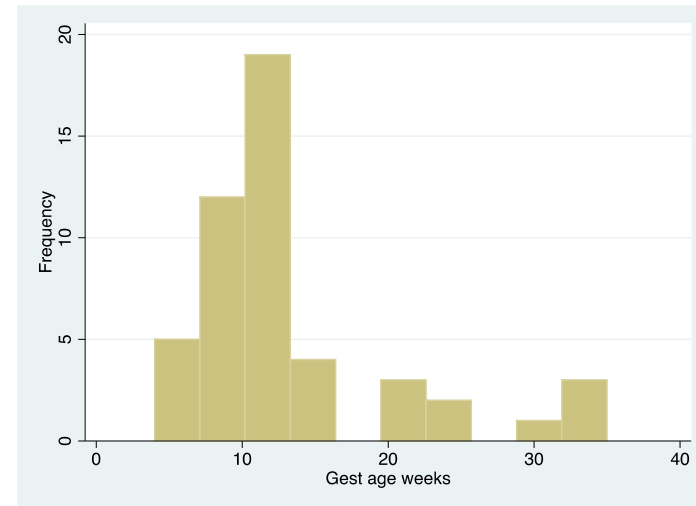
Known Unknowns

- **Would women prefer it ?**
 - Early responses favourable
- **Monitoring**
 - (takes me more time) also as getting people earlier more visits than modelling suggested.
More chasing than envisaged
- **Language barrier/Non compliance**
 - More of an issue than I envisaged
 - Midwives have been brilliant



Early audit

- Working
- Some inappropriate referrals
- Takes a bit longer than budgeted for



Unknown Unknowns

- **Some I maybe should have known**
- **Fetal loss – between calls**
- **Anxiety when hospital calls**
- **Recording clinical activity**
- **Entering records where obstetrics can find them**
- **Mutually convenient time to call for some people is a challenge!**
- **Easier to get repeat bloods at scan appointments**

Unknown Unknowns

- **Some I probably couldn't have predicted**
- **Reproductive spike with COVID !**
- **Some patients don't think thyroid is important**
- **In the COVID era this model works and is scaleable**

Take Home

- **Know your users**
(both HCP and patient)
- **Embrace automation** (Dragon/template letters/email)
- **Need willing victims**
- **Start slow**
- **Things take longer to set up than you think**
- **Embrace Rumsfeld theorem (early review to deal with unknown unknowns)**

Thanks any questions

