

Managing Shortages

A case in point

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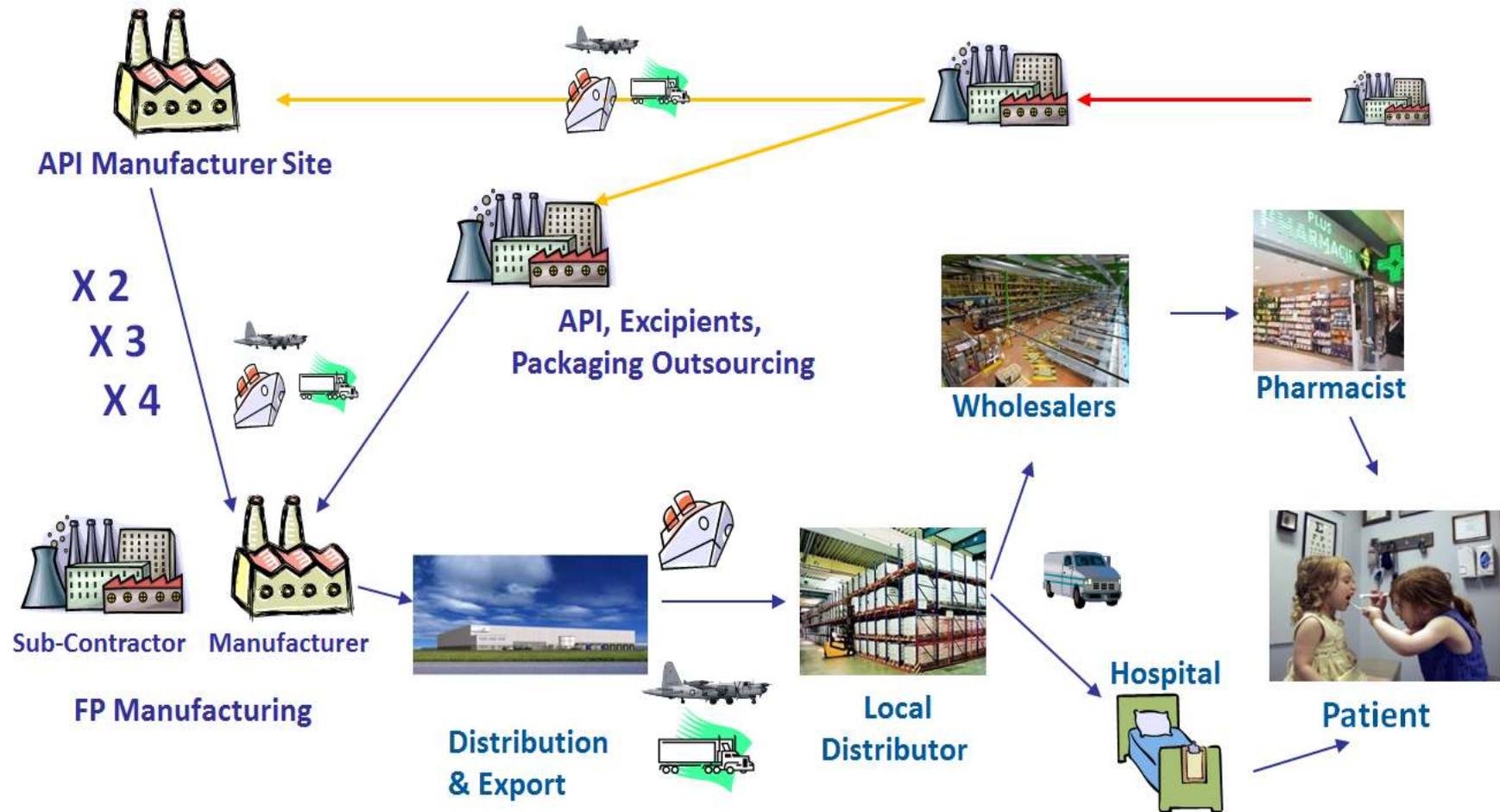
Acknowledgment for material to-

- Sarah McAleer Department of Health
- Jane Kelly CMU
- Andrew Morris AAH
- Alan Ball Alliance
- James Bonnett Sanofi
- James Kent



Don't have space to name all the
Companies/distributors who have contributed to
the process of micro-managing
shortages over the yearYOU KNOW WHO YOU ARE

The Medicine supply chain





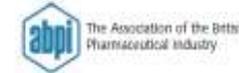
Why do Medicine shortages occur?

- Active Pharmaceutical Ingredient (API) issue.
- Regulatory issue with manufacturing plant.
- Globalisation of supply chain – may be only one manufacturing plant.– who let you down
- Manufacturing plant burns down!
- Incorrect tendering volumes.
- Large increases in demand over a short period – formulary changes
- Seige mentality – across a range eg antibiotics
- Global marketing decisions affecting UK market



Joint DH/ Pharmaceutical Industry Best Practice Guidelines

- Voluntary
- Advises that companies give advance warning
- Recognised communication route between DH and industry with named contacts
- Industry contact should have an overview of the company
- Communication advice



Notification and management
of medicines shortages

Best Practice Guidelines





Department of Health

NOTIFICATION OF ISSUE

- Guidance notifications
- Pharma companies
- Wholesalers
- CMU supplier issues
- NPA/PSNC
- MHRA
- NHS/PMSG
- DAs
- Correspondence unit
- Patient groups
- Public

RISK ASSESSMENT

- Nature of the problem
- Duration
- Indication (licensed and unlicensed)
- Usage figures
- Market share
- Alternative products
- Clinical need

MANAGEMENT OPTIONS

- Working with companies to help manage existing stocks
- Expediting regulatory procedures
- Unlicensed imports from abroad
- Advising on communication with the NHS
- Commissioning clinical advice on suitability of alternatives
- Briefing Ministers and Press Office where necessary



Working with the MHRA

DH work closely with the MHRA to assess the likely impact on supply as a result of regulatory issues :

- Licensing queries
- Defective medicines (DMRC)
- Inspection Action Group (IAG)



MHRA
Regulating Medicines and Medical Devices



Medicines Shortages Privy Council

- DH /CMU plus regional procurement leads
Introduced 24th July 2017

Terms of reference

- To ensure as far as possible that secondary care patients have access at all times to critical medicines.
- To provide advice, when requested, to the Department of Health (DH) to inform the decision-making process for the management of critical medicine supply issues
- To work with the Department, when required, on strategies to deal with critical medicine shortages to minimise disruption to patient care.

	Team A	Team B	Team C
Group 1	David A	Glenn	David C
Group 2	James	Phil	Diptyka and Andi
Group 3	Danny	Maggie	Alison



Medicine Shortages 2017...a snapshot

Clexane (enoxaparin)

injection

Pip/taz injection

Ceftazidime injection

Amikacin Injection

Tobramycin Injection

Gentamicin injection

Aztreonam Injection

Co-trimoxazole tabs /Injection

Vincristine injection

Methotrexate Injection

Immucyst (BCG bladder cancer product)

Melphelan tablets

Diamorphine injection

Morphine Injection

IV FLUIDS

Noradrenaline 4mg/4ml

Dobutamine injection

Vecuronium injection

Nabilone tablets

Pregabalin tablets

Levetiracetam tablets

Hepatitis A vaccine

Hepatitis B vaccines

Rabies vaccine

Morphine suppositories

Modecate depot

Ancotil (flucytosine)

injection

Rifampicin tablets

Riamet tablets

Mitoxantrone

Olanzapine tablets

Magnesium sulfate injection

Intron A 25MIU 2.5ML VIAL

Isoprenaline 2mg/2ml ampoules)

Pabrinex injection

Nulojix (belatacept) solution for infusion

Trisenox (arsenic acid) injection

Quetiapine tablets

Hysoscine hydrobromide tablets

Hypurin Bovine Insulin

Pneumococcal

Polysaccharide Vaccine

Typhoid vaccine

Isoprenaline injection

Remifentanil injection

Levofloxacin injection

Fluorouracil injection

Acetazolamide M/R

250mg capsules

Trifluperazine Tablets

Co-phenotrope tablets

Pilocarpine tablets

Atriance (nelarabine)

Disulfiram tablets

Trisenox (arsenic acid) injection

Adrenaline pre-filled syringes

Topotecan capsules

Depocyte injection-

CYTARABINE

(LIPOSOMAL)

Tinidazole 500mg

tablets (brand

Fasign)

Meptazinol injection

Aspirin supps

Erwinase

(crisantaspase)

injection

Glibenclamide tabs

Sotalol tablets

Tranexamic Acid

500mg tablets

Abciximab (ReoPro)

2mg/ml solution

Abumin

Fluorescein Sodium

100mg/ml Solution

for Injection

lopidine eye drops



Case 1

• Pip/Taz Injection

- Background – *Cl.difficile* pandemic

Since 2008 Department of Health Guidelines :-

narrow spectrum antibiotics recommended for empirical treatment

- 53 % increased use since 2013
- 7 UK Marketing Authorisation Holders (MAHs)
- 3 generic suppliers on contract at (<£1 a vial)
- NHS usage: 20,000 units/day in the UK
- Quarter of all parenteral antibiotic usage in the NHS

Pip/taz- background

- Nov 2016- Explosion at API site
 - Significant backlog → Global supply constraints
 - Several markets affected
 - Evidence of Stockpiling
 - Need to involve MI and Antibiotic stewardship teams
 - Alternative guidelines required
- 



Other antibiotics affected by pip-taz

Ceftazidime 1g:

- •2 suppliers on contract. Deliveries expected in June, more in July/August
- •National problem for at least a year

Co-amoxiclav 1.2 g:

- -DH/PHE released pandemic stock
- -Contracted suppliers in stock and have increased forecasts
- -Some restrictions on accounts to prevent over ordering

Vancomycin/ciprofloxacin- short term constraints in May

Cefuroxime- DH/PHE stock released

Aztreonam – already restricted.

Temocillin – struggling with orders

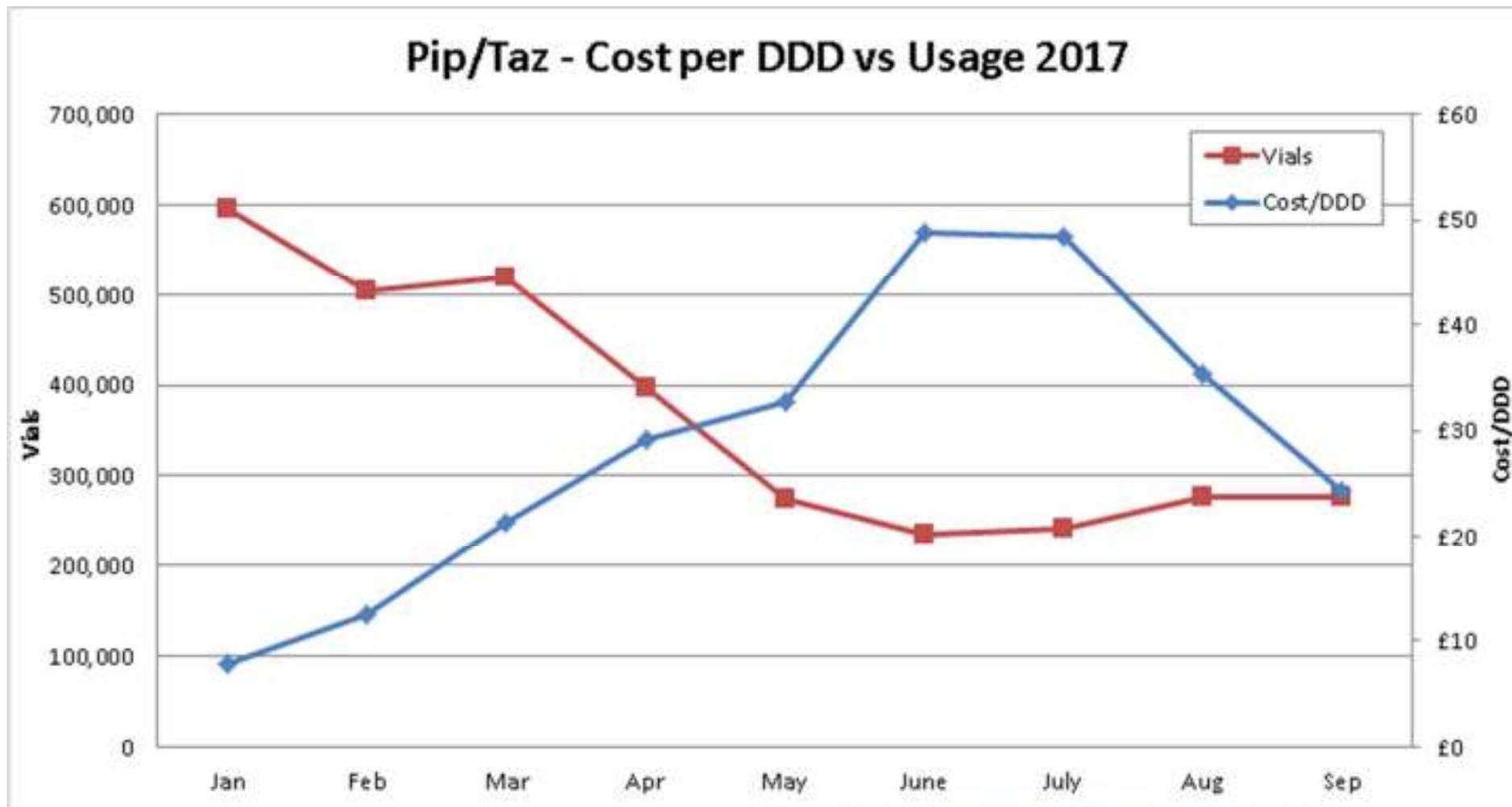
- **NATIONAL WEEKLY TELECONFERENCES TO MANAGE SITUATION**
- **LOTS OF EXTRA WORK FOR HOSPITALS: guidelines changing based on supplies**

➤ Pip/taz –adding insult to injury

- Contracts terminated → Free market
- Supply constraints → Price increases
- CMU contract to mitigate the impact of the free market
- 3 suppliers
- Guarantees required to use contracted suppliers
- **SIGN UP BY ALL CHIEF PHARMACISTS IN ENGLAND**
- **Contracted stock first purchased first irrespective of cheaper alternatives**
Stock micromanagement required – and ongoing



Financial impact of the shortage





Case study 1

Enoxaparin (Clexane[®] Sanofi)

–Low Molecular Weight Heparin



Two issues

➤ 1. **Increased demand**

Globally Sanofi facing a greater demand than anticipated for its enoxaparin Injection Clexane® UK impact for remainder of 2017.

➤ 2.. **Concomitantly a Batch deviation delaying stock release**

Batch deviation issues that delayed the release of stock to the UK of Clexane® 20mg & Clexane ® 40mg

IMPACT

- Almost immediately OOS (Phoenix) minimal stock (AAH) additional delay in 20mg at the same time added extra pressure (28th June – 7th July)
- Emergency AAH delivery line to ensure stock was able to get to trusts over weekend 30th June
- Wholesalers had to rapidly implement capped thresholds of stock of 40mg & 20mg to maximise cover
- Sanofi Sales Force worked with local trust in their area



Timelines

- 22nd June Notification to DH/CMU
- 23rd June TC Sanofi met, CMU/DH + Privy council
- To compound the issue further Sanofi experienced delay in release of batches from manufacturing site of Clexane 20mg & Clexane 40mg at the time of notification
- 27th Jane K & Sanofi meet face to face to discuss proposal to manage to shortage
 - Developed 3 proposal to manage the longer term supply issues
- 28th June CMU/DH Tc with wider group of stakeholder to review proposal and agree on action and fed back to Sanofi
- 40mg & 20mg immediate batch release starts to go OOS at AAH & Pheonix
- 29th June CMU/DH, Sanofi & key stakeholder met with wholesalers to discuss immediate management of stock and allocations
- 30th June – Emergency AAH line set up to manage stock levels
- 4th July thresholds put in place by wholesalers to prevent OOS of the all Clexane presentations
- 10th July – CMU shared list of Trust that decide to move to alternative LMWH
- 24th July - Sanofi provided a revised demand forecast based on trust using alternative LMWH (20&40mg)
- Aug – CMU continue to provide updates on Trust that are moving to alternative LMWH and Sanofi provide a revised forecast weekly
- Sept 28 – review meeting with CMU and Sanofi face to face to re-asses stock situation



Engagement with Suppliers

- **Initially daily then weekly TCs with all manufacturers of LMWH (June to date)**
- Stock position/forecast /issues with supply chain
- Support engagement with NHS trusts wrt switches
- All 3 suppliers collaboratively worked together facilitated by CMU/DH sharing of trust level usage information, switches and forecasting.
- Supported switches reduced the out of stock periods we would have experienced if trusts had not switched to Dalteparin or Tinzaparin
- CMU monitored all switches in collaboration with regional leads and fed back to all suppliers



Wholesaler engagement

- Support stock management when stock limited
- Tcs with AAH and Phoenix 29 June (within 1 week of notice)
- Weekly caps put in place (2-3 days to do this) based on Sanofi and Pharmex data
- Customer service – dedicated helplines
- CMU shared comms with wholesalers to support training and understanding of issue
- Script for customer service (collaboration – cmu/sanofi and wholesaler).
- Escalation process – to include regional leads
- Sanofi supported getting stock to wholesalers quicker than normal and to the RIGHT wholesaler and Branch
- Lots of work by everyone managing this!



Strategies

- › Contact other LMWH suppliers to identify spare capacity (Leo and Pfizer)
- › Contact Trusts to identify those willing to switch
- › Simplify the supply chain
- › Allocated volumes

Did it work ?

no – some switching outwith DH/CMU control

Yes - reduced pressure on Enoxaparin stocks over the summer

Partially – an ever changing picture re stocks

Other options

Biosimilars coming to the market in September 2017

BUT.....

Rovi – no stock until at least June 2018

Techdow – financial pressure to NHS (secondary care)

Rx by brand

The NHS and Patients

- Very intensive communications
- MI produce biosimilar comparison document
- Need for wholesale switch at Trust level
- Impact on primary care
- EXTREMELY MANPOWER INTENSIVE
- Lots of anguish and gnashing of teeth

NO PATIENT DIRECTLY IMPACTED RE FAILURE TO TREAT

TAKE HOME MESSAGES

THE DO's	THE DON'Ts
Report shortages	Panic buy
Provide as much data as possible	Stockpile
Check the validity of the shortage before acting	Spread shortages rumours
Communicate appropriately – be available	Believe everything you hear



Thanks

- To the suppliers and wholesalers who made more than 100% effort to support the NHS and patients
- Sarah McAleer and Jane Kelly (and their staff)
- NHS pharmacy procurement staff for their patience – and agreement to an ethical approach to purchasing – in the main

A reminder to us all:-

DON'T SHOOT THE MESSENGER

➤ The final insult.....



➤ Hurricane Maria --- Puerto Rico



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