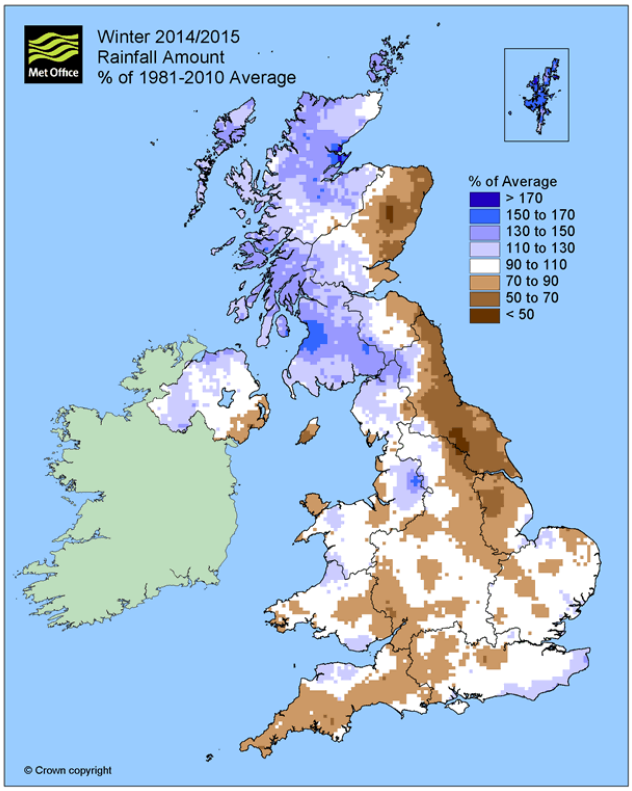
Public Health England

West Yorkshire Health Protection Team Newsletter May 2015

What happened to winter?

Comparatively dry and sunny down the eastern half of the country, according to the Met Office; temperatures were up and down but seldom far from the long-term average.

Flu activity peaked between mid-December and late January but was muted this year. Most of it was A(H3N2), but with a late-season tail of strain B. The A strain had drifted antigenically from last winter, so our flu vaccine was ineffective.



Source: Met Office

This limitation is inherent in current flu vaccine technology, with no all-strain vaccine on the horizon. What will help in years to come is the expansion of flu immunisation of children, thus creating herd immunity for adults. The current immunised age-cohort is too small to do this. Another fix is the expansion of the B vaccine component to two strains, just as A already has H3N2 plus H1N1 – the divergence is too broad for a single B to fully cover. Child vaccine (Fluenz Tetra, the live nasal product) is already quadrivalent whilst most non-live versions for adults remain trivalent. GSK will offer a "tetra" product for the coming winter and other manufacturers are likely to switch from trivalent to tetra in future seasons.

Staff changes

Helen McAuslane is the new CCDC for Kirklees. Helen has done previous health protection stints both here and in North Yorks so she already knows something of the local terrain. Her work to date has included TB epidemiology in this region, improving maternal pertussis immunisation, outbreak management, and developing services for drug-resistant TB in rural Swaziland.

Helen McAuslane

Suzi Coles is the new CCDC for Bradford. Suzi's public health training was mostly in Hampshire, but she knows Bradford well, having being Consultant in Public Health for their local authority. Her previous health protection work included epidemiology to support evaluation of the national measles catch-up campaign.

Ebere Okere is going on secondment to Kenya for six months. She'll be evaluating an integrated health promotion scheme run by International Rescue Committee in the refugee camps in the north west of the country. Her role as Y&H TB lead is being picked up by Renu Bindra, who is based with the NY&H Health Protection Team in York.

Jane Reid, who for many years was our senior HP nurse for Bradford, has retired and was last seen flaying the foliage of Kirkby Malzeard with a golf club.

Sharon Hunter is also leaving; Sharon has particularly been involved in control of health care associated infections.

The West Yorkshire Health Protection Team remains at Blenheim House, Leeds LS1 4PL, off Duncombe St at the west end of the city centre. Nearest visitor parking is the West Street site opposite TGIF. We're in the throes of a major office upgrade, which somewhat cramps our style, eg very limited availability of meeting rooms. But we expect to maintain our usual standards of service while this is going on. Our daytime number is still 0113 386 0300, and out of hours, reach us via 0114 304 9843. The CCDCs have now switched to a combined Y&H out of hours rota, so it might be a South or a North & Humber CCDC you speak to, but there'll also be a West Yorks HP nurse with local knowledge.

"Subject to supply and a deal with GPC"

That is the phrase that has echoed like a chorus in this year's discussions about new meningitis vaccines. But, subject to those two crucial points, we expect Quad vaccine against Meningitis W and Bexsero against Meningitis B to come into routine use in the next few months.

The upsurge in **Meningitis W** began last year and continues, often with atypical presentation such as arthritis and pneumonia. Most cases are of a particular sub-strain, cc11, which seems to have originated in South America, but UK cases are not associated with travel. The upsurge is not yet affecting other European countries.

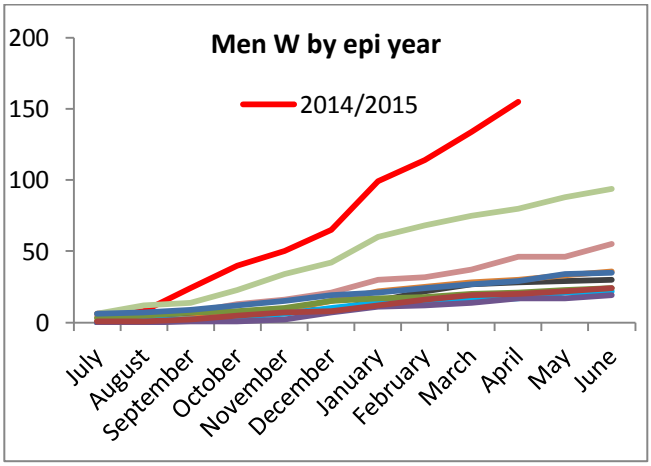
Fortunately we already have an effective vaccine, conjugate Quad ACWY either as Nimenrix (by GSK) or Menveo (by Novartis). This has the bonus of also covering Meningitis Y, which is starting to creep up, but Meningitis W is affecting a much broader age range than we usually see with type B, and it's not realistic to immunise everybody. It's reckoned that the most urgent group to protect are those aged 14-18, and that doing so will confer "herd" immune protection on both younger and older people.

So the top priority is to offer Quad to all children in School Year 13 (not just university freshers) in the next few weeks, before they break up for summer. In future years that will be done by school teams, but it's not feasible for them to do so this year. So for this year only, the proposal is to immunise in primary care. GPs at this time of year would also be immunising freshers against Meningitis C – but please hold off till we can supply Quad instead. And there needs to be a financial deal for the work: this is currently being negotiated between Department of Health and GPC, the General Practitioners Committee of the BMA.

An increase in meningitis is often seen in universities at the start of their academic year, reflecting the population mixing that the meningococcus exploits. So it's best for entrants to be immunised before arriving, but student health programmes will also need to offer Quad, since they have students from other countries, older students not coming from school, plus those who missed their school programmes.

From autumn, academic year 15/16, all school teams should offer Quad instead of Men C in their routine programme – which in West Yorkshire as in many parts of England is nowadays delivered in Year 9. Quad will also for the next few years be offered in Year 13. That leaves three unprotected cohorts in the middle. If there's enough vaccine, and pairs of hands to deliver it, it's possible that one of those other cohorts could be immunised in 2015 / 16 and the remainder in 2016 / 17.

Supply contracts are not yet signed but the manufacturers have had advance warning of this programme and are optimistic about their stocks. Both vaccine products (Menveo and Nimenrix) are familiar to the NHS, and the current Green Book describes them. We don't know yet which product will be supplied to which phase of the campaign.



There are currently no plans to offer Quad to younger children, but infants will be protected by introduction of Bexsero in autumn. This is primarily formulated against **Meningitis B** but, as a sub-capsular vaccine, it's expected to protect against other strains.

Meningitis B is actually at an all-time low in this country, with 445 lab-confirmed cases in 2013/14, against 1688 in 2000/01. If present trends continue for another decade, it will vanish. It's just possible we are witnessing a great strain change, like the way Meningitis A naturally vanished in the 1950s to be replaced by B. But chances are, we are just at the trough of a natural rise and fall, and B disease will return if we do nothing.

Subject to supply and a deal with GPC – this can't be over-stressed so let's repeat, subject to supply and a deal with GPC, the aim is to start on 1 Sept 2015. The schedule is 2, 4 then 12 months so babies born from 1 July will get Bexsero along with their first imms then third imms. (And if the programme only comes on stream in October, then it would be babies born from 1 August, and so on.) Older children will join at their next imms appointment, up to 12 months; currently there are no plans for catch-up of older children.

This means that the 12 month appointment will now involve four jabs: Hib/Men C, pneumo, MMR and Bexsero. Uptake will be better if these are kept together rather than split over two appointments; the USA already gives five jabs at this age with few problems. It's the occasion that upsets the child, rather than the number of jabs per occasion.

Bexsero is reactogenic in infants, who tend to spike a fever within a few hours of the dose. (Older children seldom show this reaction.) So the advice will be to give paracetamol prophylactically on the day of immunisation, and perhaps the immuniser will issue this. It's an important exception to the usual rule of not giving anti-pyretics prophylactically for immunisation.

Notifications: please complete

Keep those notifications rolling in. They're important mainly for the benefit of the individual patient (eg to investigate possible food poisoning) and also to spot trends (eg that the scarlet fever epidemic may be passing its peak.) But please **complete** them, as far as you're able.

A typical morning's postbag here brings NOIDs forms missing dates of birth, dates of disease onset, post codes and NHS numbers. We might send waspish feedback to the perpetrators, but alas we can't read the Practice name. So the straightforward task of entering new cases onto our system, to trigger all the relevant actions, becomes unnecessarily difficult and slow.

Oh, and a diagnosis would help – it's okay that it's just your best clinical hunch. ("Reasonable grounds for suspecting" is the legal phrase, and means much the same.) But some notifications either have no diagnosis at all, or offer us the differential diagnosis of child-with-rash-on-a-wet-Monday-morning.

And then six come along together

The five West Yorkshire local authorities, and the Improvement Academy of the Y&H Academic Health Sciences Network, are jointly hosting a half-day conference on air quality, sustainable transport and health. It's on the morning of Tuesday 2 June, at Kala Sangam, St Peter's House, Forster Square, Bradford BD1 4TY. Presentations will cover the proven links between air quality, inequalities and health, the WY Single Transport Plan, and the WY Low Emission Strategy. That's followed by general discussion and questions to a line-up of subject experts – and lunch. By the way, it's free. To book a place call 01274 383925 or email shahima.begum@yhahsn.nhs.uk

COMEAP statements

COMEAP is the Committee on Medical Effects of Air Pollutants; they estimate that some 24,000 deaths in Britain each year are triggered by current levels of air pollution. They've recently reviewed the evidence on particulates and nitrogen dioxide (NO_2), which mostly arise from human sources, especially road traffic. The scientific challenge is that when one pollutant rises, the others also rise, so which is the culprit?

On particulates, COMEAP confirm that the best measure of pollution is $PM_{2.5}$ – those particles smaller than 2.5 micrometers, which penetrate the depths of the lungs. NO_2 they confirm as having both short and long-term adverse effects on health.

Primary Authority

The GP, somewhere down south, reckoned his patient shouldn't be at work. So why did someone in Wakefield, who hadn't seen that patient, butt in and overturn the decision? Answer: because Wakefield was the Primary Authority and was the proper source of advice on the matter in question.

There's a long-standing system known as Home Authority, but Primary Authority Partnership is the term now enshrined in legislation of 2008 and 2013. The employer of this patient was a supermarket chain, and it's obviously impractical for such a business to relate to umpteen different local authorities. So they may if they choose sign up with a single Primary Authority, and those currently signed up with Wakefield MDC include Morrisons, Asda, Cedar Court Hotels and Crawshaws Butchers. The Aagrah and Akbars restaurant chains are signed up with Bradford. These are among the 1522 direct partnerships in the country, but there are also 2276 coordinated partnerships for franchises and trade associations. For instance Wakefield has a collaborative sign-up with the British Frozen Food Federation.

Of course the GP is the best judge of the individual's health, but the issue in this example was about that supermarket's sickness policy – when should individuals recovered from gastroenteritis be allowed to return to work? And those rules had been decided in collaboration with Wakefield in the light of national guidance, such as the Food Standards Agency's guidance on Fitness to Work.

This means the advice is quality-assured. Hygiene inspections of individual stores, or individual complaints or outbreaks of sickness associated with that store's food, are still handled by the nearby LA in Sussex-on-Sea or wherever. But the local inspector can rely on the company policy coming from an assured source – he or she doesn't have to spend time poring over the small print, or worry that it's been dreamed up by some flaky independent food scientist with a bow-tie.

Primary Authority Partnerships are much wider than food safety, for example they encompass trading standards, fire safety, Health & Safety, and construction standards. Businesses often sign up with different authorities for different functions. For instance Asda sells age-restricted products such as alcohol, so to ensure legal compliance and good practice in that area it's signed up with West Yorkshire Joint Services. So the role of the Primary Authority goes beyond ensuring compliance, into policy development, good practice advice and staff training – many of these activities being chargeable.

The current law is called the Enterprise and Regulatory Reform Act 2013. Information about the scheme is posted on www.bis.gov.uk/brdo/primary-authority. The older system of Home Authority is still in use, but that's an informal arrangement that has no legal backing and with no facility for recharging.

Black Swan Year for the chickens?

Human flu was fairly mild this winter, in spite of the shift in A(H3N2). But the last 12 months has seen a string of outbreaks of flu in birds – some of them from known strains, but some being entirely novel. Is this just chance, or more intense monitoring, or is something dangerous happening?

The best known strain is **flu A(H5N1)** which came to the fore in the 1990s, and continues to cause human cases. The present concern stems from Egypt, where so far this year 119 cases have been confirmed, more than three times their 2014 total, and more than has ever been seen month-on-month in any country. This is believed to reflect multiple factors: more flu in poultry, more spread to humans because of lower awareness of the risks, and perhaps a more virulent version of A(H5N1).

Flu A(H7N9) emerged in China in 2013 and continues to cause cases there – 568 in total, mostly elderly men. There's a marked seasonal peak around Christmas and Chinese Lunar New Year. The main problem with this strain is that the birds themselves aren't particularly ill, so they stay in the flock or get sent to market as normal. But the 2014 / 15 peak was lower than for the previous winter and incidence has now dropped to near-zero. **Flu A(H10N8)** also emerged in China but with few cases.

Flu A(H5N2) emerged this winter in US poultry flocks but so far with no human cases. Its distribution matches bird migration "flyways" and has also been confirmed in wild birds. This strain is highly pathogenic to the birds, so the farmer is going to notice it.

Is this bad luck, better surveillance, or something sinister? Probably not the third, given the disparity in strains and in geographical focus. Bird surveillance was ramped up before 2009, especially in the Far East, in an attempt to catch the next pandemic shift "in the act" – but then it occurred in pigs in Mexico and blind-sided us all. Overall there is no change in advice to travellers, or in the scale of pandemic risk.

PHE development

The government has re-affirmed PHE's prime functions of health protection, improving public health, and support to NHSE in improving health and care services. Two major developments are planned:
i) a new Science Hub to replace our outgrown facilities at Porton Down and Colindale. The preferred site is the former GSK base at Harlow; and
ii) a National Infections Service, to better integrate our expertise in microbiology, health protection and medical services.

29: the number of relief workers returning from Sierra Leone who have been monitored for Ebola by WY HP Team. Each type of work is assigned a category according to the risk of exposure. That's done by the "sending agency" before the person goes out there, then reality-checked upon return. Fourteen of the WY returnees were in Category One, a good example being our own Neill Keppie, who was helping to set up an information system and IT for the labs there. These people are at no risk from the work itself but perhaps they might come into social contact with incubating cases. So we just confirm the nature of their work and that they remain well, and know what to do if they fall ill.

The other 15 were all in Category Three, with exposure (albeit wearing PPE) to Ebola patients or their tissues, eg whilst training local clinical staff. These people have an active check of their temperature, morning and evening, until 21 days after their return. In the early weeks we asked them to ring in, but this was replaced by an SMS text system. The other Y&H teams had similar numbers and overall PHE has monitored 560 people in this category.

Category Two applies to those in contact with cases, but was more or less re-defined out of existence as a work category, so we had none of those.

What we had anticipated as a significant workload didn't materialise: that other travellers from West Africa would be cropping up here and there across Yorkshire with fever. There were a few of these, especially during flu season, but in penny numbers. Ebola (and the fear of it) has wrecked the West African economy, business and social travel has dried up, and airlines have axed flights. So that has left the relief workers as the main at-risk population here.

It was recognised at the outset that the best way to protect the UK from Ebola was to end the outbreak at its source. Over 100 PHE staff have been deployed. The three labs that they helped set up have cut the turnaround time for diagnosis from five days to one, so patients with Ebola can be distinguished from those with malaria, typhoid, flu and so on.

The UK leads the relief effort in Sierra Leone so all our relief workers had been there. Three British workers caught Ebola themselves, in spite of PPE, but fortunately all survived.

France leads for Guinea, and the US leads for Liberia – which has now been declared free of Ebola, as 42 days (two incubation periods) have passed since their last known case. New cases continue to occur in Sierra Leone and Guinea, but numbers have dropped and we are now approaching the end-game. To date 26,757 cases of Ebola have been recorded, with 11,079 deaths – both figures being under-estimates. A huge task of reconstruction lies ahead.

This newsletter has been put together with help from Louise Coole, Angie Vine and Mike Gent. The next issue is due out mid-August. Comments and suggestions for future issues are always welcome.