

Emerging Infectious Diseases: the NZ picture

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emerge

ɪ'mə:dʒ/

verb

gerund or present participle: **emerging**

1. move out of or away from something and become visible.

synonyms:

come out, appear, come into view, become visible, make an appearance; turn up, spring up, come up, surface, crop up, pop up; materialize, manifest oneself, arise, proceed, issue, come forth, emanate

2. become apparent or prominent.

synonyms:

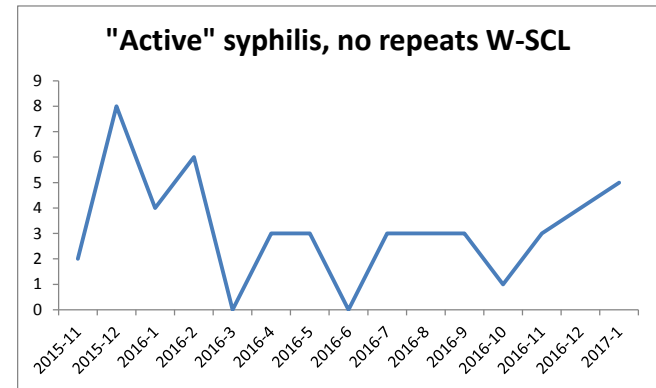
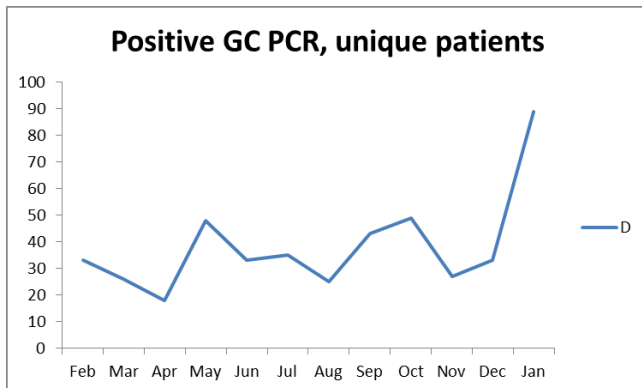
become known, become apparent, become evident, be revealed, come to light, come out, transpire, come to the fore, enter the picture, unfold, turn out, prove to be the case; become common knowledge, get around

Emerging ID in NZ

- Nothing unique
- Sometimes more to do with them being hidden previously rather than not present
- Always dependent on being recognised:
 - More ID physicians in NZ than ever before

Classical

- Syphilis
 - 33 new cases 2016 diagnosed at W-SCL
- Gonorrhoea on the rise too
 - Almost exclusively in men
- Multiply resistant organisms
- Shigella from Samoa
- Travel related diseases
 - Zika, Chik, Dengue

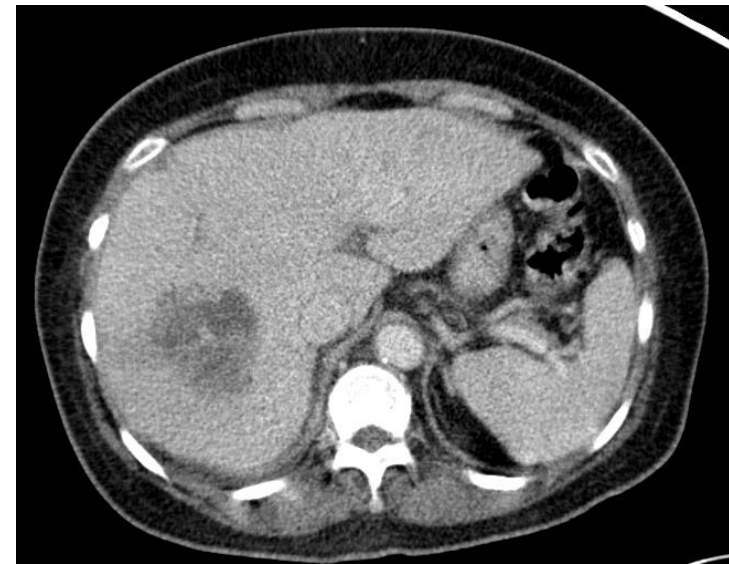


Smoke and fire

- Lyme disease
- Parvovirus

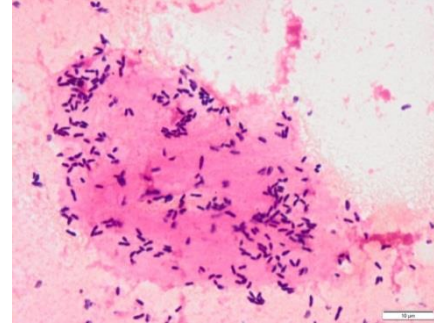
New strains

- *Campylobacter*
 - Quinolone R
- *S. aureus*, particularly MRSA
 - Bay of Bengal strain
- *Klebsiella*
- ESBL
- Carbapenem R *Enterobacteriaceae*
 - All in Wgtn from Asian hospitals so far



New Recognition or counting

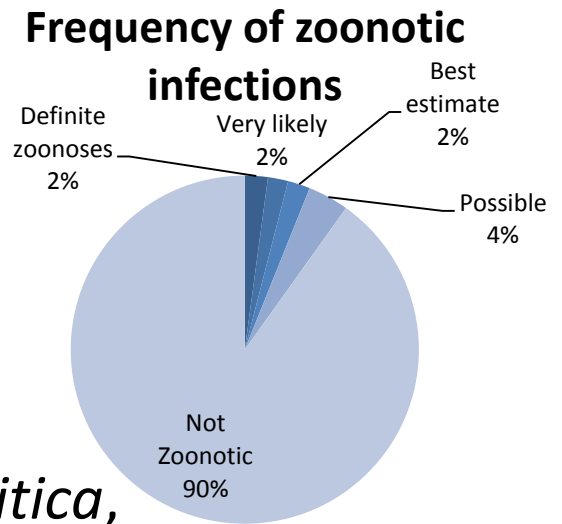
- Cutaneous *C diphtheriae*
- Direct contact zoonoses
- Hepatitis A
 - PCR and strain typing of faeces
- Shiga toxin producing *E coli*
 - 30-50% caused by non O:157, and detected by PCR rather than sorbitol non fermenting
 - Auckland lab found much greater age range



Bacterial Zoonoses 2016, Wellington and Otago

Zoonotic frequency	Otago (%)	Wellington (%)	Total (%)
Complete	695 (3.2)	809 (1.7)	1504 (2.1)
Partial	13193 (61)	22700 (46)	35893 (51)
Possible	1514 (7)	6566 (13)	8080 (11)
Not Zoonotic	6202 (29)	18844 (39)	25046 (36)
Total	21604	48919	70523

Looking at lab databases in the MALDiTOF era of bacterial identification



- Top 5 complete zoonoses food borne
 - (*C. jejuni*, *Salmonella* species, *Y. enterocolitica*, *Campylobacter* spp and *C. coli*)
- The zoonotic burden of disease could be up to five times higher than identified by just assessing infectious species known to be completely zoonotic.
 - Zoonotic *E. coli* could account for extra infections within the Wellington and Otago regions.
 - 935 (conservative estimate)
 - 3700 (worst case)

Main issues

- Complacency or wilful ignoring of foodborne and waterborne disease
- Social determinants
- Surveillance
 - Strain typing
 - Intelligence
- Public Health investment and infrastructure
 - Food safety issues and EID in NZ are intertwined