

The construction of a vulnerable group variable

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Background

- The number of vulnerable persons who are admitted to hospital is unknown;
- In the past, medical card status was a good proxy for “vulnerability”;
- With introduction of medical card to a wider population (1 in 3 persons have a medical card), it is no longer a good proxy of vulnerability.

Aim

- The aim of this study was to determine if the use of ICD-10 Z codes used in Hospital In Patient Enquiry (HIPE) could be used to identify those who are vulnerable.
- To determine if the use of Z codes is higher in the population we know to be vulnerable such as those with:
 - No Fixed abode as Place of Residence;
 - Temporary place of residence as Place of Residence;
 - Other e.g, Foster Care as Place of Residence;
 - Prison as source of admission or as discharge status;
 - Absconded/Self discharged as discharge status.

Methods

- All in-patient **emergency** admissions were extracted from the Hospital In-Patient Enquiry (HIPE) database for a 5 year period;
- Those with a diagnosis that included “Z55-Z65 *Persons with potential health hazards related to socio-economic and psychosocial circumstances*” and “Z72 *Lifestyle factors*” were identified and studied in more detail.

What are Z codes?

- Z codes are used for occasions in which some circumstance or problem is present which influences the person's health status but is not in itself a current illness or injury.
- They are often used in additional diagnostic codes Dx2-30, for example, a person may come in with COPD as principal diagnosis (Dx1) but with a *“problems related to lifestyle code like “Z59.6 Low income” or “Z59.1 Inadequate housing” may also be recorded as co-morbidities (Dx2-30).*

What are these Z codes?

ICD Code	Description
Z55	Problems related to <u>education</u> and <u>literacy</u>
Z56	Problems related to <u>employment</u> and <u>unemployment</u>
Z58	Problems related to <u>physical environment</u>
Z59	Problems related to <u>housing</u> and <u>economic circumstances</u> (this includes Z59.0 homelessness and Z59.1 Inadequate housing).
Z60	Problems related to <u>social environment</u> (includes Z60.4 Social exclusion)
Z61	Problems related to <u>negative</u> life events in <u>childhood</u>
Z62	Other problems related to <u>upbringing</u> (this includes Z622 institutional upbringing)
Z63	Other problems related to primary support group, including <u>family circumstances</u> .
Z64	Problems related to certain <u>psychosocial</u> circumstances (includes Z64.4 discord with social worker/probation worker)
Z65	Problems related to other <u>psychosocial</u> circumstances (this includes Z65.4 Victim of crime and torture)
Z72	Problems related to <u>lifestyle</u>

Results: Emergency admissions with no vulnerable groups recorded:

Year of admission	Total number of Emergency admissions (No vulnerable groups)	No. of emergency admissions with at least one Z code diagnosis	% of emergency admissions with at least one Z code diagnosis	% Total emergency admissions (no vulnerable groups) with medical card holder recorded
2014	398376	47435	11.9%	58.7%
2015	403155	48987	12.2%	59.6%
2016	419059	52843	12.6%	60.9%
2017	420950	54870	13.0%	61.1%
2018	422459	55330	13.1%	62.9%
Total	2063999	259465	12.6%	60.7%

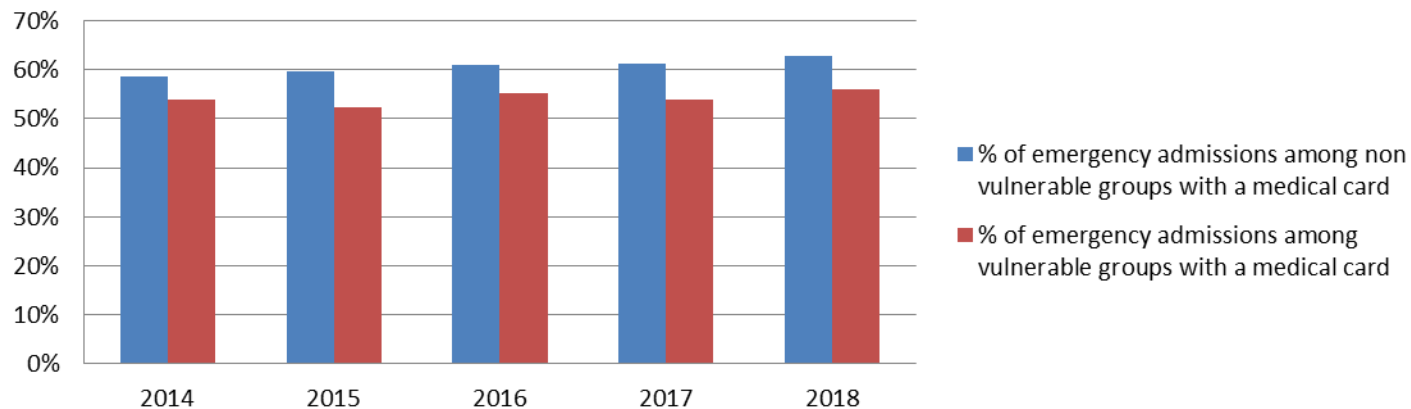
Results: Emergency admission among those from a Vulnerable group:

Year of admission	Total number of Emergency admissions from known vulnerable groups*	No. of emergency admissions among vulnerable with at least one Z code	% of emergency admissions among vulnerable with at least one Z code	% Vulnerable with medical card holder recorded
2014	6349	1905	30.0%	53.9%
2015	6127	1853	30.2%	52.2%
2016	6283	1960	31.2%	55.3%
2017	6675	2240	33.6%	53.9%
2018	6861	2342	34.1%	55.9%
Total	32295	10300	31.9%	54.3%

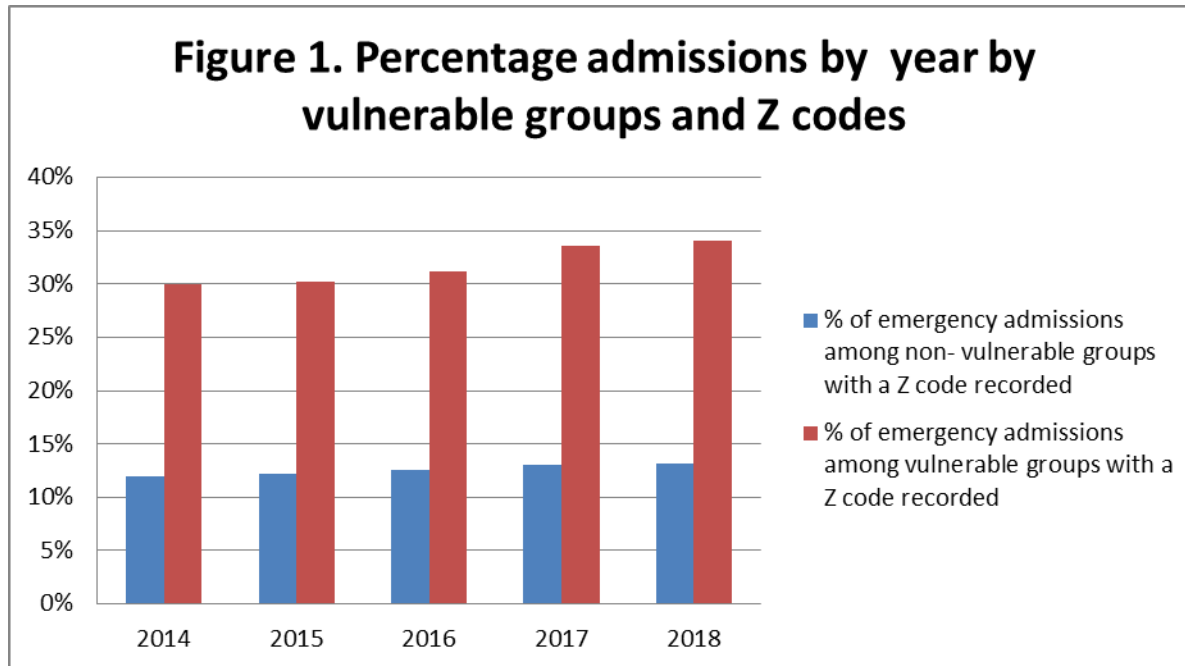
Vulnerable = Either having no fixed abode or foster care or temporary place of residence or prison or self-discharged/absconded recorded.

Results: Vulnerable vs. Non vulnerable by % medical card recorded

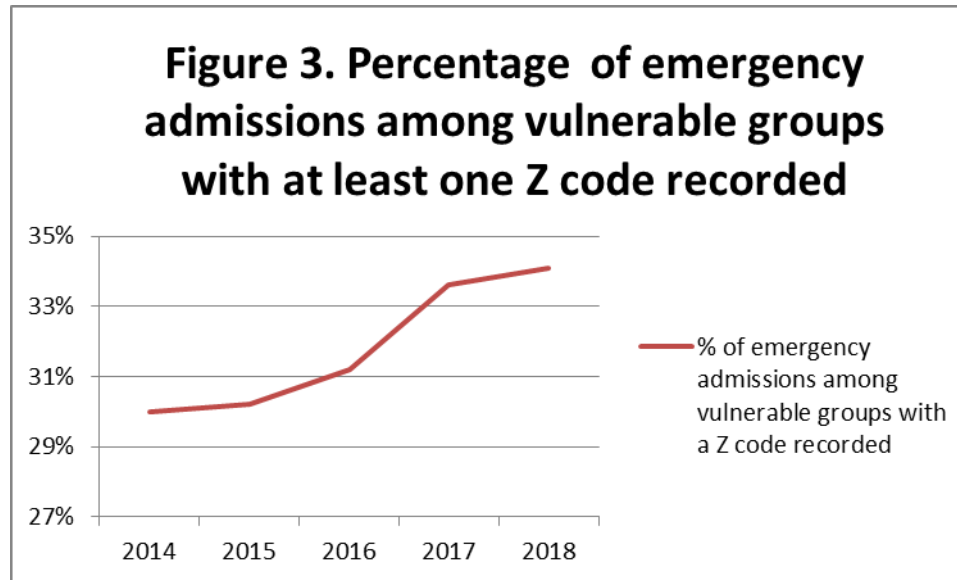
Figure 1. Percentage of admissions with medical cards by year and vulnerability



Results: Vulnerable vs. Non-vulnerable by % with Z code recorded



Increasing trend in use of Z codes among vulnerable groups:



Further work:

- Determine which Z codes are used most frequently.
- Determine if there is an association with certain Z codes with certain vulnerable groups.
- Carry out further time-series analysis on when Z codes came into use more frequently.
- Determine which hospitals are more likely to use Z codes.

Recommendations:

- The use of these Z codes should be encouraged among medical and coding personnel.
- They add a richness to the data and should be used more frequently as they clearly distinguish between vulnerable persons vs. non-vulnerable better than medical card status.
- This richness highlights extra need among the most vulnerable in society.

Conclusions:

- Given that % medical card holders is higher among those classified as “non-vulnerable”, it is no longer good proxy of vulnerability/deprivation.
- It is clear that these vulnerable group variables (ICD-10 AM Z55-Z65, Z72) are not being included in all those who are vulnerable.
- However, the year on year increasing use of these Z code variables is encouraging to see among those we know are vulnerable .

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- **THANK YOU FOR LISTENING!**