Crynodeb cyflym

Cwestiwn:

Pa ddulliau allai fod yn effeithiol ar gyfer cyfathrebu gyda'r cyhoedd (gan gynnwys gweithwyr proffesiynol gofal iechyd) er mwyn mynd i'r afael â phryderon ynglŷn â'r brechlyn a chynyddu cyfraddau brechu?

Crynodeb byr:

Nodwyd pum adolygiad, dwy ddogfen ganllaw, dwy astudiaeth ymyrraeth, dwy astudiaeth ansoddol a deuddeg o arolygon trawstoriadol er mwyn mynd i'r afael â'r cwestiwn hwn.

Mae gweithgor SAGE WHO yn diffinio petruster i dderbyn brechlyn fel *"oedi cyn derbyn brechlyn neu wrthod brechlyn er bod gwasanaethau brechlyn ar gael. Mae petruster i dderbyn brechlyn yn gymhleth ac yn benodol i gyd-destun, gan amrywio ar draws amser, lle a brechlynnau"*.[1] Mae hyn yn awgrymu bod y rhwystrau o ran derbyn brechlyn yn gallu amrywio, yn ôl y brechlyn a'r clefyd dan sylw.[1]

Cyfathrebu gyda'r cyhoedd yn gyffredinol:

Mae'r mwyafrif o'r ymchwil sy'n archwilio'r defnydd o frechlynnau newydd yng nghyd-destun pandemig yn berthnasol i'r brechlyn H1N1 yn ystod 2009-2010.

Ymhlith y rhwystrau i dderbyn brechlyn mae:

- Hunanfodlonrwydd a rhagdybiaethau o risg bersonol y clefyd: lefelau isel o bryder ynglŷn â'r clefyd yn nhermau'r risg ganfyddedig, tueddiad i gael y clefyd a difrifoldeb y clefyd[1,2,3,8]
- Diffyg hyder yn effeithiolrwydd y brechlyn neu yn yr awdurdodau[1].
- Pryderon diogelwch gan gynnwys pryderon ynglŷn â sgil-effeithiau/ digwyddiadau niweidiol, neu'r farn nad yw'r brechlyn wedi'i brofi[1,2,3]
- Nid ydynt yn derbyn argymhelliad i gael eu brechu gan weithiwr proffesiynol gofal iechyd[1]. Diffyg pwysau gan deulu a ffrindiau[1]
- Diffyg gwybodaeth[1,]
- Ffordd o fyw sy'n afiach[1]

Ymhlith y ffactorau sy'n hwyluso derbyn brechlyn mae:

- Argymhelliad gan weithiwr iechyd proffesiynol[1,2,3]
- Y farn bod y brechlyn yn effeithiol[2]
- Risg gynyddol[2]
- Pwysau gan deulu a/neu ffrindiau[1,21]
- Pryder ynghylch aelodau o'r teulu sy'n agored i niwed[21]

Mae ffynonellau wedi nodi'r canlynol fel elfennau defnyddiol posibl mewn strategaethau cyfathrebu er mwyn cynyddu nifer y bobl sy'n derbyn brechlynnau newydd:

Crynodeb cyflym

- **Mynd i'r afael â phryderon am ddiogelwch brechlyn a'r risgiau cysylltiedig.** Gallai hyn gynnwys gwybodaeth am ffynhonnell sicr brechlynnau diogel, gwahaniaethau rhwng fformwleiddiadau brechlynnau, yn ogystal â chael system ar waith ar gyfer monitro a rheoli 'digwyddiadau niweidiol yn dilyn brechu'[4]

- **Sicrhau bod dulliau cyfathrebu yn amlinellu'r egwyddorion moesegol sy'n sail i benderfyniadau, y prosesau a ddefnyddiwyd a'r rhesymeg sy'n sail i'r argymhellion**[4,9]

- **Sicrhau bod y negeseuon yn glir a chyson ar draws pob lefel o'r llywodraeth sy'n gysylltiedig â chyfathrebu gwybodaeth ynghylch brechlynnau**[4,9]

- **Hybu gwybodaeth a deunyddiau o ffynonellau'r llywodraeth neu wefannau swyddogol.** Dangoswyd bod mynediad at wybodaeth o'r fath yn cynyddu'r tebygolrwydd y bydd y cyhoedd yn cael eu brechu gyda brechlyn newydd[5] a grwpiau penodol gan gynnwys menywod beichiog[2,3,9]

- **Defnyddio strategaethau lluosog i ddarparu gwybodaeth am frechlyn.** Gallai hyn gynnwys y cyfryngau traddodiadol a'r cyfryngau cymdeithasol[4], neu'r cyfryngau torfol a ffynonellau gwybodaeth mwy personol, gan gynnwys argymhelliad gan feddyg[1,6]

- **Defnyddio dulliau cyfathrebu priodol a thargedu grwpiau penodol.** Er enghraifft, efallai y bydd angen gwybodaeth wedi'i theilwra ar gyfer rhai grwpiau, er enghraifft darparu gwybodaeth mewn ieithoedd lluosog, defnyddio Braille a thestun i lais[4]. Gellir defnyddio arweinwyr cymunedol hefyd i gyfleu gwybodaeth gywir a hybu brechlynnau ymysg eu cymunedau[4]

- **Mynd i'r afael â gwybodaeth anghywir am frechlyn yn gyflym ac ymosodol**[4]

- **Monitro ac ymateb i'r cyfryngau cymdeithasol** er mwyn canfod cynnydd mewn gweithgarwch ar-lein, newid barn, neu arwyddion eraill a allai ddylanwadu ar benderfyniad pobl i dderbyn brechlyn neu hyder ynddo mewn amser real[7,8]. Canfu arolwg yng Nghanada bod y rhai a oedd yn gwrthwynebu'r brechlyn ddwywaith yn fwy tebygol o nodi'r rhyngrwyd fel eu ffynhonnell wybodaeth fwyaf dylanwadol ynglŷn â'r penderfyniad i gael eu brechu[8]. Mae hyn yn awgrymu y dylai llunwyr polisi edrych yn ofalus ar y wybodaeth sydd ar gael ar-lein a chynyddu gweledegd gwefannau swyddogol, a'u presenoldeb ar y cyfryngau cymdeithasol[8]

Crynodeb cyflym

- **Hwyluso argymhellion gan ymarferwyr gofal iechyd**, yr ystyrir eu bod yn ffynhonnell wybodaeth ddibynadwy.[9] Roedd derbyn argymhelliad ar gyfer brechlyn newydd gan ymarferydd gofal iechyd dibynadwy yn gysylltiedig â thebygolrwydd uwch a/neu dderbyn brechlyn [1,2,3]

- **Fframio negeseuon am frechlyn**[10,11,12]. Negeseuon byr[10], ffeithiol, sy'n seiliedig ar dystiolaeth[11]. Gallai negeseuon am golled fod yn fwy effeithiol ymhlith poblogaethau hŷn[12].

Petruster i dderbyn brechlyn a chyfathrebu gyda gweithwyr proffesiynol gofal iechyd:

Ymhlith gweithwyr proffesiynol gofal iechyd, mae'r rhwystrau a nodwyd a oedd yn atal pobl rhag derbyn brechlyn newydd mewn cyd-destun pandemig yn cynnwys:

- Hunanfodlonrwydd a rhagdybiaethau o risg bersonol (diffyg pryder ynghylch y feirws, credu bod lefel isel o risg o gael eu heintio, risg isel ganfyddedig o salwch difrifol[1,2,13]
- Diffyg hyder yn effeithiolrwydd y brechlyn[2,13]
- Pryderon diogelwch gan gynnwys pryderon ynglŷn â sgil-effeithiau neu brofion annigonol mewn treialon clinigol[1,2,13]
- Imiwnedd sy'n deillio o amlygiad blaenorol. Roedd y rhai a oedd yn tybio eu bod eisoes wedi cael y feirws yn llai tebygol o dderbyn brechlyn[13]

Mae astudiaethau wedi canfod hefyd bod gweithwyr gofal iechyd sy'n dibynnu'n llwyr ar y cyfryngau i gael gwybodaeth am bandemig ffliw yn llai tebygol o gael eu brechu neu ei argymell i gleifion[13]. Mae tystiolaeth yn awgrymu bod adroddiadau gwyddonol wedi cael dylanwad cadarnhaol ar nifer y gweithwyr proffesiynol gofal iechyd sy'n derbyn brechlyn[13].

Mae'r ffynonellau yn yr ateb cryno hwn wedi nodi'r canlynol fel elfennau defnyddiol posibl strategaethau cyfathrebu er mwyn cynyddu'r nifer o weithwyr gofal iechyd sy'n derbyn brechlynnau newydd:

- **Sicrhau bod gweithwyr gofal iechyd yn derbyn gwybodaeth am y brechlyn, gan ddefnyddio ffynonellau a rhwydweithiau dibynnol**[4]. Gall awdurdodau iechyd cyhoeddus rhanbarthol a lleol helpu i sicrhau bod gwybodaeth a chanllawiau yn cael eu dosbarthu i weithwyr proffesiynol gofal iechyd lleol a bod y gweithwyr hyn yn derbyn manylion yr ymgyrch imiwneiddio leol[4]

- **Arweinyddiaeth yn y gweithle.** Nodwyd mewn un adolygiad bod anogaeth gan unigolion yng ngweithle person, er enghraifft cyflogwyr, cydweithwyr neu oruchwylwyr yn arwain at fwy o weithwyr gofal iechyd yn derbyn y brechlyn

Crynodeb cyflym

H1N1 mewn dwy astudiaeth[13]. Canfuwyd bod anogaeth gan feddygon, teulu a ffrindiau hefyd yn ysgogiad pwysig i weithredu mewn tair astudiaeth[13].

Canfu arolwg yn yr Unol Daleithiau o weithwyr proffesiynol iechyd hefyd fod cysylltiad cryf rhwng y cynnydd yng nghyfraddau brechu H1N1 â pholisïau a rhaglenni cyflogwyr (gan gynnwys y rhai a oedd yn galw am frechu, gyda neu heb gosbau) er nad oedd y defnydd o gymhellion yn creu cynnydd[14]

- **Sicrhau ymatebion cadarnhaol cyson gan awdurdodau iechyd llywodraeth ganolog a llywodraeth leol.** Mae tystiolaeth o ddau adolygiad yn dangos bod cysylltiad rhwng hyn â chynnydd sylweddol mewn cyfraddau brechu[1,13]

- **Canfuwyd fod hwyluso gweithdai hyfforddiant** er mwyn cyfleu gwybodaeth berthnasol i weithwyr proffesiynol gofal iechyd am ddiogelwch y brechlyn a chwalu camsyniadau yn cynyddu'r tebygolrwydd o frechu yn ystod yr ymgyrch H1N1 yn rhanbarth Murcia Sbaen[9]

Ystyriaethau ar gyfer ymgyrchoedd brechu torfol COVID-19 yn y dyfodol:

Mae arolygon diweddar o Gymru a'r Deyrnas Unedig yn ehangach wedi nodi y gallai rhwng 14% a 23% o ymatebwyr fod yn ansicr neu eu bod yn bwriadu gwrthod brechlyn COVID-19 pan fydd ar gael[18,22,23].

Mae'r arolygon hyn, ynghyd â'r rhai o rannau eraill o'r byd, wedi nodi nifer o nodweddion a barn ymhlith y rhai a allai fod yn amharod i gael eu brechu gyda brechlyn newydd COVID-19. Mewn rhai achosion mae'r dystiolaeth yn eithaf cymysg.

Nodweddion demograffig:

- **Oedran**
  Roedd gan bobl hŷn fwy o fwriad i gael eu brechu mewn pum astudiaeth[16,17,18,19,23], a bwriad is mewn chweched ar gyfer menywod ifanc 18-35 oed a'r rhai 75+ oed[15].

- **Rhyw**
  Canfuwyd bod gan fenywod lai o fwriad mewn tri arolwg[15,16,19], er na chanfuwyd unrhyw wahaniaethau rhwng y rhywiau mewn dau arolwg arall[17,18].

- **Ethnigrwydd**
  Canfu arolwg yn y DU bod unigolion o grwpiau BAME yn llawer mwy tebygol o fod yn ansicr ynglŷn â derbyn brechlyn COVID-19[23]. Canfu arolwg

Crynodeb cyflym

yn yr Unol Daleithiau bod lefelau uchel o fwriad ymhlith pobl Asiaidd ond llai o dderbyniad ymhlith Americanwyr Du.[19] Fodd bynnag, canfu arolwg yn Awstralia nad oedd unrhyw wahaniaethau yn ôl ethnigrwydd[17].

Agweddau a chredoau:

- **Y canfyddiad o risg**
  Nododd arolygon yn Ffrainc ac Awstralia bod canfyddiad isel o risg yn gysylltiedig â llai o fwriad neu'r tebygolrwydd o gael eu brechu.[16,17] Canfu astudiaeth yn y DU bod y rhai a oedd o'r farn bod y cyfryngau wedi gorliwio'r risg yn llai tebygol o fod eisiau derbyn brechlyn COVID-19[18].

- **Cynllwyn**
  Roedd y rhai yn Lloegr â lefelau uwch o feddwl bod cynllwyn COVID-19 yn llai parod i frechu a byddent yn ceisio atal eu teulu a'u ffrindiau rhag gwneud hynny[20]. Roeddent hefyd yn llawer mwy tebygol o rannu gwybodaeth anghywir a'u barn am COVID-19.

- **Safbwyntiau gwleidyddol**
  Canfu arolwg yn Ffrainc bod y rhai â safbwyntiau gwleidyddol eithafol a'r rhai a oedd wedi atal rhag pleidleisio yn llai tebygol o ddefnyddio brechlyn pe byddai un ar gael[15].

- **Incwm/cyflogaeth/addysg**
  Nododd un astudiaeth bod y rhai ar incwm isel yn llai tebygol o ddefnyddio brechlyn na'r rhai ar incwm uwch[15]. Nododd un arall bod pobl ddi-waith yn llai tebygol o dderbyn brechlyn COVID-19 o gymharu â'r rhai a oedd wedi'u cyflogi neu wedi ymddeol[19]. Roedd yr ail astudiaeth hefyd yn dangos bod cysylltiad uniongyrchol rhwng y bwriad i frechu â lefelau addysg[19]. Fodd bynnag, nododd arolwg yn y DU bod pobl ddi-waith (o gymharu â'r rhai mewn cyflogaeth ran amser) yn fwy tebygol o fod yn barod i dderbyn brechlyn COVID-19.[23]

Nododd yr arolygon rai rhagfynegwyr ychwanegol ar gyfer derbyn brechlyn COVID-19:

- bod yn weithiwr gofal iechyd[16]
- dealltwriaeth feddygol/wyddonol uwch am COVID-19[17]
- wedi derbyn brechlyn ffliw tymhorol[17]
- hyder mewn gwybodaeth gan y llywodraeth[17]
- dioddef o asthma/COPD[18]

Mae tystiolaeth yn dangos y gallai'r canlynol fod yn ffynonellau gwybodaeth dibynadwy ar gyfer COVID-19 yn benodol:

Crynodeb cyflym

- **Y Cyfryngau**
  Roedd amlygiad uwch i sylw yn y cyfryngau (er nad yw wedi'i ddiffinio) yn dangos bwriad uwch i gael eu brechu.[17] Mewn arolwg yn yr Unol Daleithiau, roedd 21% o'r cyfranogwyr o'r farn bod y cyfryngau cymdeithasol yn ffynhonnell ddibynadwy o wybodaeth am COVID-19[19].

- **Gweithwyr iechyd proffesiynol**
  Nododd cyfranogwyr mewn arolwg yn yr UD y lefelau hyder uchaf ymhlith gweithwyr iechyd proffesiynol, gan gynnwys eu meddygon teulu, y CDC ac adrannau iechyd taleithiol a lleol. Ystyriwyd mai gweithwyr iechyd proffesiynol a swyddogion iechyd oedd y ffynonellau gwybodaeth mwyaf dibynadwy ar COVID-19[19].

Roedd awduron dwy astudiaeth yn argymell dwy strategaeth ar gyfer rhaglen brechu torfol COVID-19.

- Defnyddio technegau newid ymddygiad at wybodaeth am ganlyniadau iechyd, emosiynol, cymdeithasol ac amgylcheddol ac amlygrwydd canlyniadau[18].

- Gallai addysg wella gwybodaeth am y tuedd i gael COVID-19 a'i ddifrifoldeb ac effeithiolrwydd brechlyn, ac y gellir defnyddio perswâd i newid credoau ac annog camau gweithredu tuag at frechu[18].

- Mae angen datblygu a phrofi negeseuon ystyrlon ac wedi'u targedu er mwyn adeiladu ar y diddordeb cyhoeddus presennol a chynnal y momentwm ar ôl rhyddhau brechlyn. Dylai negeseuon ac addysg ganolbwyntio ar y boblogaeth gyffredinol yn ogystal â grwpiau risg uchel[19].

Dulliau

Yn dilyn chwiliad ym mis Mehefin 2020 o gronfeydd data a llenyddiaeth lwyd a sgriniad (manylion ar gael ar gais) nodwyd 23 o gyhoeddiadau. Cynhaliwyd y gwaith sgrinio teitlau ac echdynnu yn annibynnol gan ddau adolygydd. Cynhaliwyd y gwaith sgrinio testun llawn gan un adolygydd gydag ail adolygydd yn gwirio cysondeb 20%. Cynhaliwyd y gwaith echdynnu data gan un adolygydd a chafodd ei wirio gan ail adolygydd. Ni chynhaliwyd unrhyw werthusiadau beirniadol o'r ffynonellau sydd wedi'u cynnwys. Dim ond ffynonellau o wledydd y Sefydliad ar gyfer Cydweithrediad a Datblygiad Economaidd (OECD) sydd wedi'u cynnwys.

Mae Tabl 1 isod yn cynnwys rhai adnoddau defnyddiol posibl o'r llenyddiaeth eang ar frechu arferol.

Mae Tabl 2 yn cynnwys manylion a chrynodeb o gynnwys y ffynonellau a ddefnyddiwyd.

Cyfyngiadau:
Gallai'r crynodeb hwn fod yn ddefnyddiol i nodi pwyntiau allweddol ar y pwnc. Fodd bynnag, nid yw ansawdd yr ymchwil sydd wedi'i gynnwys wedi'i asesu ac mae'n deillio o ystod eang o ddeunyddiau cyhoeddedig.

Roedd rhai o'r adolygiadau a nodwyd ar gyfer y crynodeb hwn yn cynnwys astudiaethau o wledydd incwm isel a chanolig.

Mae'r llenyddiaeth ar COVID-19 yn newydd ac mae nifer o'r ffynonellau sydd wedi'u cynnwys o ffynonellau cyn-argraffu. Nid yw'r papurau hyn wedi'u hadolygu gan gyfoedion nac wedi'u cyhoeddi ar adeg eu nodi.

Table 1: Useful sources:

These sources were identified whilst screening the literature for this rapid answer. They did not meet the inclusion criteria as they only consider vaccine hesitancy in the context of routine immunisation.

Source:	Link:
National Institute for Health and Care Excellence. *Flu vaccination: increasing uptake*. NG103. London: NICE 2018.	Guideline available here Underpinning evidence reviews available here
Cairns G, MacDonald L, Angus K, Walker L, Cairns-Haylor T, Bowdler T. *Systematic literature review of the evidence for effective national immunisation schedule promotional communications. Insights into health communication.* Stockholm: ECDC; 2012	Available here
World Health Organization; SAGE working group dealing with vaccine hesitancy. *Strategies for addressing vaccine hesitancy – a systematic review.* World Health Organization. 2014. [NOTE: All but three studies conducted in low and middle income countries]	Available here
World Health Organization. *TIP: Tailoring immunization programmes.* Copenhagen: World Health Organization; 2019.	Available here
Larson H, Karafillakis E. *Rapid literature review on motivating hesitant population groups in Europe to vaccinate*. Stockholm: ECDC; 2015.	Available here
Eve D, Dominique G, Noni EM. Strategies intended to address vaccine hesitancy: Review of published reviews. *Vaccine.* 2015; 33(34). Pp.4191-203	Available here
European Centre for Disease Prevention and Control. Guidance on community engagement for public health events caused by communicable disease threats in the EU/EEA, 2020. Stockholm ECDC; 2020.	Available here
European Centre for Disease Prevention and Control. Let's talk about hesitancy. Enhancing confidence in vaccination and uptake: Practical guide for public health programme managers and communicators. Stockholm: ECDC; 2016.	Available here

European Centre for Disease Prevention and Control. A literature review of trust and reputation management in communicable disease public health. Stockholm: ECDC; 2011.	Available here

Table 1: Data extraction:

Reference	Relevant findings	Caveats
1. World Health Organization. *Barriers of influenza vaccination intention and behavior: a systematic review of influenza vaccine hesitancy 2005 – 2016*. World Health Organization. 2016. 2011;29(38):6472-84. Available here. Scoping review Multiple countries	Scoping review of 470 studies to identify individual barriers to seasonal and pandemic influenza vaccination. Most of the studies were conducted in Western regions and in general populations (191/470). 156/470 studies focused on pandemic influenza. The following were associated with vaccination uptake: [↑ = increased uptake; ↓ = decreased uptake; ↔ = mixed evidence; ND = no significant difference] Perceiving oneself to be at low or no risk: ↓12 studies in general popn; ↓18 in HCPs Lack of social benefit: ↓9 studies in general public; ↓10 in HCPs Lack of pressure from family/friends: ↓13 studies in general public; ↓4 in HCPs Having been vaccinated against seasonal flu: ↑43 studies in HCPs Lack of knowledge: ↓2 studies in general popn; ↓15 studies in HCPs Unhealthy lifestyles: ↓9 studies in general popn; Lack of direct recommendation from HCP: ↓11 studies in general popn; ↓5 studies in HCPs Higher age: ↓5 studies in general popn; ↓8 studies in HCPs Most sociodemographic factors present a mixed picture of results	Limited description of methods, Design of included studies not specified. Authors state that quality was assured by limiting inclusion to 'peer review' publications. Authors note that conclusions about the relative importance of determinants cannot be made. Not all studies will be generalisable to a Welsh population.
2. Bish A, et al. Factors associated with uptake of vaccination against pandemic influenza: a systematic review.	Review of 37 studies (36 cross-sectional surveys and one qualitative study) looking at psychological and demographic factors associated with uptake of vaccination during the H1N1 pandemic. Studies conducted in Australia, France, Greece, Hong Kong, Israel, Italy, South Korea, Malaysia, Mexico, Morocco, Sicily, Spain, Turkey, UK, and USA.	No information on quality of included studies. 36/37 studies were cross sectional carried out at different points during

Vaccine; 2011: 29(38):6472-84 Available here. Systematic literature review	The following were associated with vaccination uptake/intention to vaccinate: [↑ = increased uptake/intention; ↓ = decreased uptake/intention; ↔ = mixed evidence; ND = no significant difference] Perceiving oneself to be at low or no risk: ↓10 studies in general popn; ↓3 in HCPs Perception of pandemic as severe: ↑8 studies in general popn; ↑3 in HCPs Perceived vaccine efficacy ↑5 studies in general popn; ↑5 in HCPs; perceived lack of efficacy ↓4 in HCPs. Concerns about safety and possible side effects ↓5 studies in general popn; ↓10 in HCPs Having been vaccinated against seasonal flu ↑8 studies in general popn; ↑10 in HCPs Age ↔ 8 studies in general popn (older people ↑6; younger people ↑1; ND1); 9 studies in HCPs (older people ↑7; younger people ↑1 ND1) Gender male: ↑5 studies in general popn; ↑4 in HCPs. Ethnic minorities: ↑5 studies in general popn. Low socio-economic status: ↔3 studies in general popn (↑2; ↓1). Increased risk: ↑4 studies in general popn.	the 2009 pandemic. They provide a snapshot of predicted intentions/ behaviour at a specific time point. A causal relationship cannot be inferred.
3. Yuen C & Tarrant M. Determinants of uptake of influenza vaccination among pregnant women - A systematic review. *Vaccine.* 2014;32(36):4602-13. Available here. Systematic literature review	Review of 45 studies of knowledge, attitudes and practices of pregnant women re seasonal and H1N1 influenza infection and to identify predictors of vaccine uptake. Study findings for both infections were highly similar so results aggregated. Cues to action that influenced vaccination choices: - Participants who received a **recommendation from an HCW** were 20-100 times more likely to receive the vaccine. (4 studies). Several studies also reported that those who were vaccinated and trusted HCW recommendations were more likely to believe the vaccine was safe and efficacious. - **Negative media reports** on possible associations between influenza vaccination and adverse maternal and foetal outcomes were obstacles to vaccination acceptance (6	No information on quality of included studies. The majority of the studies were small-scale, cross-sectional studies using convenience sampling. High heterogeneity in terms of outcome variables and methods of data analysis.

Multiple countries	studies). Although a study reported that more than 65% of participants perceived that the media were not helpful sources of information, a survey of pregnant women indicated strong reliance on the internet to help their decision-making. - Getting **information from government sources or official websites** was significantly associated with vaccine acceptance (2 studies).	
4. Pan-Canadian Public Health Network. *Vaccine annex: Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector*. Pan-Canadian Public Health Network; 2017. Available here.	The following is around guidance for mass immunisation clinics and communication strategies: Timely, clear and frequent communication with the public and staff utilising a variety of materials and mediums should be utilised to educate and inform healthcare workers (HCWs), and target groups. Communication plans should be flexible and dynamic. • Have a detailed and realistic communication strategy based on research. • Be clear about what is to be communicated, how, by whom and to whom. • Coordinated, consistent and targeted messaging to meet public's needs. • For each action, define and agree specific key messages with the health authorities, in collaboration with the appropriate decision-makers and experts. These messages need to be evidence-based, referring to relevant medical research and studies that lend strong support to the content. • Be transparent when communicating risk. • Early education about pandemic vaccine (e.g. its manufacture, regulation and safety). • Address vaccine misinformation quickly and aggressively. • Provide clear communication regarding where legitimate pandemic vaccine supply is available (locations). • Be transparent about the vaccine prioritisation process. • Credible marketing campaign using both traditional and social media. • Appropriate contingency plans for rapid implementation. • Identify and establish relationships with key stakeholders in advance. • Central provision of fact sheets and training tools; • Identify public's needs, concerns and attitudes through communication monitoring.	Guidance outlining how Canadian jurisdictions will work together to ensure a coordinated and consistent health sector approach. Useful examples of materials, mediums and format for communication with the public listed in Table B3

	HCWs • Healthcare professionals should be using trusted sources and networks, updated ahead of the general public and be aware that recommendations may change. • Website information should include links to national information on the pandemic vaccine: regulatory process, vaccine safety, current product information leaflet and national vaccine recommendations, including prioritisation. • HCWs should be informed about the local immunisation campaign. **Public Communication (External)** • Consistent, clear information and recommendations about vaccination including how, when and why • Reassure public about vaccination safety at every stage of the process. • Communication on safety issues should address the risk-benefit balance while stressing that the benefits outweighs the risks. It should include a system for monitoring and managing reports of adverse events following immunisation. • Reinforce infection prevention strategies (i.e. what to do if symptomatic or have been in contact with a potential case).	
5. Walter D, et al. Risk perception and information-seeking behaviour during the 2009/10 influenza a(H1N1)pdm09 pandemic in Germany. *Eurosurveillance.* 2012;17(13):20120329. Available here. Cross-sectional survey Germany	13,010 participants aged 14+ surveyed via household phone Nov 2009 - April 2010 during H1N1 pandemic. Analysis aimed to identify key information for future communication planning during pandemics. Reported sources of information: **TV and radio** (71.2%; 95% CI: 69.3–73.0) **Magazines/newspapers** (58.6%; 95% CI: 56.6–60.7) **Internet** (27.6%; 95% CI: 26.0–29.4); but for 60+ years 10.2% (95% CI: 8.3–12.4) **Friends and relatives** 56.1% (95% CI: 54.1–58.1) **Physicians** 31.0% (95% CI: 29.1–32.8). **None**: 3.1% (95% CI: 2.4–4.0) Healthcare workers and those with chronic diseases used physicians more frequently (38.0% v. 28.1%; p<0.001) and peers less frequently (51.4% v 58.0%; p<0.01). Physicians used by	Methods of accessing news have changed considerably since 2010. Impact of social media not assessed. Survey conducted using household-based phone. Study can identify associations, but not causal links. Self-report measures

	62.1% of vaccinated respondents vs 28.8% of non-vaccinated (p<0.001). No significant associations between sources and vaccine uptake. Using radio/TV (OR: 0.62; 95% CI: 0.48–0.81) or family/friends (OR: 0.72; 95% CI: 0.55–0.94) as main information source independently associated with lower vaccine uptake. Physicians (OR: 2.77; 95% CI: 2.16–3.57) or official materials (OR: 2.07; 95% CI: 1.55–2.77). Mistrust in vaccines and perceived low disease risk were main factors for low vaccination coverage during the pandemic.	
6. Sengupta S & Wang HD. Information sources and adoption of vaccine during pandemics. *International Journal of Pharmaceutical & Healthcare Marketing.* 2014;8(4):357-70. Available here. Cross-sectional survey USA	Face-to-face survey of 321 adults visiting two shopping malls in a mid-Western city re uptake of H1N1 vaccine. Questions (mostly using 10-point Likert scales for responses), related to impact of various information sources on attitudes to H1N1 and intent to vaccinate. Personal information sources found to have greater impact on attitude and intent than mass media sources. Doctors considered most trusted but less used than news media and government sources. Authors suggest mass media campaigns should include interviews with credible personal information sources to enhance their effectiveness.	Small convenience sample from one US city. Study can identify associations, but not causal links Different segments of the population may respond to information sources differently.
7. European Centre for Disease Prevention and Control. *Systematic scoping review on social media monitoring methods and interventions relating to vaccine hesitancy.* Stockholm: ECDC; 2020. Available here.	Scoping review of 115 studies to map, analyse and summarise knowledge and research on social media (SM) and vaccination. [Search:2000 - Dec 2018] SM platforms are a common information source (14 studies). Most studies suggested a negative influence of consulting social media on vaccine uptake. **Using social media monitoring to inform vaccination strategies**: No formal evaluation, but some studies provided recommendations and suggestions: - Health authorities, governments and/or healthcare professionals should monitor SM to detect increases in online activity, shifts in sentiments, or other signals that may influence vaccination uptake or confidence in real time. (11 studies)	Follows established scoping review methodology. Heterogeneous studies with widely varying methodologies. Much of the data comes from single studies.

Scoping review Multiple countries	- Monitoring could help health authorities anticipate, understand and respond to public questions and concerns. (21 studies) - Health authorities need to increase their presence and popularity on SM. (9 studies) **<u>Interventions</u>** 15 studies described social media as an intervention tool in relation to vaccination. The majority of these studies were conducted in Canada, Germany, the Netherlands, and the United States. Three types of social media interventions were identified: **Information on social media (10 studies)** - No quantitative study found providing information re vaccination on SM significantly increased uptake or willingness to vaccinate. - Info supporting HPV vaccination on Facebook significantly decreased perceived barriers and opinions of risk and increased knowledge about the vaccine. (1 study - USA) - The content matters: loss-framed messages on Facebook associated with a significantly higher intention to vaccinate than gain-framed messages ($p<0.05$). (1 study - USA) - Narratives about vaccine adverse events corresponded to decreasing intention. (1 study - Germany) **Online group discussions (two studies)** - Parents and friends have a strong influence on vaccination decision-making, whether online or in person. (1 study , Netherlands) - No significant difference in number of responses to factual information or to personal experiences; but responses to latter were more emotional. (1 study – Germany) **Interactive websites (three studies; four papers)** Interactive websites with a space for parents to contribute with content and discuss concerns found significant reduction in parental concerns around vaccination but no impact on attitudes or uptake. (1 study - USA) Survey found 50% of parents would use interactive websites if available. (1 study - USA)	
8. Ashbaugh AR, et al. The decision to vaccinate or not during the H1N1	Web-based survey conducted during H1N1 outbreak after vaccine was available. Examines how participants' beliefs or where they get information might influence decision to vaccinate.	Non-probability online survey.

pandemic: selecting the lesser of two evils? *PLoS ONE*: 2013;8(3):e58852. Available here. Cross-sectional survey Canada	• Info from the Internet, vs more traditional media sources was associated with deciding not to vaccinate. Undecided Individuals indicated TV and newspapers were influential sources of information. • Most based their decision on discussions with family, friends and co-workers. • Circa 30% categorised as 'Anti-Vaccine' identified Internet as their most influential source vs <15% of 'Pro Vaccine and 'Undecided'. • Circa 30% of Undecided participants indicated TV and print media to be influential vs 15–20% in the other groups. • Participants who intended to be vaccinated reported stronger beliefs about the dangers of H1N1 and weaker beliefs about vaccine dangers. They also had greater intolerance of uncertainty, higher levels of anxiety, and used more avoidant coping strategies than the unvaccinated. • Main sociodemographic predictors of intention to vaccinate were being at high risk and being a health professional. Authors note that results suggest the Internet may have been a significant source of negative vaccine information. They suggest government agencies should increase their presence and credibility on the Internet and social networking sites.	Sample skews strongly to highly educated females. Potential for high levels of volunteer and other biases. Survey can identify associations, but not causal links. Self-report measures
9. European Centre for Disease Prevention and Control. *Communication on immunisation – building trust*. Stockholm: ECDC; 2012. Available here. Communications Guide Multiple countries	Guide to support EU member states in planning and implementing communication activities in relation to immunisation programmes around: - Role of public health: being transparent, reassuring the public about vaccination safety, convincing healthcare professionals, making use of scientific information and establishing relationships of trust with key stakeholders and journalists. - Role of communications: including advocacy, social mobilisation and programme communication. Defining priority audiences, identifying the public's needs and attitudes, acknowledging and anticipating barriers and designing specific key messages. The guide also lists examples of H1N1 pandemic flu vaccine campaigns: **Spain (Murcia region)** Two elements to strategy:	This guide summarises research results on this topic. It is readily adapted to national strategies and requirements. Summary provided relates to novel vaccination campaigns such as H1N1.

	- Direct communication with population to be vaccinated (groups at risk and individuals in essential services) through personalised letter. - Communication with healthcare professionals via information sent directly from public and private systems, training workshops (f2f and online), raising awareness sessions in the main hospitals. Specific promotional material: Posters, leaflets, short and longer documents about the illness and the vaccine; and a special website. Considered successful: Vaccination levels higher in the region than elsewhere. **Sweden**: Campaign targeted groups at high risk of developing complications. Information for group aged 18-24 years. Several government departments and medical/health advice organisations reached target group via social media. A key element was a virtual yellow badge with the tagline 'No to swine flu'. Other strategies included a central contact point with a dedicated phone number and website; regional and local dissemination of information through media; and press conferences with participation of different authorities; and quoting authorities and disease experts in media coverage. Campaign considered successful with 60% of popn being vaccinated. Issues identified were: - Lack of strategies to handle misinformation/conspiracy theories on social media. - Heavy workload associated with the contact service, but centralised and regularly updated information was considered valuable and informed communication strategies.	
10. Godinho CA, et al. Increasing the intent to receive a pandemic influenza vaccination: Testing the impact of theory-based messages. *Preventive Medicine.* 2016;89:104-11. Available here. Intervention study UK (England)	Internet-based study of 1424 individuals aged 16-75 to evaluate messages promoting uptake of vaccination in the context of an uncertain pandemic influenza scenario. Participants were allocated to one of four arms each with a different message: Department of Health (DoH) standard or one of three shortened messages; DoH; risk-reducing; health-enhancing. Results indicated: • Shorter DoH message was better recalled, rated as more personally relevant and increased vaccination intention more than the longer one; despite the latter being considered slightly more credible. • A briefer message resulted in greater intention to be vaccinated. • Intention was not improved by adding information on severity and benefits, and the health-enhancing message was not more effective than the risk-reducing message.	The study used a theoretical scenario. Responses may vary considerably with a real pandemic. Participants had to be fluent in English and have internet access. Little variability in intentions, which were generally high. May be due to social desirability bias, or to uncertainty re the consequences of the virus in the scenario.

	• Future campaigns should consider using brief messages, targeting knowledge about influenza and precautionary measures, perceived susceptibility to pandemic influenza, and the perceived efficacy and reduced costs of vaccination.	Reported acceptance or intent may not translate into actual behaviour Visual presentation not pretested.
11. Mowbray F, et al. Communicating to increase public uptake of pandemic flu vaccination in the UK: which message work? *Vaccine*. 2016;34:3268-74. Available here. Qualitative study UK	Focus group study examining persuasiveness of different types of framed messaging promoting vaccination. Eleven groups (41 participants aged 16-75) were presented with a brief hypothetical scenario of a pandemic flu outbreak including information on health consequences, impact and vaccination advice. Sample was purposive - 80% of participants did not receive an annual flu vaccination. The groups were given four sets of messages: 1) negatively (risk reduction); 2) positively (health enhancement); 3) emotion-focused (to elicit regret); 4) factual (cost-benefit). Participants found factual, evidence-based messages the most convincing and useful, particularly when they gave cost-benefit comparisons. Health-enhancing messages were received more sceptically, particularly re vaccine safety. Risk reduction messages were perceived to be more balanced and credible. Messaging designed to elicit regret about not vaccinating were seen as patronising and unprofessional.	Study uses a theoretical scenario so results may not be reflective of responses during a pandemic.
12. Nan X, Xie B, & Madden K. Acceptability of the H1N1 Vaccine Among Older Adults: The Interplay of Message Framing and Perceived Vaccine Safety and Efficacy. *Health Communication*. 2012; 27(6):559-68. Available here. Intervention study USA - Maryland	Study in 88 older adults (age 50+) recruited from 10 senior centres to examine relative effectiveness of gain- versus loss-framed messages (related to safety and efficacy) to promote H1N1 vaccination. Responses measured using 12 questions pre-messaging and six questions post messaging about attitudes and intentions. No significant differences noted in those who thought the vaccine was effective. In participants with low confidence in vaccine, loss-framed message was significantly more effective in inducing intentions (*b*=.819; p=.022).	Small study using a convenience sample. Limited information on methods. Reported acceptance or intent may not translate into actual behaviour.

13. Prematunge C, et al. Factors influencing pandemic influenza vaccination of healthcare workers-A systematic review. *Vaccine*. 2012;30(32):4733-43. Available here. Systematic Literature review Multiple countries	Review of 20 studies from different geographic regions considering healthcare workers (HCWs) and H1N1 vaccination uptake. Looked at actual vaccination uptake, so studies conducted after the launch of 2009/2010 pH1N1 immunisation campaigns. The review mentions several cues to action that influenced HCW vaccination choices. [↑ = increased uptake; ↓ = decreased uptake] - Concerns about vaccine safety and side effects. (↓ 13 studies) - Misleading media reports. (↓ 6 studies). - Access to scientific literature and information (↑ 3 studies). - Trust in public health authority communications (↑ 3 studies) - Doctor or loved ones endorsed the pH1N1 vaccine. (↑ 3 studies) - Encouragement from employers, colleagues, and supervisors were important external cues to action. One study found that HCW who refused the vaccine were less likely to report that their supervisors and/or co-workers encouraged them to get vaccinated against the pandemic ($p < 0.001$). Another study reported that vaccination behaviours of various workplace opinion leaders also influenced vaccine uptake decisions of other HCW. (↑ 2 studies) - Negative attitudes of political figures to vaccination. (↓ 2 studies)	No discussion of quality of included studies. Data extraction table does not include data about outcome measures- effect sizes, study demographics. Author-identified limitations: - Possible publication bias. - The majority of studies were cross-sectional with self-reported immunisation status. - Volunteer bias. - Use of dichotomous survey questions may have resulted in a loss of nuance. - Focus on overarching factors may be at the expense of understanding cultural/political differences.
14. Harris K, et al. Workplace efforts to promote influenza vaccination among healthcare personnel and their association with uptake during the 2009 pandemic influenza A (H1N1). *Vaccine*. 2011;29(16):2978-85. Available here.	Survey of workplace efforts to promote influenza vaccination among healthcare personnel (HCPs) Six employer policies were surveyed: vaccination required with penalty; vaccination required without penalty; vaccination recommended; vaccination offered at worksite; vaccination reminders issued and vaccination rewards offered. Most employers (63%) recommended vaccination, only 10% required it. Over 65% of HCPs offered worksite influenza vaccination. Vaccination requirements associated with increases in seasonal and pandemic vaccination rates of between 31 and 49% points ($p < 0.005$). On-site vaccination was associated with	Subset of data from a US national HCP survey. Can identify associations, but not causal links. Self-report measures Unclear whether the sample is representative. Sample too small provide reliable information about the prevalence or nature of penalties that employers

Cross-sectional survey USA	increases in seasonal and pandemic vaccination of between 13 and 29% points ($p < 0.05$). Reminders and incentives were not associated with vaccination. Even without penalties for noncompliance, a policy of requiring vaccination is associated with sharply higher rates of compliance. Findings also suggest that the convenience of on-site vaccination is very important. HCPs offered vaccination at work were almost 15% more likely to be vaccinated for pandemic influenza than those who were not. Physicians and other front-line personnel involved with direct care were substantially more likely to be vaccinated for pandemic influenza.	imposed on HCPs who choose to remain unvaccinated and on differences in vaccination rates associated with different types of requirements.
15. Coconel Group. A future vaccination campaign against COVID-19 at risk of vaccine hesitancy and politicisation. *Lancet Infect Diseases.* 2020. Available here. Cross-sectional survey France	Early results from an online survey of adults conducted in late March 2020. Indicates that distrust is likely to be an issue when a vaccine against SARS-CoV-2 becomes available. 26% of respondents stated they would not use it. Attitude more prevalent among low-income people (37%), young women aged 18-35 (36%) and those aged older than 75 years (22%). Results also associated with voting patterns with those supporting far left (32%) or far right (30%) presidential candidates or those abstaining (35%) being more likely to state that they would refuse the vaccine.	Non-probability online survey - cannot draw a representative national population sample. Potential for high levels of volunteer and other biases. Can identify associations, but not causal links. Self-report measures Cannot assume reported acceptance or intent will translate into actual behaviour, especially when there is a time lag.
16. Detoc M, et al. Intention to participate in a COVID-19 vaccine clinical trial and to get vaccinated against COVID-19 in France during the pandemic. *MedRxiv.* 2020. Available here.	Online survey of 3,259 French adults between 26th March and 10th April. It aimed to determine the proportion of people who intended to be vaccinated against COVID-19 or participate in a vaccine clinical trial. 2,512 participants (77.6%, 95 % CI 76.2-79.0 %) reported being definitely or probably to get vaccinated. Older age, male gender, fear about COVID-19, being healthcare workers and individual perceived risk were all associated with COVID-19 vaccine acceptance. Vaccine hesitancy was associated with a decrease in COVID-19 vaccine acceptance and observed in 1,150 respondents (35.3% 95%CI 33.6 – 36.9%).	Pre-print paper. Sample recruited via social media, email, hospital website, COVID-19 diagnosis centres, and medical centres. Unlikely to be representative. Can identify associations, but not causal links. Self-report measures.

Cross-sectional survey France	Healthcare workers were significantly (p <0.005) more willing to get vaccinated (81.5%) than non-healthcare workers (73.7%).	Cannot assume intent will translate into actual behaviour, especially when there is a time lag.
17. Faasse K & Newby J. Public perceptions of COVID-19 in Australia: perceived risk, knowledge, health-protective behaviours, and vaccine intentions. *MedRxiv*. 2020. Available here. Cross-sectional survey Australia	Online survey of 2174 adults conducted 2-9 March 2020, at an early stage of the COVID-19 outbreak. Included a question relating to how likely they were to choose to have a vaccination for the COVID-19 coronavirus, if there was a safe and effective vaccine. A 5-point scale was used where higher scores indicated higher vaccine intentions. Over 55% of respondents in each age group indicated they would definitely get a COVID-19 vaccine if it were available. Including those who would probably do so, the numbers rose to about 80%. Respondents differed in their vaccine intentions by age group (p 0.019). Compared to those in the 60 plus age group, being in the 30 to 49 (ExpB = 0.662, 95%CI [0.503 to 0.871], p 0.003) or 50 to 59 (ExpB = 0.695, 95%CI [0.515 to 0.938], p 0.017) age group was associated with a lower intention to vaccinate. No differences in intention by gender, ethnicity or education. Having received a seasonal flu vaccine in the past year, increased exposure to media coverage and heightened concern about the outbreak, greater scientific and medical understanding of the virus, confidence in government information, and greater knowledge about the virus, all predicted increased intention to get a COVID-19 vaccine.	Pre-print paper. Recruitment via Facebook ads. Sample is unlikely to be representative. Non-probability online survey. Potential for high levels of volunteer and other biases. Can identify associations, but not causal links. Measures are self-reported Cannot assume reported acceptance or intent will translate into actual behaviour, especially when there is a time lag.
18. Williams L, et al. Towards intervention development to increase the uptake of COVID-19 vaccination among those at high risk: outlining evidence-based and theoretically informed future intervention content. *MedRxiv*. 2020.	Online survey (mix of Likert scales and free text) of 527 high-risk individuals (65+ years and those aged 16-64 with asthma or COPD) conducted early April 2020. Aim: to identify barriers/facilitators to receiving a future COVID-19 vaccine in order to provide recommendations for the design of interventions to maximise vaccine uptake by the public. 58% of respondents would definitely and 27% would probably want to receive a vaccine. Uptake positively correlated with perception that COVID-19 will continue for a long time, and negatively associated with perception that the media has over-exaggerated risk. There were no significant differences by age, gender or socio-economic status.	Pre-print paper. Convenience sample drawn from participants of ongoing research study. Identifies associations, but not causal links. Self-report measures. Cannot assume reported acceptance or intent will translate

Available here. Cross-sectional survey UK	Analysis of free text identified personal health, severity of disease and health consequences for others as reasons for uptake. Concerns about vaccine safety was a barrier to uptake. Authors conclude: mass media interventions aimed at maximising vaccine uptake should utilise behaviour change techniques of information about health, emotional, social and environmental consequences, and salience of consequences.	into actual behaviour, especially when there is a time lag.
19. Malik AA, et al. Determinants of COVID-19 Vaccine Acceptance in the US. *MedRxiv*. 2020. Available here. Cross-sectional survey USA	Online survey of 672 U.S. adults in May 2020 to understand COVID-19 risk perceptions, acceptance of a vaccine, and trust in sources of information. 450 (67%) would accept a vaccine if recommended. Males (72%), older adults ≥55 years (78%), Asians (81%), and those with ≥ college education (75%) were more likely to accept. Comparing flu vaccine uptake to reported acceptance of the COVID-19 vaccine: 1) <high school diploma 10% flu; 60% COVID-19 vaccine; 2) unemployed participants reported lower influenza uptake and lower COVID-19 vaccine acceptance when compared to employed or retired respondents; 3) Black Americans reported lower influenza vaccine uptake and lower COVID-19 vaccine acceptance than nearly all other racial groups. Authors suggest the following to build confidence in a COVID-19 vaccine: develop and test thoughtful and targeted messaging to build on the current public interest and continue the momentum past vaccine release. Messaging and education should focus on the general population as well as high-risk groups. Participants reported the highest confidence in health professionals (n = 502; 75%), their own physician (n = 471; 70%), CDC (n = 430; 64%), state health departments (n = 419; 62%), and local health departments (n = 411; 61%). They also considered health professionals (n = 503; 75%) and health officials (n = 470, 70%) the most reliable sources of information. Comparatively, 144 participants (21%) reported social media as a reliable source of COVID-19 information.	Pre-print paper. Non-probability online survey - cannot draw a representative national population sample. Potential for high levels of volunteer and other biases. Can identify associations, but not causal links. Self-report measures Cannot assume reported acceptance or intent will translate into actual behaviour, especially when there is a time lag.

20. Freeman D, et al. Coronavirus conspiracy beliefs, mistrust, and compliance with government guidelines in England. *Psychological Medicine*. 2020. Available here. Cross-sectional survey UK	A non-probability quota-matched online survey of 2501 adults in England to estimate the prevalence of conspiracy thinking about the pandemic and test associations with reduced adherence to government guidelines. Those who rated themselves as at the extreme ends of either left or right held higher levels of conspiracy thinking. A hierarchical regression showed that both the linear political item, B = -0.28, standard error = 0.05, t = -5.92, p < 0.001, and a quadratic term (the political item squared), B = 0.064, standard error = 0.01, t = 8.63, p < 0.001 were significant predictors of specific coronavirus conspiracy scores. Higher levels of coronavirus conspiracy thinking was associated with less adherence to all government guidelines and less willingness to vaccinate. Pearson's correlation with general Covid conspiracy beliefs: Accept a COVID-19 vaccine if offered 0.37, p<0.001 Try to stop family and friends from getting the vaccine -0.42, p<0.001 Higher levels are also associated being more likely to share information and opinions about coronavirus. The authors note “a substantial minority of the population endorses unequivocally false ideas about the pandemic.”.	Non-probability online survey - cannot draw a representative national population sample. Potential for high levels of volunteer and other biases. Can identify associations, but not causal links. Authors state that concerns could be "post-hoc rationalisations" of not following the guidelines.
21. Masse R, Desy M. Lay people's interpretation of ethical values related to mass vaccination; the case of A(H1N1) vaccination campaign in the province of Quebec (French Canada). *Health Expectations.* 2014; 17(6), pp.876-87.	Study of 100 participants split into 10 groups aimed at analysing the receptiveness of the French-speaking Quebec population to certain ethnical principles promoted by public health authorities during the H1N1 influenza vaccination campaign. Participants were asked five questions, of which two were relevant to vaccine hesitancy: - “What did you think of the argument stating that those who refused the vaccination were not acting responsibly and were shifting the burden of protection to others who agreed to vaccination?” - “Do you consider vaccination a civic duty?”	Limited information on methods and no discussion of potential study limitations.

Available here. Qualitative focus group study. Canada	Among those opposed to vaccination, the key factor in deciding to be vaccinated was concern for vulnerable family members. "This concern even led citizens profoundly opposed to vaccination to finally agree to it 'in order not to contaminate my own children.'..." Pressure from family and friends to be 'responsible', led some to get vaccinated to avoid feeling guilty or judged. However, others stood against this pressure using arguments about "the danger of vaccines" and "alarmist government propaganda". The majority of respondents saw this pressure as acceptable when it came from family and friends, but not when similar arguments were made by public health authorities or political figures.	
22. Public Health Wales. *How are we doing in Wales? Public engagement survey on health and wellbeing during Coronavirus measures. Week 16 (20th – 26th July 2020).* Cardiff: Public Health Wales NHS Trust; 2020. Available here. Cross sectional survey. Wales, UK.	Telephone survey of 604 adults living in Wales included two questions relevant to vaccine hesitancy: 1. *if a vaccine became available that protected against coronavirus infection, would you personally want to be vaccinated?* 83% = Yes; 10% = No; 7% = Unsure. 2. When asked *if a vaccine became available that protected against coronavirus infection, would you want your children to be vaccinated?* 78% = Yes; 8% = No; 13% = unsure.	Survey adjusted by age, sex and deprivation to be representative of population. Data for Q2 limited to those with children living in the household; excluding those responding 'not applicable'. Unweighted data. Cannot assume reported acceptance or intent will translate into actual behaviour, especially when there is a time lag.
23. Thorneloe R J, et al. Willingness to receive a COVID-19 vaccine among adults at high-risk of COVID-19: a UK-wide survey. *PsyArXiv Preprints.* 2020. Available here.	Subset analysis of a UK-wide online survey of adults conducted March-April 2020 examining the willingness of the general population to receive a COVID-19 vaccine and exploring associated socio-demographic and clinical factors Data relates to 2152/2878 participants who responded to the question: *If a vaccine was available for COVID-19, I would want to receive it'* using a five-point Likert Scale (strongly disagree → strongly agree). Responses dichotomised into willing (4 – 5) and	Pre-print paper. Non-probability online survey - cannot draw a representative national population sample. Potential for high levels of volunteer and other biases.

Cross sectional survey. United Kingdom.	unwilling/unsure1 – 3) for the main analysis. [Mean age 45.3 (SD ± 16.1); 84.4% self-reported they had not had COVID-19. In total, 76.9% (1654) classified as willing to receive a COVID-19 vaccine. Older individuals who were older (vs. younger); from white ethnic groups (vs. BAME groups); married or cohabiting (vs. single, widowed, divorced); unemployed (vs. in full or part-time employment); educated to degree level or above (vs. below degree level); a non-smoker or an ex-smoker (vs. a current smoker, for both comparisons) and; had not had COVID-19 (vs. has or has had COVID-19) were significantly more likely to be willing to have a COVID-19 vaccine. No significant difference in willingness by other variables, including high-risk group classification for both the individual and members of their household.	Can identify associations, but not causal links. Self-report measures Cannot assume reported acceptance or intent will translate into actual behaviour, especially when there is a time lag. Proportion of individuals from BAME groups was low (186; 8.7%).