

# Parental perceptions on childhood vaccination and vaccines uptake.

## Results from patient survey.

**Svetlana Lakunina**, Year 5 medical student at University of Central Lancashire  
**Dr Thanos Konstantinidis**, Consultant Paediatrician at East Lancashire Hospital Trust

### Introduction:

In 2019 WHO listed vaccine hesitancy as one of the top ten threats to global health (World Health Organisation, 2019). There is evidence of reduced uptake of routine immunisation in the local population of East Lancashire Hospital trust (ELHT) (Public Health England, 2019). Previous evidence suggests that perception influences decision to vaccinate (World Health Organisation, 2019). With the current antivax movement, there is an urge to address parental perceptions.

### Aims:

- 1. To explore the parental perceptions of childhood vaccinations at ELHT.
- 2. To improve parental understanding of vaccination and associated risks and benefits by developing a resource.

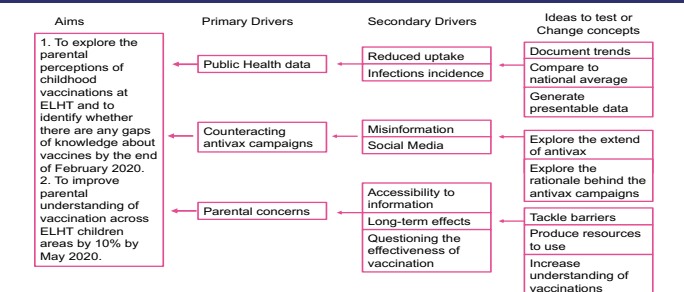


Image 1. Drivers Diagram outlining potential contributing factors to parental perceptions with potential targeted solutions.

### Methods

The baseline data was collected via anonymous questionnaire from parents at COAU and at Children's Ward. The sample size was set at 50. The survey took place between January and February 2021. Based on the feedback received from parents, we developed patient information resource that can be used by stakeholders in the community. We conducted another survey inviting parents who left their contact details to give us feedback on the content of the leaflet.

### Results

98% of participants' children are up to date with the vaccines.

Percentage of parents with vaccines knowledge

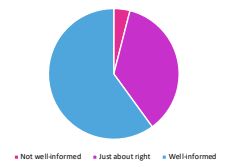


Diagram 1. Vaccines knowledge.

Percentage of parents with disease knowledge

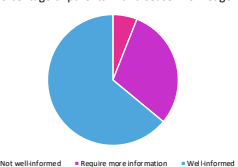


Diagram 2. Diseases knowledge.

60% of parents feel that they are well-informed about vaccines, 4% don't think they are, with 36% have just about the right amount of information (Diagram 1). 64% of parents report being well-informed about the diseases vaccines protect from, 36% would like to have more information (Diagram 2). The most common reasons for parents to withhold vaccination is an association with potential behaviour and neurological problems (32%), vaccine's non-effectiveness (16%) and harm to immunity (11%).

All of the parents participating in the online survey reported knowledge improvement after reading the resource (Image 2). Although, there was no specific feedback on improvement, one parent mentioned that the use of photos was a good strategy to emphasize the importance of vaccines.

### Conclusions

We used a patients' survey methodology to explore parental misconceptions about the safety and the risks associated with vaccinations. A lot of parents are worried about the side-effects of vaccines and lack awareness about the diseases that vaccines protect from. Our results suggest that campaigns promoting vaccinations in communities should emphasize more on benefits rising from disease-prevention as well as myths about the side effects used by the anti-vaccine campaigners. Taking this into account, we developed a patient's resource that is focusing on vaccinations, but also uses information and photographic images of the diseases the vaccines prevent.

### Truths And Myths About Vaccinations

**2018: 19.4 million children worldwide did not receive routine life-saving vaccinations. 2019: a 30% increase in measles globally. UK has lost its measles free status. 2019: WHO listed vaccine hesitancy as one of the top ten threats to global health.**

**Thoughts VS Reality**

MMR vaccine is linked to autism.	✗	Autism is diagnosed at the same age as MMR vaccine is administered.	✓
Vaccines contain Mercury.	✗	The Mercury is not part of the vaccines.	✓
Heavy metals in vaccines can cause Alzheimer's and other neurodevelopmental diseases in later life.	✗	There is no data yet to support the link between Aluminium and Alzheimer's disease.	✓
Vaccines can cause allergies.	✗	They don't cause allergies. Anaphylaxis can occur to some components.	✓
Vaccinations harm the immunity.	✗	Antigens in vaccines make our immune systems to produce antibodies that stay in the body to stop disease occurrence.	✓
Vaccines are not effective.	✗	It is the most successful and cost-effective intervention to optimize health outcomes.	✓

**Side effects.**

All vaccines.

Common:

- Pain, redness, swelling at injection site;
- Fever; Vomiting; Irritability; Crying; Loss of appetite; Diarrhea.
- Very rare:
- Anaphylaxis, Allergic reaction.

**Some examples of diseases vaccines protect from.**

Diphtheria.

- Kidney failure
- Paralysis
- Nerve damage
- Heart block
- Suffocation

"Diphtheric membrane", sore throat

Difficulty breathing and swallowing

Rubella.

- Arthritis
- Thrombocytopenia
- Encephalitis
- Myocarditis

Rash, fever, swollen lymph nodes

Tetanus.

Difficult breathing and swallowing

Muscle tears, fractures

Death

Meningitis.

- Neck stiffness, fever, photophobia, purpuric rash

Disseminated Intravascular Coagulation -> Death

- Amputations
- Deafness, blindness
- Neurological deficit, reduced IQ

**Contraindications.**

1. History of severe allergic reaction to vaccine. Precautions in pregnant and severely immunocompromised.

**Measles.**

Rash, fever, irritability

**Pneumonia -> death**

- Encephalitis
- Subsiding Paraneoplastic Myocarditis

**Mumps.**

Fever, muscle pain, swollen neck glands, orchitis

**Testicular inflammation -> infertility**

- Deafness
- Encephalitis
- Subsiding Paraneoplastic Myocarditis

**Resources to use.**

NHS, Public Health England, World Health Organisation websites.

Image 2. Information resource addressing common parental misconceptions.