Vaccine Development Terminology
(created by Tara Haelle for AHCJ)

**adverse events** -- any unpleasant thing that happens after receiving a vaccine, whether it was related to or caused by the vaccine or not

**adjuvant** – substance added to a vaccine to enhance immune response; commonly needed for subunit, recombinant, conjugate, DNA/RNA vaccines

**antibodies** – proteins created by the immune system that attack antigens. The immune cells create specific antibodies to fight specific antigens.

**antigen** – a substance on the surface of a virus, bacterium, or other pathogen that the immune system recognizes as an invader

**correlate of protection** – a measure of how many antibodies (titers) must be present or how much of an immune response is needed to prevent infection

**efficacy** – how well the vaccine performs in clinical trials; different from effectiveness, which is how well it performs in real life

**Immune enhancement (antibody-dependent enhancement)** – bindings of the virus to non-neutralizing antibodies eases the virus’s entry into cells and potentially eases replication; increases disease severity; observed with dengue fever vaccine and a cat coronavirus vaccine

**infection vs. disease** – replication of the pathogen means the person has infection even if no symptoms (disease) become apparent

**messenger RNA** – carries instructions from DNA to ribosomes (protein factories)

**neutralizing antibodies** – antibodies that successfully neutralize the virus

**passive immunity** – temporary immunity to a disease provided by antibodies created outside the body (in lab, from another person, or pregnant person to fetus)

**side effects** – adverse events that were caused by the vaccine

**spike** – the protein many researchers are targeting as an antigen on coronavirus

**sterilizing immunity** – immunity that prevents a person from ever being infected from that disease (rare)

**virus-like particle (VLP)** – non-infectious molecules that closely resemble viruses but lack genetic material