Greetings from the National Library of Medicine and MedlinePlus.gov

Regards to all our listeners!

I’m Rob Logan, Ph.D., senior staff, U.S. National Library of Medicine substituting this week for Donald Lindberg, M.D, the Director of the National Library of Medicine.

Here is what’s new this week in MedlinePlus.

The number of cases of vaccine-preventable disease is at an all time low, and related hospitalizations and deaths have declined significantly because of vaccinations, reports a recent study http://jama.ama-assn.org/cgi/content/full/298/18/2155) in the Journal of the American Medical Association.

The study notes a 92 percent decline in cases and a 99 percent drop in deaths from diphtheria, mumps, whooping cough, and tetanus since 1980. Cases and deaths from Hepatitis A and B, plus chickenpox dropped 80 percent during the same period. A vaccine for an invasive form of pneumonia also reduced cases 34 percent and deaths 25 percent.

The study’s three authors, who are from the U.S. Centers for Disease Control and Prevention, note vaccinations have almost eliminated polio, measles -- and German measles in the U.S. -- plus smallpox worldwide.

The study finds at its peak period in the 1930s, about 3000 Americans died annually from diphtheria, and whooping cough killed about 7500 persons in one year. There were no deaths from diphtheria reported in the U.S. in 2004 and there were 27 deaths from whooping cough.

In addition to their findings, the authors report other research suggests vaccines for seven of 12 routinely recommended childhood diseases result in:

- the prevention of 33,000 deaths annually and prevention of 14 million cases of disease in all children of the same age during their childhood
- a savings of $10 billion in direct health costs that it would take to care for the 14 million prevented cases
- and a savings of $33 billion in disability and lost productivity costs.

The study investigated the number of pre versus post-vaccine cases, deaths, and hospitalizations for 13 vaccine-preventable diseases. Twelve of these diseases received
vaccination recommendations for children and adults prior to 2005 -- but the year when vaccinations became common varies by disease.

The study compared estimates of the annual number of cases, hospitalizations, and deaths for pre-vaccination years with historical information. This was compared with estimated cases and deaths during peak years (whenever medical records indicate they occurred) and the most recent case, hospitalization, and death information.

The success of vaccination programs, which the authors call an ‘achievement’, is attributed to high vaccine coverage from infancy through childhood in the U.S.

Among other limitations, the authors acknowledge their research did not measure the number or cost of adverse side effects that have been associated with some vaccines. The study did not assess the relative risks -- versus the benefits -- of the vaccines for 13 primary diseases compared in the study.

The authors emphasize the study’s findings should be not interpreted to mean that vaccines extinguish their targeted diseases. The authors note lapses in vaccinations result in the return of its targeted disease, accompanied by a recovery of high rates of serious illness and deaths.

They conclude (and we quote): ‘continued efforts to improve the efficacy and safety of vaccines and vaccine coverage among all age groups will provide overall public health benefit’ (end of quote).

The benefits and risks of immunization are an integral part of MedlinePlus and one of its most consulted areas by parents. Most of the pertinent background information for parents is within MedlinePlus’ childhood immunization (http://www.nlm.nih.gov/medlineplus/childhoodimmunization.html)topic page. To find it type, ‘child immunization’ or ‘shots’ in the search box on MedlinePlus’ home page. (How is that for simplicity?) Then, click on ‘Child immunization (National Library of Medicine).’

The site contains health information such as: overviews, the latest news about routinely available vaccines, coping with injections (making it easier for a child), specific conditions (such as meningitis and pneumonia vaccines), related issues (such as combination vaccines, additives in vaccines, immunizations for babies, and vaccine shortages), recently published medical research, health check tools (such as a childhood immunization schedule), related clinical trials in your area, plus tips for children and teenagers.

There also is a link on MedlinePlus’ childhood immunization health topic page that provides specific information about many of the diseases that vaccines prevent, including:

- chickenpox
- diphtheria
- mumps
- polio
- tetanus
- and whooping cough

A list of all diseases (regardless of age) that are preventable by vaccine is provided in a site called ‘Vaccine Preventable Childhood Diseases’ (http://www.cdc.gov/vaccines/vpd-vac/child-vpd.htm) (National Immunization Program)’ provided by the U.S. Centers for Disease Control and Prevention. The information on this website includes descriptions of individual diseases with easy to read information about symptoms, complications, transmission, and the name of the appropriate vaccine.

The link to the site is within the ‘overviews’ section on MedlinePlus’ childhood immunization health topic page.

While there is ongoing controversy about vaccine safety, especially regarding thimerosal and autism (which we reported in recent podcasts), the current study in the Journal of the American Medical Association underscores the health benefits of vaccines and provides an important historical context.

For both background and pragmatic information about immunizations, we hope you find MedlinePlus is a reliable and comprehensive resource that you can use for yourself, friends and family.

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Your comments about this or any of our podcasts are always welcome. We welcome suggestions about future topics too!

Please email Dr. Lindberg anytime at: NLMDirector@nlm.nih.gov

That’s NLMDirector (one word) @nlm.nih.gov

A written transcript of recent podcasts is available. Just click on the ‘Director’s comments’ link on MedlinePlus’ home page.
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A disclaimer -- the information presented in this program should not replace the medical advice of your physician. You should not use this information to diagnose or treat any disease without first consulting with your physician or other health care provider.

It was nice to be with you….

Dr. Lindberg returns in the future.

To our readers:

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Many thanks for reading and listening to ‘Director’s Comments.’