

THE CHICKENPOX VACCINE

PROMOTING A CONTINUAL CYCLE OF TREATMENT AND DISEASE

Chickenpox vaccinations in the USA have lowered the incidence of the disease, but may shift chickenpox outbreaks to older age groups and increase the risk of shingles.

INTRODUCTION: First Do No Harm—to Pharmaceutical Industry Profits?

Prior to the acceptance of the chickenpox vaccine by the US Food and Drug Administration (FDA) on March 17, 1995, chickenpox was considered a rather mild disease. According to the Centers for Disease Control and Prevention (CDC), approximately 12,000 of four million (or 0.3 per cent of) cases of chickenpox in the United States each year resulted in hospitalisation (mainly due to infected lesions) and approximately 50 cases among children (0.0013 per cent) and another 50 out of 200,000 cases among adults (0.025 per cent) resulted in death. In other words, the risk of a child contracting and dying from chickenpox was less than the risk of being struck and killed by lightning (about 89 cases per year in the United States).

Chickenpox (or varicella) and shingles (also known as herpes zoster) are related diseases: both are caused by the varicella-zoster virus (VZV). Once a child contracts chickenpox, the virus goes dormant or inactive for a period (usually decades) and can reactivate later as shingles. Unlike chickenpox where the rash appears in different stages of development over many parts of the body, the shingles rash is often localised and occurs on one side of the body. The rash seems to arise in one or two adjacent regions of the skin (called dermatomes) along nerve routes. Shingles pain often begins with an area of the skin becoming sensitive to the touch or to clothing prior to the eruption of the rash. The pain from shingles can be excruciating and the nerve damage (known as post-herpetic neuralgia or PHN) can last long after the rash has disappeared. Shingles in children is generally more mild than in adults.

When a child becomes infected with chickenpox, the immune system is activated and cell-mediated immunity (CMI) is boosted. This boost to the immune system helps protect against further episodes of chickenpox and helps suppress the reactivation as shingles. In fact, each time a child (or adult) with a previous history of chickenpox comes into contact with another child infected with chickenpox, this outside exposure—whose source is often unknown (and chickenpox is most contagious one to two days before the outbreak of the rash)—boosts the cell-mediated immunity to VZV, which in turn helps to suppress the onset of shingles.

The United States became the first country to adopt a Universal Varicella Vaccination Program, with the recommendation to vaccinate every healthy child 12 months or older who was susceptible to chickenpox. By promoting high varicella vaccination rates, including the states mandating varicella vaccination of school-age children, chickenpox cases in many communities had declined 50–80 per cent within five to 10 years of licensure of the vaccine in 1995. On the surface, this seemed good news. While the protective immunity derived from vaccination appeared to be long term and was touted as lasting 20 or more years, this statistic was based primarily on the experience of varicella vaccination in Japan where only one in five (or 20 per cent of) children were vaccinated. Thus, vaccinees continued to be boosted for 20 years due to their periodic exposure to other unvaccinated children who continued to demonstrate a high incidence of natural chickenpox.

Since the effectiveness of the vaccine was increased when vaccinees were exposed to other children with natural chickenpox, as cases of natural chickenpox decreased it might also be expected that the protective effect of the vaccine might decline over a period of years, creating the need for a booster dose. Without such a booster dose, vaccinated children may in time become susceptible to varicella when they are older and subject to more adverse complications of chickenpox. If the chickenpox vaccine wears off in adulthood, women who contract natural chickenpox in their first or second trimester of pregnancy could also pass on their infection to the developing foetus,

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potentially causing congenital varicella syndrome—currently a rare disorder in which the newborn has severely malformed limbs or other distinctive abnormalities. Also, a mother who has been vaccinated may not pass on sufficient maternal antibody protection to her newborn, leaving the child susceptible to acquiring chickenpox during the first months of life.

It should also be considered that 90–95 per cent of the adult population with a previous history of chickenpox presently no longer receives periodic exposures (boosts) through contact with children with chickenpox. Thus, their cell-mediated immunity gradually wanes (declines), increasing their risk of shingles.

Merck Inc., the manufacturer of the varicella vaccine, has developed a "shingles vaccine" (at US\$150 per dose) to substitute for the immunologic boost that occurred naturally in the community, especially during annual outbreaks of chickenpox. The vaccine, Zostavax®, was approved in 2006 for use in adults 60 years and older. If we ignore the medical costs in treating adverse reactions associated with Zostavax and consider only the cost of the vaccine itself, the cost of preventing one case of shingles is US\$8,850 and the cost of preventing one case of moderate to severe PHN is \$150,000.

Have important research data concerning deleterious effects of the varicella vaccine been selectively omitted or suppressed from published research and reports? Has the effectiveness of the varicella vaccine decreased as cases of natural chickenpox have become rare? Have adults experienced an increased risk of shingles disease? As an "insider" who served as a research analyst and studied varicella for eight years and herpes zoster for almost three years, I address these important questions.

PART I: Seemingly Good Results from First Five Years of Study

It was January 2000 and I was very much enjoying a sixth year as research analyst for the Varicella Active Surveillance Project (VASP), based at High Desert Hospital in Lancaster, California. This project was one of three in the nation that had been funded by the CDC (Atlanta, Georgia) to study varicella—commonly known as chickenpox. The CDC was interested in our collecting data from over 300 reporting sites (including public and private schools, daycare centres, physicians, medical centres and hospitals in the region) to determine the effect that the recently introduced varicella vaccination program had on the 300,000 inhabitants of Antelope Valley, a geographically distinct high-desert community consisting of two main cities (Lancaster and Palmdale) and other scattered cities, located approximately 60 miles north of Los Angeles, California.

The other two sites selected by the CDC were located in West Philadelphia, Pennsylvania, and Travis County, Texas. These sites collected chickenpox cases from just a *sample* of the many schools and healthcare facilities in their respective regions, whereas the Antelope Valley site collected reports from virtually all the available schools and healthcare locations in its region. Thus, the Antelope Valley project was more suited for uncovering

developing trends and disease patterns from reports of chickenpox cases submitted to the project every two weeks, 26 times during each study year.

With great enthusiasm and optimism, we documented in our project how varicella disease decreased by 72 per cent in Antelope Valley, from 2,934 verified and reported cases in 1995 to just 836 cases in 2000. My superiors from the Los Angeles County Department of Health Services (LACDHS) encouraged me to submit these data and to develop other analyses for publication. In cooperating with that directive, I received credit as a co-author for the project data supplied to the CDC, which were summarised along with data from the other two sites and subsequently published in the February 6, 2002 edition of the *Journal of the American Medical Association*.¹

I continued to investigate various trends in the reported data and desired to explain the reason why the number of varicella cases had a seasonal variation: usually the highest number of cases occurred in the late spring or early winter. My model was able to predict the observed variation in cases by considering the outside air temperature and school enrolments (or population density). During the warm weather (e.g., summer months) and school breaks (e.g., holidays), varicella transmission was seen to be reduced. Using daily weather temperature data and daily average enrolments provided by the fully cooperating schools, I developed a computer simulation or model which estimated the number of cases of varicella expected to be reported each month. When compared to the actual historical figures, the estimated figures closely agreed. The CDC assigned one of their epidemiologists to refine this analysis further, a manuscript was written—crediting me as lead author—and the study was presented by the CDC epidemiologist internally at the CDC and later at a medical conference.²

Second Doses of Chickenpox

Interestingly, other project data indicated that the number of varicella patients reporting a *second* case of chickenpox increased from about five per cent in 1995 to 12 per cent in 2001. One hypothesis accounting for the occurrence of a second case of chickenpox concerns the possibility that an individual was exposed to a second varicella strain that differed significantly from the strain associated with his/her first encounter (e.g., the two strains were heterologous). Those data and analyses were provided to the CDC, and again I received co-authorship credit for a manuscript on this subject, which was published in *Pediatrics* in June 2002.³

Breakthrough Chickenpox among Vaccinated Children

When a child breaks out in a chickenpox rash 42 or more days following varicella vaccination, this is referred to as "breakthrough" chickenpox. Initially, the percentage of cases reported with natural chickenpox far outnumbered the breakthrough cases among vaccinees. As chickenpox vaccine became more widespread in the community, the situation reversed—with the majority of cases consisting of vaccinated children experiencing breakthrough disease.

VASP Collects and Publishes Valuable Data and Results

The VASP continued collecting valuable data, **which have been published or presented at various conferences; I received co-authorship credit on some of these papers.**⁴⁻⁸ I considered it a privilege to be a part of the team, which included three others in our local office: a project director and two research assistants.

In January 2000, I was encouraged when my earlier suggestion to collect cases of shingles (herpes zoster) was adopted and added to the chickenpox data collection. In retrospect, we should have been collecting shingles cases from the onset of the project in order to have a consistent methodology for determining baseline incidence rates that could be used in year-to-year comparisons. Numerous studies dating from as early as 1965 had alluded to a potential link between the two diseases: that a decrease in chickenpox incidence could give rise to an increase in shingles (see summary of references in the appendices of my complete paper at <http://www.MedicalVeritas.com/FULLNEXUS.pdf>).

PART II: Vaccine Causes a Rash of Controversy: CDC Requests a Special Study be Conducted

Up to this point, everything seemed to be going well. I was receiving positive feedback, and a letter from the LACDHS commended all of our efforts. However, things began to change when the CDC asked our project to conduct an additional study among middle school (7th–8th grade) students to determine the percentage **who** had not had chickenpox—in other words, those who were considered still susceptible to the disease. Surveys were provided to each school, asking the relevant questions in order to allow computation of the percentage of susceptible students by age and race. With the approval of the project director, an additional question was added to the survey, inquiring if the student had ever had shingles and, if so, the age at which the outbreak occurred. This was intended to provide some baseline data on shingles incidence among children and adolescents in the Antelope Valley region.

After analysing several thousand questionnaires, I wrote a manuscript that addressed varicella susceptibility as well as the incidence of shingles. To my surprise, the CDC claimed that the study was not designed to determine shingles incidence and neither the LACDHS nor the CDC expressed interest in publishing or discussing the results pertaining to shingles. The manuscript discussing varicella susceptibility was published word for word as I **had written** it, with only minor changes to a few sentences.⁹ The remainder of the manuscript on shingles was simply discarded.

No Follow-up Allowed on Recurring Shingles Cases

While preparing another annual report, I had identified 10 cases where individuals reported a **second** case of shingles. I computed the incidence of recurrent shingles in the same manner as had been done in another peer-reviewed article and requested permission from my superiors to conduct a telephone interview with each of these 10 cases to assess whether or not they had some pre-existing or underlying condition that might have suppressed their immune system. Despite our calling 10,000 parents/caregivers of children with chickenpox, no permission was granted to contact these 10 individuals. Further, this analysis was also deleted from the annual report without explanation.

Suppression of Reports Leads to Resignation

At the beginning of 2001 and again in 2002, after one and two years of shingles data collection, I submitted manuscripts for review by my superiors and subsequent approval for publication by the CDC. These manuscripts discussed preliminary data describing potential deleterious effects of the Universal Varicella Vaccination Program. (The biological mechanism supporting these observations had **already been explained** in the scientific and medical journal literature; see references in the appendices of my complete paper at <http://www.MedicalVeritas.com/FULLNEXUS.pdf>.) Unlike previous analyses of the positive aspects of vaccination, these manuscripts were treated **very** differently. By October 2002, I felt that I could no longer conduct research objectively; and with the submitted manuscripts still pending formal review, I resigned from the VASP, citing my ethical compromise.

In my letter of resignation, I stated: "Whenever research data and information concerning potential adverse effects associated with a vaccine used in human populations are suppressed and/or misrepresented by health authorities, not only is this most disturbing, it goes against all accepted scientific norms and dangerously compromises professional ethics."

Notice to "Cease and Desist" from Publication

Following my resignation, I submitted final versions of four manuscripts that had been awaiting review for the past one to two years during my employment to both the LACDHS and the CDC, notifying them of pending publication and making inquiry as to whether other individuals desired authorship credit. When there was no response, I submitted the manuscripts for publication. All four manuscripts were peer reviewed and published in *Vaccine*, a medical journal based in the UK and known throughout

Europe.¹⁰⁻¹³

Following the acceptance of the first three manuscripts,¹⁰⁻¹² I received a letter from the Los Angeles County legal department on behalf of the LACDHS, requesting that I "cease and desist" publication in a medical journal. My attorney filed a response citing the possibility of litigating based on state and federal False Claims Acts and calling upon Dr Philip R. Krause, lead research investigator at the FDA's Center for Biologic Evaluation and Research, to testify as an expert witness in support of my findings. The "cease and desist" issue appeared to have ended with no further response forthcoming from the LA County legal department.

CDC Intervenes and Slurs Author's Reputation

However, prior to publication of the fourth manuscript and after I had received a letter of acceptance from the editor of *Vaccine*, the CDC attempted to block publication of this manuscript by calling the Life Sciences editor of Elsevier, which oversees publication of *Vaccine*. Again my attorney intervened, asking the CDC if it served on the editorial board of *Vaccine*. After a year's delay, the manuscript was finally released for print publication in May 2005. The basic analysis for this manuscript had been outlined in 2001 while I was serving as research analyst.¹³

The CDC next attempted to slur my reputation by stating that I was merely a "data manager having no input into the studies". In

reality, I was responsible for submitting the background material suggesting that herpes zoster be included in active surveillance beginning with the new project cycle starting in January 2000.

The CDC then wrote a letter for publication to *Vaccine*, additionally expressing dissatisfaction with the first three manuscripts but providing criticisms with respect to only one of those manuscripts.¹¹ I happened to be perusing the list of manuscripts to be published in *Vaccine* when I located the CDC's letter and wrote to the editor of *Vaccine*, stating **that** it was customary to allow the author an opportunity to provide a related rebuttal. The editor agreed that this was ethical procedure and within several days I submitted a point-by-point rebuttal to each of the specious arguments that the CDC had presented in **its** letter. My attorney communicated with the CDC legal department, which agreed that my characterisation as a "data manager with no input into the studies" was untrue; and so a correction was made prior to publication of the CDC letter, which appeared with my rebuttal immediately following.¹⁴

The historical fact was that in addition to developing the entire project's database and overseeing data entry, I implemented numerous statistical programs (including capture-recapture with 95 per cent goodness-of-fit-based confidence intervals, or CIs, as described by Dr E. B. Hook and Dr R. R. Regal), analysed and summarised household contact information, studied breakthrough varicella, lesion severity, vaccine efficacy, seasonal incidence patterns, outbreaks among schools, and much more. I also participated in project presentations and on-site seminars at the CDC, **and** provided suggestions regarding methodology. I wrote the preliminary justification for adding herpes zoster to the active surveillance and contributed much more than act as a "data manager with no input into the studies".

I considered I had certainly fulfilled all my ethical obligations and responsibilities. But then the CDC published a new article on contagiousness of varicella in household settings.¹⁵ This research article stated that the vaccine was highly effective and that the efficacy (effectiveness) of the varicella vaccine did not significantly change over the period 1997 to 2001. I recalled having collected these data and transmitted them to the CDC to **permit independent** analysis. Early in 2002, I had performed a data analysis of vaccine efficacy and placed my report in a

notebook containing other manuscripts awaiting review. Just like the other manuscripts discussing shingles, this **manuscript was not** reviewed and the summary of vaccine efficacy by year was also deleted from the annual report without explanation. The results and trends that I had previously derived and confirmed with a CDC data manager were so very different from those currently presented in the CDC article that I was compelled to publish a fifth manuscript in the **peer-reviewed *International Journal of Toxicology*** (July–August 2005).¹⁶ This manuscript demonstrated how important trends in the data had been masked in the CDC's article and other presentations concerning the incidence of herpes zoster.

PART III: What the Public Was Not Supposed to Know: Chickenpox Vaccine Effectiveness Declines

The CDC's contagiousness article states: "...finding no trend, we conducted subsequent analyses for the 5-year period [1997–2001]". Yet, interesting trends became apparent when using the exact same database; the vaccine effectiveness was stratified or computed by each year.

With reference to Table 1, notice that the vaccine efficacy increased to a high of 95.7 per cent in 1999, and then decreased to 73.9 per cent and 58.4 per cent in 2001 and 2002 respectively. The initial increase in vaccine effectiveness or efficacy demonstrates the "honeymoon"

effect, whereby there is a relatively brief period following the introduction of the chickenpox vaccine during which time vaccinated children receive additional immune boosting by virtue of their contact with children having natural chickenpox. During 1999 and thereafter, the number of children reported as having natural chickenpox dramatically declined (along with the boosting effect), and this contributed to the statistically significant downward trend in vaccine effectiveness.

There is a legitimate concern that vaccinated children will be left unprotected and may prove to be susceptible to chickenpox as adults, when chickenpox can be a more serious illness if contracted then.

VASP/CDC Reports are Misleading

Civen et al.¹⁷ report an incidence of shingles of 40 **per** 100,000 among children in Antelope Valley, where vaccine coverage exceeds 80 per cent. These authors also report incidence of shingles of 45 **per** 100,000 among individuals aged 10 to 19 years, a group which is largely unvaccinated but has had a previous experience of natural chickenpox. Notice there is hardly a difference in incidence rates between these groups despite differences in their vaccination status.

There are two fundamental problems with the manner in which these figures were derived. First, Civen et al. assume that 100 per cent of shingles cases are voluntarily reported to VASP. This assumption is rarely true in any study. Because there were two reporting sources (schools and healthcare providers), a statistical technique known as capture-recapture can be used

Table 1: Vaccine efficiency (efficacy) by year, 1997 to 2002, in households with contacts less than 20 years old and verified cases of chickenpox reported in 5–18 year olds, Antelope Valley, California.

Year	Vaccine Efficacy (95% confidence interval)	Verified Cases of Chickenpox
1995	—	1,290
1996	—	1,201
1997	86.7 (75.0–92.9)	1,095
1998	93.7 (83.2–97.7)	92
1999	95.7 (82.7–98.9)	330
2000	85.5 (73.9–92.0)	485
2001	73.9 (57.9–83.8)	442
2002	58.4 (13.7–79.9)	Figure n/a

to quantify the percentage of **underreporting**, which was estimated to be about 50 per cent. Without adjusting for underreporting, incidence rates reported by the VASP merely reflect the case ascertainment and cannot be compared to other studies.

Second, Civen et al. present what is called an average (or mean) of a bimodal incidence rate. To illustrate why this is statistically invalid, consider that when the same data are stratified by vaccination status, this yields an estimated rate of 22 cases of shingles per 100,000 among vaccinees and 223 per 100,000 among children with a previous history of natural chickenpox. Combined, the weighted average of these two very different incidence rates is 52 per 100,000; however, this rate is not representative of the rate in either of the two diverse groups. Reporting the single figure masks the high trend in shingles incidence among unvaccinated children with a previous history of natural chickenpox—which could have major implications for adults, 90–95 per cent of whom have had previous histories of chickenpox. Also masked is the positive statistic that shingles among vaccinees is currently **1/10th** (22/223) the risk in children with a previous history of natural chickenpox based on the above figures.

Interestingly, the CDC reports 2.6 cases of shingles per 100,000 doses using the VAERS (Vaccine Adverse Event Reporting System) database.¹⁸ This database is notorious for reflecting only 5–10 per cent of the actual adverse events, since reporting to VAERS is voluntary and not enforceable.

CDC's Criticisms Unfounded

My manuscripts were initially criticised for presenting preliminary shingles data and analyses based on the collection of two years of data among a population of 318,000, of which 118,685 were individuals under the age of twenty. Yet, when the data supported its agenda, the CDC utilised a very small study (Behavioral Risk Factor Surveillance System, BRFSS) that consisted of only 4,916 and 3,123 respondents aged one to 19 years in 1999 and 2000 respectively. The sample size was too small in this study for any valid conclusions to be drawn. Any statistician would agree that there was insufficient statistical power to state "No increase in shingles has occurred". Yet, this is precisely what the CDC related to other research and media sources. Unlike the situation involving the role that temperature and school enrolment played on the seasonality of chickenpox, suddenly the CDC epidemiologist assigned to assist on that study became unavailable to assist with investigations concerning shingles.

Increased Shingles Risk Among Adults

In Antelope Valley, shingles cases among adults 20 years and older increased 17.7 per cent from 237 cases reported in 2000 to 279 in 2001. The 370 shingles cases reported in 2002 represented an increase of 32.6 per cent over those reported in 2001 and 56.1 per cent over those reported in 2000. In 2005, the CDC presented corroborating data from a large population study that demonstrated a 90 per cent increase in adult shingles during a period of increasing vaccination coverage (1998–2003).¹⁹

Breakthrough Cases Not Easily Recognised

While chickenpox outbreaks may appear to be greatly reduced, very light breakthrough cases are no longer easily recognised as chickenpox and appear as "insect bites" or other localised rashes. Children are becoming infected with the wild-type or natural chickenpox virus when exposed to either a child with natural chickenpox or an adult with shingles. When this occurs, the vaccinated child is subject to the higher incidence of shingles that is associated with the natural chickenpox virus which then dominates the attenuated vaccine (or Oka) strain.

Varicella Hospitalisations and Deaths have Decreased

While hospitalisations and deaths due to chickenpox have decreased after the introduction of the varicella vaccine program, the impact on shingles has not yet been considered. It is estimated that there are three times as many hospitalisations and four to five times as many deaths from shingles as from chickenpox.²⁰ Therefore, a small increase in the number of shingles cases could offset the cost-benefit of eliminating four million cases of chickenpox—at least until the entire adult generation dies out and has been replaced by vaccinees. Since those children receiving only one vaccine may be susceptible as adults, hospitalisations and associated costs could increase in the future since there is 20 times more risk of complications in chickenpox cases among adults compared to children.

Adverse Events Mitigate against Discovery of the True Costs and Benefits of Varicella Vaccination

Varicella vaccination is generally considered safe²¹ but there are usually no pre-screening tests to determine whether an adverse reaction is likely to occur.²² The literature contains a surprising number of adverse reactions following varicella vaccination^{23–34} including vaccine-strain herpes-zoster (HZ) in children and adults.^{35–36}

The Advisory Committee on Immunization Practices (ACIP) states: "Vaccine Adverse Event Reporting System (VAERS) data are limited by

underreporting and unknown sensitivity of the reporting system, making it difficult to compare adverse event rates following vaccination reported to VAERS with those from complications following natural disease. Nevertheless, the magnitude of these differences makes it likely that serious adverse events following vaccination occur at a substantially lower rate than following natural disease."³⁷

Since follow-up is not conducted, it may be argued that some reports may not be attributed to or associated with vaccination, and therefore the true rate of adverse events is essentially unknown. Nevertheless, adverse reactions reported in VAERS have typically been shown to be only five per cent or 10 per cent of the true rates. The lot number associated with each vaccine is recorded in the VAERS database. However, the CDC and FDA have never required the vaccine manufacturers to divulge publicly the number of vaccines contained in a given lot. This prevents researchers from determining "hot lots", since calculation of the number of adverse reactions per lot is not possible.

Table 2 presents a comparison of the number of adverse reactions reported to VAERS for the varicella vaccine with four other different vaccines. The high mean of 2,980 reports per year is attributed to the hepatitis B vaccine, followed next by a mean of 2,350 reports per year attributed to varicella vaccine. The first report of an adverse reaction following varicella vaccination was filed with VAERS (ID 74221) on May 26, 1995. This three-and-a-half-year-old boy from Georgia, who had no pre-existing conditions, received a dose of varicella vaccine on May 12, 1995. He developed convulsions the following day, was hospitalised and reportedly recovered.

Many physicians consider vaccination extremely safe, and parents or patients are not provided with information regarding potential adverse outcomes. Since varicella disease is relatively benign, only a few serious adverse reactions might offset the intended benefits.

A postmarketing evaluation by Black et al. concluded that the varicella vaccine was safe based on VAERS reports.³⁸ Admittedly, the spontaneous reporting in general and VAERS in particular are unreliable. Thus it is illogical for the FDA and the CDC to acknowledge these limitations, yet state that VAERS serves "to reassure the general public concerning the safety of a new vaccine"³⁹—basing assessment of the safety of the varicella vaccine only on an analysis of VAERS.⁴⁰

Clinical descriptions of five different serious adverse effects that followed varicella vaccination, as well as scientific literature concerning other adverse reactions and vaccine-related complications, are provided in the appendices of my complete paper (see <http://www.MedicalVeritas.com/FULLNEXUS.pdf>).

PART IV: Conclusions

Prior to the universal chickenpox vaccination program, 95 per cent of adults experienced natural chickenpox (usually as school-age children), which was usually benign and which resulted in lifetime immunity. This high percentage of lifetime immunity has been compromised by mass vaccination of children, which provides at best 70–90 per cent immunity that is temporary and of unknown duration, shifting chickenpox to a more vulnerable adult population where it carries 20 times more risk of death and 15

times more risk of hospitalisation compared to children. Add to this the adverse effects of both the chickenpox and shingles vaccines as well as the potential for increased risk of shingles for an estimated 30 to 50 years among adults. The Universal Varicella (chickenpox) Vaccination Program now requires booster vaccines that are less effective than the natural immunity that existed in communities prior to licensure of the varicella vaccine. Routine vaccination against chickenpox has produced continual cycles of treatment and disease.

Rather than information being presented so that the parent or public is truly informed, only selective information from studies is typically chosen for publication. Data, analyses, results and conclusions that are supportive of a vaccine are desired by the sponsoring agency to promote vaccination; while deleterious aspects are often rarely investigated and, in the few instances where they are objectively pursued by conscientious scientists and researchers, the results are often suppressed, since these are seen as having a potentially negative impact on vaccination uptake rates.

Rather than depicting a true cost-benefit scenario, public health officials in increasing numbers appear to be unduly influenced by conflicts of interests with the pharmaceutical industry itself and the pursuit of profits regardless of the negative impact and adverse consequences to public health. These considerations are not limited solely to the Universal Varicella Vaccination Program, but to other vaccination and drug programs as well. What has been previously outlined represents merely the tip of the iceberg.

Cost-benefit analyses of varicella vaccination appear optimistic, but they fail to factor in the resulting deleterious effects. Analyses of the Universal Varicella Vaccination Program in the US have also failed to consider the potential effect on the closely related shingles disease. Outside exposures to children with natural chickenpox previously contributed a significant immunologic boosting effect that helped suppress or postpone the reactivation of VZV as shingles among adults. In the US where vaccination coverage is increasing, and since natural chickenpox has been dramatically reduced in many communities, immunologic boosting via periodic exposures to children with natural chickenpox is becoming rare, causing a need for booster chickenpox vaccinations in children (recommended at four to six years) and shingles vaccinations among adults.

There was a time not so long ago when parents could place their implicit trust in their healthcare provider to make the best informed choices with respect to recommended interventions and procedures. With conflicts of interest plaguing the current healthcare system, studies often report flawed conclusions that are biased toward promoting pharmaceutical products. Public health policies based on study outcomes that are not objectively obtained and which have been manipulated toward promoting vaccination based on flawed underlying assumptions of vaccine policies are surfacing with greater frequency—

Table 2: VAERS reports associated with varicella, DTaP, hepatitis B, Hib and MMR vaccines through December 2003.

Vaccine type	No. of reports	Date of first report	Duration (years)	Mean cases/year
Varicella	20,004	12 May 1995	8.5	2,350
DTaP ^a	23,886	2 Apr 1992	11.4	2,080
Hep B ^b	41,708	25 Jan 1990	14.0	2,980
Hib ^c	25,060	2 Jan 1990	14.0	1,790
MMR ^d	31,132	17 Nov 1989	14.0	2,220

a. Diphtheria and tetanus toxoid and acellular pertussis

b. Hepatitis B

c. *Haemophilus influenzae* type b

d. Measles–Mumps–Rubella

Source information from US Government VAERS database, 1990–2003, <http://www.medalerts.org/vaersdb>

demonstrating the need for parents to exercise caution, do careful research and take a more prominent role when it comes to making healthcare decisions for themselves and their loved ones.

A key that a problem exists is seen in the statistic from the US Department of Education, indicating that the number of cases of autism among individuals aged six to 21 in US schools increased from 12,222 in 1992–1993 to 118,602 in 2002–2003, an overall increase of 870 per cent. **Furthermore, despite its spending the most income per capita on healthcare, the US is ranked lower than many industrialised nations in infant mortality, at 6.63 deaths per 1,000 live births, and is even ranked lower than some countries that are relatively poor, including Cuba at 6.45 per 1,000, according to a 2005 estimate.**³⁸ Public health officials claim the **cause/causes is/are** largely unknown.

The journal *Medical Veritas* (where *veritas* is Latin for "truth") was started in April 2004 to assist in the goal of providing research that is free from conflicts of interest with the pharmaceutical firms and fostering the belief that a better-informed public will help to ensure better medical practice. ∞

About the Author:

Gary S. Goldman graduated with honours in 1977 from California State University, Fullerton (CSUF), with a double major: a BS Engineering (electronics emphasis) and a BS Computer Science. He holds a PhD in Computer Science, received in 1981 from Pacific Western University in Los Angeles, California, USA.

In 1980, as Vice-President of Systems Development at Cascade Graphics Development, he developed the first microcomputer-based computer-aided drafting (CAD) system (prior to the well known AutoCad product). Dr Goldman holds a US patent (#4,223,255, granted in September 1980) for a micro-programmed, high-efficiency motor-in-a-wheel called "Power Wheel", for use in electric vehicular applications. This invention was featured on the front cover of the Fall 1980 issue of *Science and Mechanics*.

For 30-plus years, Dr Goldman has served as a computer **consultant**, responsible for the automation of a wide variety of businesses, improvements in production and conversion of databases. He has authored and presented numerous manuscripts

contributing to engineering and computer science disciplines and enjoys writing heuristic programs.

Dr Goldman served for eight years (from January 1995 until his resignation in October 2002) as Research Analyst for the Varicella Active Surveillance Project in Antelope Valley, in a cooperative project with the Centers for Disease Control and Prevention (CDC, Atlanta, Georgia). A new book based on his research, *The Chickenpox Vaccine: A New Epidemic of Disease and Corruption*, by Mark Orrin, is available at <http://www.injectionbook.com/chickenpoxvaccine.html>. The book was an award-winning finalist in the Current Events: Political/Social category of the National Indie Excellence 2007 Book Awards.

Presently, Dr Goldman serves as a consulting computer scientist and is on the board of directors of Pearblossom Private School, Inc., which provides distance education to over 5,000 independent study students each year in grades K through 12 throughout the USA (see website <http://www.PearblossomSchool.com>). He is also Editor-in-Chief of the peer-reviewed journal *Medical Veritas: The Journal of Medical Truth* (<http://www.MedicalVeritas.com>). He has served as a reviewer for the *Journal of the American Medical Association*, *Vaccine* and *The American Journal of Managed Care*. He is included on the Editorial Board of *Research & Reviews in BioSciences*. His biography is included in *Who's Who in Science and Engineering* (Marquis, 8th Edition, 2005–2006) and *Who's Who in the World* (Marquis, 23rd Edition, 2006).

Dr Goldman has recently contributed 18 articles, **presentations and** abstracts (nine in which he served as the lead author) on varicella vaccination, herpes zoster, capture-recapture techniques as well as other vaccine-related topics; the majority of the articles were published in peer-reviewed medical journals in the US and UK between 2000 and 2006. He can be contacted via his website <http://www.drgoldmanonline.com/> or at pearblossominc@aol.com.

Editor's Note:

Due to space constraints, we are unable to publish the complete version of this paper with endnotes and appendices including case studies and references; it is available at <http://www.MedicalVeritas.com/FULLNEXUS.pdf>.