regnancy registries are valuable sources of information, and for many drugs and vaccines they are the primary source of human pregnancy experience. The strengths of these registries are their prospective nature-women are enrolled before the outcome is known-and enrollment is over a wide geographical area.

Typically, two types of pregnancy outcomes are obtained: outcomes with birth defects and outcomes without known birth defects. The latter comprises live births, fetal deaths, and spontaneous abortions.

Registries can identify early signals of ter-

atogenicity, but they have several limitations. They depend on voluntary reporting, which results in selection bias, and they are not representative of target populations.

EXPERT COMMENTARY **Pregnancy Registries**



those with documented outcomes. Furthermore, registries lack details on elective terminations and fetal deaths without birth defects, and all spontaneous abortions. Finally, with some exceptions, they usually lack control groups. Because the total number of exposed

Pregnancies that are lost to follow-up

may have had different outcomes than

pregnancies is unknown, data from a registry cannot be used to calculate prevalence of an outcome, but the data can be used to estimate the proportion of birth defects. Some registries also collect data on retrospective re-

ports, which are less representative of the target population because they can be biased toward the reporting of more unusual and severe outcomes. However, they may be helpful in detecting unusual patterns of birth defects.

In the chart below are the pregnancy registries listed on the Food and Drug Administration Web site, which provides additional details on the registries, such as fax numbers, links to other Web sites, and mailing addresses (www.fda.gov/womens/registries).

Because the strength of a registry is based on numbers, I encourage health care professionals to enroll appropriate patients in these registries whenever possible.

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	Registrie	es/Studies	
Organization of Teratology Information Specialists (OTIS)* Autoimmune Diseases Study		Merck Pregnancy Registry Program	(800-986-8999)
(877-311-8972)		Chickenpox	Varivax vaccine
Rheumatoid arthritis, psoriasis, psoriatic arthritis, ankylosing spondylitis Leflunomide (Arava), etanercept (Enbrel), adalimumab (Humira), abatacept (Orencia)		MMR and chickenpox	ProQuad vaccine
		Herpes Zoster	Zostavax vaccine
		Human papilloma virus (HPV)	HPV vaccine (Gardasil)
OTIS Vaccinations in Pregnancy Study	(877-311-8972)	Type 2 diabetes	Janumet (sitagliptin/metformin)
Tetanus, diphtheria and pertussis, influenza, and/or meningococcal vaccines		Type 2 diabetes	Januvia (sitagliptin)
*includes control groups and dysmorphology examinations of exposed infants		Migraine headaches	Maxalt (rizatriptan)
Motherisk Program*	(800-670-6126)	Asthma	Singulair (montelukast)
Vaccines	Hepatitis B vaccine (includes Twinrix)	MPS VI Clinical Surveillance Program	
Toe and nail fungal infections	Lamisil	Maroteaux-Lamy syndrome (polydystrophic dwarfism or mucopolysaccharidosis VI [MPS VI])	
Weight loss	Meridia (sibutramine)	Galsulfase (naglazyme)	
Asthma	Singulair (montelukast)	clinicaltrials.gov/ct/show/NCT00214773?order=2	
includes control groups		National Transplantation Pregnancy Registry	
Kendle International Pregnancy Registries		Antirejection drugs	
HIV/AIDS (800-258-4263)	Antiretroviral agents	(877-955-6877)	
Migraine headaches (800-336-2176)	Imitrex (sumatriptan) and Amerge	Raptiva Pregnancy Registry	
	(naratriptan)	Chronic plaque psoriasis	Efalizumab (Raptiva)
Multiple sclerosis (800-478-7049)	Betaseron (interferon beta-1b)	(877-727-8482)	
Partial onset seizures (888-537-7734)	Keppra (levetiracetam)	Rebif Pregnancy Registry	
Partial seizures (800-336-2176)	Lamictal (lamotrigine)	Multiple sclerosis	Interferon beta-1a (Rebif)
Hepatitis C (800-593-2214)	Copegus (ribavirin)	(877-447-3243)	
Depression (800-336-2176)	Wellbutrin and Zyban (bupropion)	Tysabri Pregnancy Registry	
Amevive Pregnancy Registry (866-834-7223)		Multiple sclerosis	Natalizumab (Tysabri)
Chronic plaque psoriasis	Amevive (alefacept)	(866-831-2358)	
Avonex Pregnancy Registry (800-811-0104)		Neoral Pregnancy Registry	
Relapsing forms of multiple sclerosis	Avonex (interferon beta-1a)	Psoriasis and rheumatoid arthritis	Cyclosporine (Neoral)
Cooper Health Cancer and Childbirth Registry		(888-522-5581)	
Cancer medicines	(856-757-7876)	Twinrix Pregnancy Registry	
Fabry Registry (800-745-4447, ext. 15500)		Hepatitis A & B Prevention	Hepatitis A/hepatitis B vaccine (Twinrix)
Fabry disease	Fabrazyme (agalsidase beta)	(888-522-5581)	
Hurler-Scheie Syndrome/Mucopolysaccharidosis	I Aldurazyme (laronidase)	Xolair Pregnancy Registry	
Massachusetts General Hospital* AED Pregnancy Registry (888-233-2334)		Asthma	Omalizumab (Xolair)
Antiepileptic drugs		(866-496-5247)	
*includes comparison group			

Simplicity Is Key to Cutting Office Wait Times for Patients

BY TIMOTHY F. KIRN Sacramento Bureau

The idea seems simple enough, but the improvement in waiting times for lab tests for the patients of Dr. S. Germain Cassiere has been dramatic.

As in many medical offices, his patients for many years had signed in on a sheet of paper to let the receptionist and technicians know they were there, he said. Then the patients waited for an average of 25-30 minutes, and often longer on busier days, such as Monday and Tuesday.

Dr. Cassiere's solution was to put a computer terminal with a touch screen in the waiting room to replace the paper sheet. "The patients use the wall-mounted touch screen as a keyboard to enter their names and select what services are needed," said Dr. Cassiere, who works in a six-physician general internal medicine practice in Shreveport, La. "The completion of this one-page data entry generates a record in the database for that particular outpatient service center.'

The technicians can see on their own computer screens the names of waiting patients and when they arrived. After patients have been called in and had their blood drawn, the technician logs them out with a click on the screen.

A program called LABRATS (Lab Registration Access Touch Screen) tracks each part of the process and can report an hourly patient count, record the number of registration technicians and phlebotomists present, and calculate the average time for every step. Monthly reports, which allow the lab staff to track trends, showed that Mondays and Tuesdays are the busiest, and therefore may require more personnel.

Because of the system, the average wait time for lab tests has declined 40%, to an average of about 18 minutes. The technicians and phlebotomists appreciate being accountable, knowing how they are doing, and showing their efficiency, Dr. Cassiere said.

He also believes the patients appreciate it. "They notice it takes less time," he said. "No one likes to wait."

After patients are finished having blood drawn for tests, they are deleted from the system, so there is no conflict with HIPAA confidentiality rules, he noted.

When Dr. Cassiere first proposed the computerized system, there was skepticism from some in administration and the information technology department at Willis-Knighton Health Systems, the health services provider he works with, regarding feasibility and patient acceptability of this process.

Dr. Cassiere took that as a challenge. He developed the system himself using the same Nexus Database System he had previously used to develop a message-tracking system to log incoming phone calls so they are returned more reliably.

The LABRATS system has worked so well that it has been adapted for use in the general admission process and is now being deployed for use in all 12 outpatient centers of the health service, he said.