# Clinical pathology selected abstracts

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## Hepatitis C and HIV combined screening in primary care

May 2021—Hepatitis C virus and HIV continue to be major causes of disease worldwide, and a delay in diagnosis is associated with an increase in mortality and a higher probability of viral transmission. The rate of late diagnosis of HIV is approximately 50 percent in Western countries, and there is no clear screening strategy for patients who are asymptomatic and have no clinical signs or symptoms of infection. The authors also reported that about 71 million people have HCV, and early diagnosis can benefit those infected by reducing long-term effects of the illness, including cirrhosis and hepatocellular carcinoma. Some European guidelines, including those from Spain, recommend targeted screening of HIV and HCV in populations with a high rate of known prevalence of infection or risk behaviors. Due to the similarity of risk factors in HIV and HCV, an overlapping screening service has been proposed for primary care centers in Spain. The authors conducted a study to evaluate the impact of a targeted HCV and HIV screening program in primary care using a self-administered risk-assessment questionnaire and rapid point-of-care testing. The goal of the study was to demonstrate that a structured screening program would generate higher screening and diagnosis rates for HIV and HCV infection compared to a program based exclusively on educational strategies. The authors conducted a prospective, cluster randomized study with an intervention arm that included a four-hour educational program, use of the risk-assessment questionnaire, and rapid HIV and HCV tests. In the control arm, only the educational intervention was provided. The primary care centers used in the study were blindly randomized to the intervention or control arm. The authors compared the screening coverage, defined as the proportion of people screened with the questionnaire out of the total number of primary care clinic attendees, and the number and rate of new HCV and HIV diagnoses per 100,000 visits. Of 7,991 participants in the study, all of whom completed the questionnaire, 4,670 (58.5 percent), who were considered at risk for HIV, answered at least one question affirmatively and 2,894 (36.2 percent) answered any HCV-related questions affirmatively. The authors performed an HCV test on all study participants over 50 years old, regardless of their questionnaire responses. The overall screening coverage was higher in the intervention arm (odds ratio, 17.7; $P<.001$) than in the control arm. Two HIV-positive patients were identified in the intervention centers compared with one in the control centers. The rate of HCV diagnosis was higher in the intervention centers, with 37 positive results versus seven positive results in the control centers (odds ratio, 5.2; $P<.001$). Of the former, 10 were new diagnoses and 27 were previously diagnosed but not linked to care for HCV. Use of the self-administered questionnaire and rapid test had a clear impact on the diagnostic rate for HCV infection but less so for HIV since the latter was of low prevalence in the study population. The authors reported that this is the first study to evaluate HCV/HIV screening in the primary care setting. They concluded that a simple operational program can lead to an increase in HCV and HIV screening rates compared with educational programs alone. In particular, selecting at-risk patients based on a self-administered risk-assessment questionnaire and using a rapid point-of-care test may significantly increase the diagnostic rate for HCV infection.

Martinez-Sanz J, Vivancos MJ, Sanchez-Conde M, et al. Hepatitis C and HIV combined screening in primary care: A cluster randomized trial. *J Virol Hepatol*. 2021;28:345–352.

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## Implementation of a standardized prenatal testing protocol

Prenatal testing is crucial to following patients who may be at risk for hemolytic disease of the fetus and newborn. The disease occurs when maternal antibodies are formed against paternal RBC antigens and cross the placenta, causing fetal hemolysis. Its presentation ranges from mild hemolysis to hydrops fetalis and death. Extra fluid in the stomach, lungs, or scalp can cause hydrops fetalis, a condition that results in severe fetal edema. Maternal RBC

alloimmunization occurs after pregnancy, transfusion, or transplantation and has prevalence rates of 0.4 to 1.3 percent. The most common antibodies associated with hemolytic disease of the fetus and newborn (HDFN) are anti-E, anti-M, anti-D, anti-K, anti-c, and anti-Le$^{a}$. The risk of these antibodies causing HDFN is usually related to the maternal antibody titer during pregnancy. Higher titers often require intensive fetal monitoring. The authors described how their newly integrated multihospital health care system standardized its protocols for prenatal testing. The health care system comprises an academic tertiary care main hospital, eight regional community hospitals, and 19 outpatient health centers. The authors assigned each hospital in the health care system to a service tier and developed processes for referring samples to those hospitals based on tier. They focused on improving uniformity, efficiency, and reliability in prenatal testing. This was essential because prior to forming an integrated system, the hospitals had marked differences in tests and services offered on site, testing media and protocols, and practices for interpreting and communicating prenatal test results. Under the new arrangement, the main hospital blood bank was designated as a reference laboratory (tier three) for the other hospitals because it was the main practice site for the transfusion medicine specialists. The main laboratory performed antibody titration testing and served as the designated hospital for the intrauterine transfusion and neonatal exchange transfusion services. Throughout the health care system, the team implemented a special ordering code for prenatal blood type and antibody screen to ensure appropriate routing of follow-up testing. The authors found that standardizing protocols for prenatal blood bank testing benefited patients and clinicians by providing clear and consistent guidance on managing common prenatal antibodies. The protocols also helped define a critical titer, provided criteria to identify passively acquired anti-D antibodies, and laid out a process for the follow-up of women with inconsistent Rh(D) typing. The authors concluded that close collaboration with clinical services allowed their health care system to improve prenatal patient services. They suggested that their plan may benefit pathologists who encounter similar challenges in other multihospital health care systems.

Sapatnekar S, Lu W, Bakdash S, et al. Implementation of a standardized prenatal testing protocol in an integrated, multihospital health system. *Am J Clin Pathol*. 2021;155:133–140.

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