

The CDC Infectious Diseases Laboratory Test Directory has been updated. Several Test Orders within the directory have updated information. Most changes are minor updates such as updated contact information. Below we have listed the major changes, which include Test Order name changes, new Test Orders, and deleted Test Orders.

Updated Test Orders

The following Test Order names have been changed:

Test Order Code	Old Test Order Name	New Test Order Name
CDC-10103	Neisseria gonorrhoeae Study	Neisseria gonorrhoeae Surveillance Study
CDC-10119	Vibrio cholerae ID, Serotyping, and Virulence Profiling	Vibrio cholerae Identification and Subtyping
CDC-10123	Yersinia (non-Y. pestis) and Other Enterobacterales Identification	<i>Cronobacter</i> , <i>Yersinia (non-Y.pestis)</i> , and Other <i>Enterobacterales</i> Identification
CDC-10124	Yersinia (non-Y. pestis) and other Enterobacteriaceae subtyping	Yersinia (non-Y. pestis) and Other Enterobacterales Subtyping
CDC-10127	Campylobacter, Helicobacter, and Related Organisms Subtyping	Campylobacter, Helicobacter, and Related Organisms Identification and Subtyping
CDC-10129	Listeria monocytogenes Identification and Subtyping	Listeria monocytogenes Identification
CDC-10131	HPV Special Study	Human Papillomavirus (HPV) Special Study
CDC-10135	Gram Negative Bacillus (Non-enteric/Nonfermenter) ID	Gram Negative Bacillus (non-enteric/nonfermenter) Identification
CDC-10136	Corynebacterium species (Not C. diphtheriae) ID	Corynebacterium species Identification (not C. diphtheriae)
CDC-10137	Gram Positive Bacillus ID	Gram Positive Bacillus Identification
CDC-10138	Gram Negative Coccus (Not GC or meningococcus) ID	Gram-negative Coccus (not Gonococcus or meningococcus), Neisseria species, and Moraxella species Identification
CDC-10139	Neisseria species (Not GC or meningococcus) ID	Neisseria species (not GC or meningococcus) Identification
CDC-10140	Moraxella species ID	Moraxella species Identification
CDC-10141	Haemophilus species (Not H. influenza/ H. ducrey) ID	Haemophilus species (not H. influenza/ H. ducrey) Identification
CDC-10142	Bacillus species ID (Not B. anthracis)	Bacillus species Identification (Not B. anthracis)
CDC-10143	Bordetella spp. ID (Not B. pertussis/parapertussis)	Bordetella spp. Identification (not B. pertussis/parapertussis)

Test Order Code	Old Test Order Name	New Test Order Name
CDC-10144	Burkholderia spp. ID (Not B. mallei/pseudomallei)	Burkholderia spp. Identification (not B. mallei/pseudomallei)
CDC-10145	Bacterial ID of Unknown Isolate (Not Strict Anaerobe)	Bacterial Identification of Unknown Isolate (Not Strict Anaerobe)
CDC-10147	Special Bacterial Pathogen Study	Special Bacteriology Pathogen Study
CDC-10148	Actinomycetes- Aerobic ID	Aerobic Actinomycetes - Identification
CDC-10149	Actinomycetes- Aerobic- ID and AST	Aerobic Actinomycetes - Identification and Antimicrobial Susceptibility Testing
CDC-10150	Nocardia species ID	Nocardia species Identification
CDC-10151	Nocardia species ID and AST	Nocardia species Identification and Antimicrobial Susceptibility Testing
CDC-10157	Atypical Bacterial Pneumonia Agents (Chlamydia pneumoniae, Mycoplasma pneumoniae, Legionella spp.) Molecular Detection	Atypical Bacterial Pneumonia Agents (Chlamydia pneumoniae, Mycoplasma pneumoniae, Legionella species) Molecular Detection
CDC-10159	Legionella species Detection and Identification	Legionella species Detection and Identification from Clinical Specimens or Isolates
CDC-10160	Legionella species Molecular Subtyping	Legionella species Detection and Identification from Environmental Samples and Isolates
CDC-10162	Healthcare-Associated Infections (HAI) - Outbreak Strain Identification (ID) and Typing	Healthcare-Associated Infections (HAI) - Outbreak Investigation
CDC-10163	Bordetella species Isolation and ID	Bordetella pertussis and Related Species Detection and Identification
CDC-10168	Corynebacterium diphtheriae/ulcerans/pseudotuberculosis Isolation, ID, Toxigenicity	Corynebacterium diphtheriae/ulcerans/pseudotuberculosis Detection, Identification, and Toxin Testing
CDC-10180	Fungal Serology - Histoplasma, Blastomyces, Coccidioides	Fungal Serology - Histoplasma, Blastomyces, Coccidioides, Paracoccidioides
CDC-10192	Chlamydia trachomatis / Neisseria gonorrhoeae - Molecular Detection Nucleic Acid Amplification Tests (NAATS)	Chlamydia trachomatis / Neisseria gonorrhoeae - Molecular Detection Nucleic Acid Amplification Tests (NAATS)
CDC-10203	Bacillus anthracis Genotyping and AST	Bacillus anthracis Identification and Antimicrobial Susceptibility Testing (AST)
CDC-10207	Brucella species Identification, Genotyping and Antimicrobial Susceptibility Testing (AST)	Brucella species Identification and Antimicrobial Susceptibility Testing (AST)
CDC-10210	Burkholderia mallei/pseudomallei Identification, Genotyping and AST	Burkholderia mallei/pseudomallei Identification and Antimicrobial Susceptibility Testing (AST)
CDC-10213	Streptococcus (Catalase negative, Gram Positive Coccus) Identification	Streptococcus (Catalase-Negative, Gram-Positive Coccus) Identification

Test Order Code	Old Test Order Name	New Test Order Name
CDC-10214	Streptococcus (Catalase-Negative, Gram-Positive Coccus) Identification and Antimicrobial Susceptibility Testing	Streptococcus Identification and Antimicrobial Susceptibility Testing
CDC-10218	Strep ABCs Surveillance Study	Streptococcus ABCs Surveillance Study
CDC-10223	Antimicrobial Susceptibility Testing - Bacterial	Antimicrobial Susceptibility Testing (AST) - Bacteria
CDC-10225	Mycobacterium - Non-tuberculosis Mycobacteria Identification	Nontuberculous Mycobacteria (NTM) - Identification (ID)
CDC-10226	Staphylococcus - Micrococcus Identification	Staphylococcus and Micrococcus - Identification (ID)
CDC-10227	Anaerobic Bacteria Identification	Anaerobic Bacteria Identification (ID)
CDC-10240	Measles Detection and Genotyping	Measles Genotyping
CDC-10241	Mumps Detection and Genotyping	Mumps Genotyping
CDC-10242	Rubella Detection (PCR) and Genotyping	Rubella Detection
CDC-10249	Rubella Serology (IgM and IgG) and Avidity	Rubella Avidity
CDC-10266	Human Herpes Virus 6 (HHV6) Detection and Subtyping	Human Herpesvirus 6 Detection and Subtyping
CDC-10267	Human Herpes Virus 7 (HHV7) Detection	Human Herpesvirus 7 Detection
CDC-10268	Human Herpes Virus 8 (HHV8) Detection	Human Herpesvirus 8 Detection
CDC-10269	Human Herpes Virus 8 (HHV8) Serology	Human Herpesvirus 8 Serology
CDC-10273	HIV-2 Serology	HIV-2 Western Blot
CDC-10274	Alkhurma Hemorrhagic Fever Serology and Molecular Detection	Alkhurma Hemorrhagic Fever Testing
CDC-10293	Arenavirus (New World) Identification	Arenavirus (New World) Testing
CDC-10302	Congo-Crimean Hemorrhagic Fever Testing	Crimean-Congo Hemorrhagic Fever Testing
CDC-10307	Dengue Virus Diagnosis	Dengue Virus Detection and Serology
CDC-10309	Ebola Hemorrhagic Fever Serology and Molecular Detection	Ebola Hemorrhagic Fever Testing
CDC-10312	Enterovirus Detection and Identification	Enterovirus and Parechovirus Detection and Identification, including Enterovirus-D68 (EV-D68)

Test Order Code	Old Test Order Name	New Test Order Name
CDC-10319	Hantavirus (No. American) Identification	Hantavirus Testing
CDC-10324	Hendra Hemorrhagic Fever Serology and Molecular Detection	Hendra Hemorrhagic Fever Testing
CDC-10325	Hepatitis A Serology, NAT and Genotyping	Hepatitis A Serology
CDC-10326	Hepatitis B Serology, NAT and Genotyping	Hepatitis B Serology and Quantitative PCR
CDC-10327	Hepatitis C Serology, NAT and Genotyping	Hepatitis C Serology, Quantitative PCR, and Genotyping
CDC-10328	Hepatitis D Serology, NAT and Genotyping	Hepatitis D Serology
CDC-10338	HIV-1/2 Antibody (International Only) EIA and Western Blot	HIV-1/2 Serology Diagnostic Algorithm (International Only)
CDC-10340	Junin Hemorrhagic Fever Serology and Molecular Detection	Junin Hemorrhagic Fever Testing
CDC-10341	Kyasanur Forest Disease Serology	Kyasanur Forest Disease Testing
CDC-10342	Laguna Hemorrhagic Fever Serology and Molecular Detection	Laguna Hemorrhagic Fever Testing
CDC-10343	Lassa Fever Identification	Lassa Fever Testing
CDC-10345	Lymphocytic Choriomeningitis (LCM) Identification	Lymphocytic Choriomeningitis (LCM) Testing
CDC-10347	Machupo Hemorrhagic Fever Serology and Molecular Detection	Machupo Hemorrhagic Fever Testing
CDC-10349	Marburg Hemorrhagic Fever Serology and Molecular Detection	Marburg Hemorrhagic Fever Testing
CDC-10354	Nipah Virus Identification	Nipah Virus Testing
CDC-10365	Pathologic Evaluation of Fixed Tissues for Possible Infectious Etiologies	Pathologic or Molecular Evaluation of Fixed Tissues for Possible Infectious Etiologies
CDC-10391	Puumala Hemorrhagic Fever Serology and Molecular Detection	Puumala Hemorrhagic Fever Testing
CDC-10393	Rabies Antibody - Pre/Post-exposure Prophylaxis	Rabies Antibody Titer (Human)
CDC-10395	Rabies Confirmatory Testing (Human)	Rabies Antibody Titer (Animal)
CDC-10401	Respiratory Virus Molecular Detection (Non-Influenza)	Adenovirus Molecular Detection
CDC-10405	Rickettsia Special Study	Rickettsial Diseases and Q Fever Special Study
CDC-10406	Rift Valley Fever (RVF) Identification	Rift Valley Fever (RVF) Testing

Test Order Code	Old Test Order Name	New Test Order Name
CDC-10415	Tick Borne Encephalitis (TBE) Identification	Tick Borne Encephalitis (TBE) Testing
CDC-10421	Influenza Molecular Diagnosis	Influenza Molecular Detection in Clinical Specimens
CDC-10423	Influenza Antiviral Resistance Diagnosis	Influenza Antiviral Resistance Detection in Clinical Specimens
CDC-10426	Staphylococcal Toxic Shock Syndrome Toxin (TSST-1)	Staphylococcal Toxic Shock Syndrome Toxin - Identification (ID)
CDC-10432	Biothreat Event	Bacillus anthracis Identification
CDC-10452	Escherichia coli (STEC) serology (not serotyping)	Escherichia coli (STEC) Serology (not serotyping)
CDC-10453	Salmonella serovar Typhi (only) serology	Salmonella serotype Typhi (only) Serology
CDC-10454	Vibrio cholerae serology	Vibrio cholerae Serology
CDC-10455	Campylobacter species serology	Campylobacter species Serology
CDC-10486	Bartonella henselae/B. quintana Indirect Fluorescent Antibody (IFA) test	Bartonella henselae/B. quintana Serology
CDC-10493	Trypanosoma cruzi Molecular Detection	Trypanosoma cruzi Molecular Detection - Insects
CDC-10497	Human Herpes Virus 6 (HHV6) Serology	Human Herpesvirus 6 Serology
CDC-10521	Colonization Screening for Antimicrobial Resistant Bacteria	Antimicrobial Resistant Bacteria - Colonization Screening
CDC-10523	Chlamydia trachomatis Lymphogranuloma venereum (LGV) Molecular Detection	Chlamydia trachomatis Lymphogranuloma venereum (LGV) Molecular Detection Study
CDC-10526	Multipathogen Respiratory Panel	Multipathogen Respiratory Panel (Molecular Detection)
CDC-10528	Measles Virus Vaccine Specific RT-qPCR	Measles Vaccine Virus Detection
CDC-10551	SARS-CoV-2 Whole Genome Sequencing	SARS-CoV-2 Surveillance Sequencing
CDC-10564	Hepatitis D NAT and Genotyping	Hepatitis D NAT
CDC-10558	International Infection Control Program (IICP) Special Studies (International Only)	International Infection Control Branch (IICB) Special Studies (International Only)
CDC-10565	Hepatitis D NAT and Genotyping	Hepatitis D NAT

New Test Orders

The following Test Orders have been added:

Test Order Code	New Test Order
CDC-10529	Hepatitis B Genotyping
CDC-10530	Hepatitis A NAT and Genotyping
CDC-10531	Hepatitis Surveillance
CDC-10532	Borrelia Molecular Detection – Relapsing Fever
CDC-10533	Human Immunodeficiency Virus Type 1 (HIV-1) Nucleic Acid Testing and Sequence Analysis
CDC-10534	Simian Immunodeficiency Virus (SIV) and SIV/Human Immunodeficiency Virus (SHIV) Recombinant Virus Testing
CDC-10535	Bio-Rad Avidity-based Incidence (BRAI) Assay
CDC-10540	HIV-1 Limiting Antigen Avidity Enzyme Immunoassay (International Only)
CDC-10541	HIV-1 Rapid Recency Assay
CDC-10542	Respiratory Panel (SARS-2, Influenza A/B)
CDC-10543	Measles Detection
CDC-10544	Mumps Detection
CDC-10545	Influenza Molecular Surveillance
CDC-10546	Francisella tularensis Molecular Detection
CDC-10547	Yersinia pestis Molecular Detection
CDC-10549	Polio Direct Detection and Titration
CDC-10550	Rubella Genotyping
CDC-10551	SARS-CoV-2 Whole Genome Sequencing
CDC-10554	Bartonella quintana Molecular Detection

Test Order Code	New Test Order
CDC-10555	Yersinia (non-Y. pestis) and Other Enterobacterales Special Study
CDC-10556	BioFire Respiratory Panel
CDC-10557	HIV-1 Western Blot
CDC-10558	International Infection Control Program (IICP) Special Studies (International Only)
CDC-10559	Transmission Electron Microscopy (EM) Evaluation for Possible Infectious Etiologies
CDC-10560	Cell Culture of Tissues for Infectious Agent Isolation
CDC-10561	Bartonella henselae/B. quintana Culture and Identification
CDC-10562	Rubella special studies
CDC-10563	Parasites: Teliagnosis
CDC-10566	Arbovirus Isolation
CDC-10567	Cyclospora genotyping
CDC-10568	Bacillus anthracis Lethal Factor Detection (Qualitative)
CDC-10569	HDV Genotyping
CDC-10572	Real Time RT-PCR Testing for Marburg Virus

Deleted Test Orders

The following Test Orders have been deleted:

Test Order Code	Deleted Test Order	Use Test Order
CDC-10101	Neisseria gonorrhoeae Identification	No longer performed at CDC
CDC-10117	Helicobacter pylori Special Study	No longer performed at CDC
CDC-10134	Botulinum Toxin Producing Clostridia Subtyping	No longer performed at CDC
CDC-10146	Bacterial Identification from Clinical Specimens (16S rRNA Polymerase Chain Reaction)	No longer performed at CDC

Test Order Code	Deleted Test Order	Use Test Order
CDC-10156	Mycoplasma species (Respiratory) Study	No longer performed at CDC
CDC-10158	Chlamydia species (Respiratory) Study	No longer performed at CDC
CDC-10161	Legionella Special Study	No longer performed at CDC
CDC-10164	Bordetella species ID/Confirmation of Isolates	Bordetella pertussis and Related Species Detection and Identification (CDC-10163)
CDC-10165	Bordetella species Molecular Detection	Bordetella pertussis and Related Species Detection and Identification (CDC-10163)
CDC-10169	Corynebacterium diphtheriae/ulcerans/pseudotuberculosis ID and Toxigenicity	Corynebacterium diphtheriae/ulcerans/pseudotuberculosis Detection, Identification, and Toxin Testing (CDC-10168)
CDC-10170	Adenovirus Molecular Detection and Typing	No longer performed at CDC
CDC-10171	Corynebacterium diphtheriae Toxin - Molecular Detection	Corynebacterium diphtheriae/ulcerans/pseudotuberculosis Detection, Identification, and Toxin Testing (CDC-10168)
CDC-10175	Sexually Transmitted Infection (STI) Panel - Neisseria gonorrhoeae, Chlamydia trachomatis, Mycoplasma genitalium, Trichomonas vaginalis Study	No longer performed at CDC
CDC-10177	Treponema pallidum Molecular Typing Study	No longer performed at CDC
CDC-10178	Neisseria gonorrhoeae Genetic Analysis	No longer performed at CDC
CDC-10180	Fungal Serology - Histoplasma, Blastomyces, Coccidioides, Paracoccidioides	No longer performed at CDC
CDC-10184	Fungal Serology - Paracoccidioides	Fungal Serology - Histoplasma, Blastomyces, Coccidioides, Paracoccidioides (CDC-10180)
CDC-10193	Chlamydia trachomatis, Genital - Study	No longer performed at CDC
CDC-10199	Leptospira species Identification and Genotyping	No longer performed at CDC
CDC-10228	Clostridium difficile Identification	No longer performed at CDC
CDC-10229	Clostridioides (Clostridium) difficile - Outbreak Strain Typing	Healthcare-Associated Infections (HAI) - Outbreak Strain Identification (ID) and Typing (CDC-10162)
CDC-10230	Staphylococcus and MRSA Outbreak Strain Typing	No longer performed at CDC
CDC-10231	Clinical Microbiology Reference Study	No longer performed at CDC
CDC-10243	Measles and Rubella Detection (PCR) and Genotyping	No longer performed at CDC

Test Order Code	Deleted Test Order	Use Test Order
CDC-10247	Measles and Rubella Serology	No longer performed at CDC
CDC-10253	Rubella Special Study	No longer performed at CDC
CDC-10256	Varicella Zoster Virus (VZV) Avidity	No longer performed at CDC
CDC-10257	Varicella Zoster Virus (VZV) Genotyping (Clade Type)	No longer performed at CDC
CDC-10268	Human Herpesvirus 8 Detection	No longer performed at CDC
CDC-10269	Human Herpesvirus 8 Serology	No longer performed at CDC
CDC-10270	Herpesvirus Special Study	No longer performed at CDC
CDC-10271	Blood Disorders Coagulation Study	No longer performed at CDC
CDC-10279	HIV Serology NHANES	No longer performed at CDC
CDC-10281	Arbovirus Isolation and Identification	No longer performed at CDC
CDC-10284	Arbovirus Special Study	No longer performed at CDC
CDC-10285	Alkhurma Serology	Alkhurma Hemorrhagic Fever Serology and Molecular Detection (CDC-10274)
CDC-10288	Ameba Special Study	No longer performed at CDC
CDC-10291	Anaplasma Special Study	Rickettsial Diseases and Q Fever Special Study (CDC-10405)
CDC-10294	Arenavirus (Old World) Testing	Lassa Fever Testing (CDC-10343), Lymphocytic Choriomeningitis (LCM) Testing (CDC-10345)
CDC-10303	Congo-Crimean Hemorrhagic Fever Serology	Congo-Crimean Hemorrhagic Fever Testing (CDC-10302)
CDC-10306	Coxiella Special Study	Rickettsial Diseases and Q Fever Special Study (CDC-10405)
CDC-10308	Dengue Virus Special Study	No longer performed at CDC
CDC-10310	Ebola Serology	Ebola Hemorrhagic Fever Serology and Molecular Detection (CDC-10309)
CDC-10320	Hantavirus (So. American) Identification	Hantavirus Testing (CDC-10319)
CDC-10321	Hantavirus Serology	Hantavirus Testing (CDC-10319)

Test Order Code	Deleted Test Order	Use Test Order
CDC-10333	HIV Serology Study (International Only)	No longer performed at CDC
CDC-10340	Junin Hemorrhagic Fever Testing	No longer performed at CDC
CDC-10344	Lassa Fever Serology	Lassa Fever Testing (CDC-10343)
CDC-10346	Lymphocytic Choriomeningitis (LCM) Serology	Lymphocytic Choriomeningitis (LCM) Testing (CDC-10345)
CDC-10348	Machupo Serology	Machupo Hemorrhagic Fever Serology and Molecular Detection (CDC-10347)
CDC-10350	Marburg Serology	Marburg Hemorrhagic Fever Serology and Molecular Detection (CDC-10349)
CDC-10353	Mycobacterium TB Complex (International Only) Special Study	No longer performed at CDC
CDC-10355	Nipah Virus Serology	Nipah Virus Testing (CDC-10354)
CDC-10357	Norovirus Molecular Testing	No longer performed at CDC
CDC-10362	Parechovirus Detection and Identification	Enterovirus Detection and Identification (CDC-10312)
CDC-10363	Parvovirus B19 Molecular Detection	Respiratory Virus (Non-Influenza) Special Study (CDC-10400)
CDC-10364	Parvovirus B19 Serology	No longer performed at CDC
CDC-10373	Pathology Special Study	No longer performed at CDC
CDC-10407	Rift Valley Fever (RVF) Serology	Rift Valley Fever (RVF) Testing (CDC-10406)
CDC-10408	Rotavirus Detection	No longer performed at CDC
CDC-10412	SARS Molecular Detection (not SARS-2)	No longer performed at CDC
CDC-10413	SARS Serology	No longer performed at CDC
CDC-10414	Seoul Virus Testing	Hantavirus Testing (CDC-10319)
CDC-10415	Tick Borne Encephalitis (TBE) Testing	No longer performed at CDC
CDC-10416	Tick Borne Encephalitis (TBE) Serology	Tick Borne Encephalitis (TBE) Testing (CDC-10415)
CDC-10429	HIV-2 Nucleic Acid Amplification (Qualitative)	No longer performed at CDC

Test Order Code	Deleted Test Order	Use Test Order
CDC-10451	Hepatitis B Surface Antigen Confirmatory Test	No longer performed at CDC
CDC-10454	<i>Vibrio cholerae</i> Serology	No longer performed at CDC
CDC-10455	<i>Campylobacter</i> species Serology	No longer performed at CDC
CDC-10463	Leishmaniasis Serology	No longer performed at CDC
CDC-10464	Malaria Serology	No longer performed at CDC
CDC-10470	Trichinellosis Serology	No longer performed at CDC
CDC-10481	Microsporidia Molecular Identification	No longer performed at CDC
CDC-10483	Actinomyces –Anaerobic ID	No longer performed at CDC
CDC-10484	Arenavirus (New World) - Serology	Arenavirus (New World) Testing (CDC-10293)
CDC-10485	HIV antigen/antibody Combo	No longer performed at CDC
CDC-10489	MERS-CoV Serology	No longer performed at CDC
CDC-10492	Toxoplasmosis Special Study	No longer performed at CDC
CDC-10496	Varicella Zoster Virus (VZV) Intrathecal Antibody Detection	No longer performed at CDC
CDC-10498	Ehrlichia Special Study	Rickettsial Diseases and Q Fever Special Study (CDC-10405)
CDC-10500	Orientia Special Study	Rickettsial Diseases and Q Fever Special Study (CDC-10405)
CDC-10511	Haemophilus ducreyi Molecular Detection Study	No longer performed at CDC
CDC-10518	Healthcare-associated Outbreak Isolate Sequencing and Analysis	No longer performed at CDC
CDC-10519	Healthcare-associated Outbreak Metagenomic Sequencing and Analysis	No longer performed at CDC
CDC-10520	Malaria: Morphologic Identification	This TO is being replaced by Parasites: Telediagnosis (CDC-10563)
CDC-10522	Detection of Mycoplasma genitalium Antimicrobial Resistance Markers Study	No longer performed at CDC
CDC-10524	Enterovirus-D68 Detection	Enterovirus Detection and Identification (CDC-10312)

Test Order Code	Deleted Test Order	Use Test Order
CDC-10536	HIV-1 Laboratory Algorithm for Dried Blood Spots (DBS)	No longer performed at CDC
CDC-10537	Respiratory Virus (Non-Influenza) Case Follow-up	No longer performed at CDC
CDC-10538	SARS-2 Serology	No longer performed at CDC
CDC-10548	Polio Cell Culture Isolation	Polio Direct Detection and Titration (CDC-10549)
CDC-10553	SARS-CoV-2 Genetic Analysis	No longer performed at CDC