

Criteria Grid
Hepatitis C Research Studies, Tools, and Surveillance Systems

Best Practice/Intervention:	Forbi et al. (2012). Epidemic history of hepatitis C virus infection in two remote communities in Nigeria, West Africa. <i>J Gen Virol</i> , 93, 1410-21.			
Date of Review:	August 23, 2012			
Reviewer(s):	Melanie St. John			
Part A				
Category:	Basic Science <input type="checkbox"/> Clinical Science <input type="checkbox"/> Public Health/Epidemiology <input checked="" type="checkbox"/> Social Science <input type="checkbox"/> Programmatic Review <input type="checkbox"/>			
Best Practice/Intervention:	Focus: Hepatitis C <input checked="" type="checkbox"/> Hepatitis C/HIV <input type="checkbox"/> Other: _____ Level: Group <input checked="" type="checkbox"/> Individual <input type="checkbox"/> Other: _____ Target Population: <u>519 indigenes of two semi-isolated communities in North-Central Nigeria</u> Setting: Health care setting/Clinic <input type="checkbox"/> Home <input checked="" type="checkbox"/> Other: <u>n=519</u> **341 from village 1; 178 from village 2 Country of Origin: <u>Nigeria, West Africa</u> Language: English <input checked="" type="checkbox"/> French <input type="checkbox"/> Other: _____			
Part B				
	YES	NO	N/A	COMMENTS
<i>Is the best practice/intervention a meta-analysis or primary research?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Primary Research Objective: <ul style="list-style-type: none"> • Investigate the molecular epidemiology and population dynamics of HCV infection in two rural, remote communities in North Central Nigeria • Present comprehensive phylogenetic and evolutionary analysis of HCV variants in the two communities • Identify genotype distribution and genetic characterization of HCV strains circulating in Nigeria

<i>Has the data/information been used for decision-making (e.g. program funding developments, policies, treatment guidelines, defining research priorities and funding)?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Authors suggest data could be used for designing universally efficacious vaccines against HCV infection, predicting the sensitivity of diagnostic assays, and guiding HCV infection control initiatives. However, it is not known whether the data has been or will be used for these purposes.
<i>Do the methodology/results described allow the reviewer(s) to assess the generalizability of the results?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not known whether HCV prevalence and genetic composition found in these two rural communities represents HCV population circulating in Nigeria as a whole – further enquiry needed.
<i>Are the best practices/methodology/results described applicable in developed countries?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Data collected is highly specific to the molecular epidemiology of HCV in West and Central Africa.
	YES	NO	N/A	COMMENTS
<i>Are the best practices/methodology/results described applicable in developing countries?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Possibly, however, application would be restricted to countries in West and Central Africa as data is highly specific to the molecular epidemiology HCV in this region only.
<i>The research study/tool/data dictionary is easily accessed/available electronically</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Article must be purchased: http://vir.sgmjournals.org/content/93/Pt_7/1410.long
<i>Is there evidence of cost effective analysis with regard to interventions, diagnosis, treatment, or surveillance methodologies? If so, what does the evidence say? Please go to Comments section</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<i>Are there increased costs (infrastructure, manpower, skills/training, analysis of data) to using the research study/tool/data dictionary?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<i>How is the research study/tool funded? Please got to Comments section</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not mentioned.
<i>Is the best practice/intervention dependent on external funds?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Other relevant criteria:</i> <u>Notable Findings</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-- More discussion on the limitations of the sample was needed. It is unclear how representative the sample was of the communities in question, and of surrounding populations. --Rate of HCV infection in Nigeria estimated to range

				<p>from 1.9% to 14.5%. However, ~15% of the population in the two communities investigated experienced HCV infection, despite relative isolation.</p> <p>--Only a few HCV strains were expected to be found due to isolation, however, phylogenetic analysis revealed many distinct HCV variants and subtypes belonging to genotypes 1 and 2 (85% and 15%, respectively).</p> <p>--Extensive intermixing was found between HCV variants identified in the two communities and those reported from other countries in West Africa, indicating a common genetic history.</p> <p>--Over half of the HCV-infected community members shared closely related HCV variants, revealing a complex pattern of transmission.</p> <p>--Findings suggest that the HCV variants did not independently evolve but rather arose through a massive introduction of multiple HCV variants, which likely occurred around the mid-20th century.</p> <p>--Genetic similarity was detected between genotype 2 lineages in Nigeria and Cameroon. Together with Nigeria's geographical location and population density, this genetic similarity suggests that Nigeria may have critically facilitated HCV transmission from West to Central Africa.</p>
WITHIN THE SURVEILLANCE SYSTEM FOR REVIEW				
<i>Are these data regularly collected?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Samples collected in 2007. The epidemiology of HCV infection in Nigeria is not well understood. Number of HCV sequences available from Nigeria is limited.
<i>Are these data regularly collected at and/or below a national level?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<i>Are these data collected manually or electronically?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manually
RESEARCH REPORTS				
<i>Has this research been published in a juried journal?</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Journal of General Virology
<i>Does the evidence utilize the existing data/surveillance information or has it generated new data and/or information?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New data/surveillance information: the first comprehensive study of the epidemic history of HCV in rural, remote communities of Nigeria.