

Project ECHO : Viral Hepatitis in sub-Saharan Africa

Extension for Community Health Outcomes



Moving Knowledge Instead of Patients

Tele-mentoring Programme



Agenda



WELCOME TO LAUNCH

- Introduce South African spokes
 - Livingstone Hospital, Port Elizabeth
 - George Hospital, George
 - Frere Hospital, East London
 - Donald Gordon Medical Centre, Johannesburg
- ECHO presentation for benefit of new ECHO members
- 2 Clinical presentations
 - Ghana: Hepatitis B
 - South Africa: Livingstone Hospital: Hepatitis C (Dr Horak)

ECHO vs. Telemedicine

TeleECHO™ Clinic



Expert hub team

ECHO supports
community based
primary care teams



Learners at spoke site

Patients reached with specialty
knowledge and expertise



Traditional Telemedicine



Specialist manages patient remotely





ZOOM PLATFORM



- **Cloud based software**
 - Internet based video & audio conferencing software
- **Best in class *security***
 - Fully encrypted data transfer
- **Can be accessed by cell phone and tablet on the go**
- **Can host a maximum of **200** participants**



ZOOM PLATFORM



- **Cost effective**
 - Zoom is free for our partners and their participants
 - Free Professional account for our partners who are actively running ECHO programs.
- **Works well in low bandwidth area**
- **Can be integrated with third party solutions, eg Polycom.**
- **Compatible with Android, iOS, Linux, Blackberry, etc.**



ECHO Whale



PCA Espanola



Baton Rouge



Pecos Valley MC



DOH Las Cruces



SBRT-First Choice South Vc



Memorial HDX7000



LAS VEGAS ECFH



Clustering of Poor Prognostic Factors in Heavy Patients

	Weighted log-odds	0.75.0 (1, 1426)	1.75.0 (1, 2812)
Male, n (%)	500 (28.0)	500 (28.0)	500 (28.0)
Black Race, n (%)	70 (3.9)	70 (3.9)	70 (3.9)
Age, years*	50.0 ± 10.0	49.0 ± 9.0	49.0 ± 9.0
HBV, n (%)	30.0 ± 1.7	30.0 ± 1.7	30.0 ± 1.7
Diabetes, n (%)	100 (5.6)	100 (5.6)	100 (5.6)
Long-term HBV carrier†	1.00 ± 0.05	1.00 ± 0.05	1.00 ± 0.05
Child Pugh, n (%)	100 (5.6)	100 (5.6)	100 (5.6)
MELD, n (%)	100 (5.6)	100 (5.6)	100 (5.6)
Model for End-Stage Liver Disease	100 (5.6)	100 (5.6)	100 (5.6)

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Video-Conferencing Etiquette



- **Before the clinic: Test equipment**
- When starting an ECHO clinic always introduce yourself

Web Camera

- Eye contact
- Position
- Questions:
 - i. Raise your hand
 - ii. Use the chat function
 - iii. Use the raise hand function in Zoom



Video-Conferencing Etiquette



- Respectful and polite with each other
- Respond rather than *react*, if we disagree
- Everybody's responsibility to keep ECHO a safe place where we are all able to learn
- Body signals can be distracting, try to avoid them
- When not speaking, mute microphone
- Avoid making noise (i.e.; potato chips, shuffling papers, whispering, cell phones, loud bags etc.)



iECHO Data Usage



Project ECHO collects and utilizes administrative data related to ECHO programs

- Project ECHO® collects participation data for each teleECHO™ program
 - All participants in ECHO Clinic need to be registered
- Allows Project ECHO to measure, analyze, and report on the movement's reach
- Used in reports, on maps and visualizations, for research, for communications and surveys, for data quality assurance activities, and for decision-making related to new initiatives.



iECHO Data



Research Opportunities

- **Pre/post surveys** on provider satisfaction, confidence in treating viral hepatitis, and perceived knowledge
- **Baseline demographic information on the spoke sites**
 - What setting are providers practicing in (rural, urban, academic, community)
 - Where do their patients come from, what diagnostic testing and treatment options available at the spoke site
- **Assessment of patient outcomes**



iECHO



iECHO data usage by Project ECHO

- Patients will be de-identified
- Echo number assigned
- Initials only used

ETHIOPIA

- **ET1 AT, ET2 TM**

NIGERIA

- **NI1 RH, NI2 HJ**

GHANA

- **GH1 KB, GH2 YF**

SOUTH AFRICA

- **PE1 ..**
- **GH1 ..**



ECHO Clinic



1. Introduction

- Video participants
- Telephone participants
- HUB participants

2. Announcements

3. Patient case presentations

- HUB facilitator introduces case presenter
- Spoke Case presenter presents case
- HUB Facilitator invites other team members at spoke to comment on case
- HUB Facilitator summarizes presentation
- HUB Facilitator ensures with presenter that summary is correct



ECHO Clinic



3. HUB asks audience for questions

- No recommendations for diagnosis or treatment at this stage
- Video participants
- Telephone participants
- HUB/ECHO core group Spoke Case presenter presents case
- Hub Facilitator draws out comments from participants who are not medical

4. HUB asks audience for audience for recommendations/impressions

- Diagnosis or further workup
- Non-pharmacological recommendations
- Pharmacological recommendations
- Interventional recommendations



ECHO Clinic



5. HUB summarises recommendations and consensus on diagnosis and treatment plan

- Asks presenter if questions have been adequately answered
- Invites presenter to present again in future ECHO clinics

4. Brief Didactic lecture (15 minutes)

4. Close and Debrief

- All Facilitators to reflect on flow and facilitation of clinic - where we can improve
- **All cases for presentation to be emailed to Cheryl Valentine 1 week before the ECHO clinic – by the Friday afternoon**
 - **Fill in as much detail as possible on the forms incl dates**

HCV Case Presentation Form



MINISTRY OF LABOUR
HEALTH AND
SOCIAL AFFAIRS



Georgia HCV Elimination Project Initial Presentation Form

Presentation Date: Site: Clinician:

General Information/Demographics

Presentation ID	<input type="text"/>	Year of Birth:	<input type="text"/>	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female
Ethnicity:	<input type="text"/>	Race:	<input type="checkbox"/> Caucasian <input type="checkbox"/> Other:	HCV Genotype:

Suspected Route of HCV Transmission (Check all that apply)

<input type="checkbox"/> Recipient of clotting factor concentrates	<input type="checkbox"/> Blood transfusion or solid organ transplant	<input type="checkbox"/> Needlestick injury in healthcare setting
<input type="checkbox"/> Hemodialysis	<input type="checkbox"/> Birth to HCV-infected mother	<input type="checkbox"/> Sharing contaminated personal items with HCV-infected person
<input type="checkbox"/> Sex with HCV-infected person	<input type="checkbox"/> Non-professional tattoo	<input type="checkbox"/> Cosmetic transmission (manicure, barber, etc.)
<input type="checkbox"/> Current or former injection drug user (even once) If yes, injection drug use in the last 12 months? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Other invasive medical procedures Type: <input type="text"/>	
<input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/> unknown	

Medical Diagnoses (Check all that apply)

HCV Year of diagnosis: <input type="text"/>	<input type="checkbox"/> Hepatocellular Carcinoma Year of Diagnosis: <input type="text"/>		
<input type="checkbox"/> Cirrhosis	<input type="checkbox"/> Previous HCV Treatment Year: <input type="text"/> Previous Drug Regimen: <input type="text"/> Response: <input type="text"/>		
Evidence of decompensation: <input type="checkbox"/> Ascites <input type="checkbox"/> Variceal bleed <input type="checkbox"/> Hepatic encephalopathy	Year: <input type="text"/> Previous Drug Regimen: <input type="text"/> Response: <input type="text"/>		
<input type="checkbox"/> Liver Biopsy	Year: <input type="text"/> Results: <input type="text"/>		
Known extrahepatic manifestations	<input type="checkbox"/> Cryoglobulinemia	<input type="checkbox"/> Vasculitis	<input type="checkbox"/> Membranoproliferative Glomerulonephritis
	<input type="checkbox"/> Membranous Nephropathy	<input type="checkbox"/> Lichen Planus	<input type="checkbox"/> Porphyria Cutanea Tarda
	<input type="checkbox"/> B Cell Non-Hodgkin Lymphoma	<input type="checkbox"/> Multiple Myeloma	<input type="checkbox"/> Other: <input type="text"/>
<input type="checkbox"/> Asthma	<input type="checkbox"/> Brain Injury	<input type="checkbox"/> Chronic Pain	<input type="checkbox"/> COPD
<input type="checkbox"/> Diabetes Mellitus	<input type="checkbox"/> Hepatitis B, chronic	<input type="checkbox"/> Hepatitis D	<input type="checkbox"/> HIV
<input type="checkbox"/> Hypertension	<input type="checkbox"/> Peripheral Neuropathy	<input type="checkbox"/> Renal Insufficiency	<input type="checkbox"/> Seizure Disorder
<input type="checkbox"/> Coronary Artery Disease	<input type="checkbox"/> Other: <input type="text"/>		
<input type="checkbox"/> Auto Immune Disease	Type of disease: <input type="text"/>		
<input type="checkbox"/> Cancer	Year: <input type="text"/> Type of Cancer: <input type="text"/>		
<input type="checkbox"/> Solid Organ Transplant	Year: <input type="text"/> Organ transplanted: <input type="text"/>		

Laboratory

Basic Laboratories	Date	(DD/MM/YYYY)
RBC	M/ μ L	<input type="text"/>
WBC	K/ μ L	<input type="text"/>
ANC	K/ μ L	<input type="text"/>
HGB	g/L	<input type="text"/> mg/dL
HCT	%	<input type="text"/>
Platelets	K/ μ L	<input type="text"/>
ESR	mm/hr	<input type="text"/>
Creatinine	μ mol/L	<input type="text"/> mg/dL
Glucose	mmol/L	<input type="text"/> mg/dL
CRP	mg/L	<input type="text"/>
PT	s	<input type="text"/>
INR		<input type="text"/>
Albumin	g/L	<input type="text"/> mg/dL
ALT	IU/mL	<input type="text"/>
AST	IU/mL	<input type="text"/>
GGT	IU/mL	<input type="text"/>
Alk Phos	IU/mL	<input type="text"/>
T. Bili	μ mol/L	<input type="text"/> mg/dL
Direct Bili	μ mol/L	<input type="text"/> mg/dL
Total Protein	g/L	<input type="text"/> mg/dL

Other Essential Results

Date (DD/MM/YYYY)	Result	Date (DD/MM/YYYY)	Result
<input type="text"/>	<input type="text"/> μ g/dL	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/> μ g/dL	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/> ng/dL	<input type="text"/>	<input type="text"/> IU/mL
<input type="text"/>	<input type="text"/> ng/dL	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="checkbox"/> Reactive <input type="checkbox"/> Non-reactive	<input type="text"/>	<input type="text"/>

Diagnostic Tests

Test	Date (DD/MM/YYYY)	Result
FIB-4	<input type="text"/>	Final Result: <input type="text"/>
Ultrasound	<input type="text"/>	<input type="checkbox"/> Normal <input type="checkbox"/> Ascites <input type="checkbox"/> Hepatomegaly <input type="checkbox"/> Splenomegaly <input type="checkbox"/> Liver mass <input type="checkbox"/> Consistent with fatty infiltration <input type="checkbox"/> Other: <input type="text"/>
Elastography	<input type="text"/>	Score: <input type="text"/> kPa
Upper Endoscopy	<input type="text"/>	<input type="checkbox"/> Normal <input type="checkbox"/> Small varices <input type="checkbox"/> Medium varices <input type="checkbox"/> Large varices <input type="checkbox"/> Banding performed <input type="checkbox"/> Other: <input type="text"/>
CT/MRI	<input type="text"/>	<input type="checkbox"/> Normal <input type="checkbox"/> Ascites <input type="checkbox"/> Hepatomegaly <input type="checkbox"/> Splenomegaly <input type="checkbox"/> Liver mass <input type="checkbox"/> Consistent with fatty infiltration <input type="checkbox"/> Other: <input type="text"/>



ECHO PROGRAM : SSA



HUBS

South Africa

- Liver clinic, Groote Schuur Hospital and Johannesburg

SPOKES

Liver Clinic, GSH: Start with centres already part of our referral base

- Worcester, George, Port Elizabeth, East London

4 Internationally linked spoke centres – Evolving into HUBS

- **Nigeria:** The University of Lagos, Lagos (***Prof Funmi Lesi***)
- **Ghana:** Kwame Nkrumah University of Science and Technology, Kumasi (***Prof Mary Afihene***)
- **Ethiopia:** Adis Ababa University Medical School, (***Prof Abate Shewaye***)
- **London:** UCL Institute of Liver and Digestive Disease and Kings College Hospital (***Prof G Dusheiko***); ***support and guidance***



Implementation : ECHO SSA



- ***Expanded to treat other chronic conditions using the same infrastructure***
 - Diabetes Mellitus and hypertension
 - Rheumatology
 - Palliative care and Oncology
 - Substance abuse and addiction
- ***Already HIV ECHO programs in Namibia and Kenya***
- ***Planned Oncology program: Kimberley Hospital, SA***



Global impact of Project ECHO

- 34 countries including Georgia, Pakistan and India
- 1 200 clinical sites in underserved communities
- Management of >50 different diseases

Project ECHO, Lancet Gastro Hepatol Feb 2019

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