

/ & / # " & & & ) . ) /



"-!J J' 0J1 +J.)('J.,J"-J",J-! J) + -J-"& J-(J+ ' 0  
,-J)+ -" ,J (J+, . ,,"J"J + -" J,1' + 1J (+J"&)(+- ' -  
0(+)\$)% J ( %, <J' J)+ -" %J' J !" / % J 0J +C,  
+ ,(%.-"('J-(0 + J-!" ,J ( %J",J-(J (%%(0J J (' , - '-J ' J  
/" ' D , J))+( !J-(J / %())" J (%% (+ -"(' ,J(+  
) +- ' +, !"), <J !"% J-! " +J , " J, -+ - " , J ' J, -+ . -+ ,  
& 1J "3 +=J (-!J + J (( J0 1, J-(J)-"&"2 J1(+J", -"-D  
-("C, J) + (+& ' J ' J4 % J)+ , ' <

**Partnerships:** ,G> =>?BGBMBHG H? : I:KMG>KLABI BL :G BGM>K  
I:KMG>KL A:O> : LA:K>= :G= FNMN:E @H:E <HGMKB;NM> >LL  
LDBEEL :G= K>LHNK<>L MHP:K= MA:M @H:E :G= A:O> LA:K>  
>??HKM -:KMG>KLABIL :K> FHLM <HFFHGER ;>MP>>G MPH I  
M>K>LM>= BG =BLMKB;NMBG@ MA> >??HKM :G= K>LHNK<> ;N  
;>G>?BML ?KHF MA> LA:K>= DGHPE>=@> :G= >QI>KMBL> @  
<>LL?NE I:KMG>KLABI 1A>K> :K> F:GR P:RL MH LMKN<MNK>  
;NM >:<A A:L ;LB< K>LIHGLB;BEBMB>L F:BGM:BG BG @ : IKH=N<  
>??HKM (>RL MH : @HH= I:KMG>KLABI BG<EN=> K>@NE:K  
LH MA:M >:<A H? MA> I:KMB>L A:L >JN:E HIIHKMNGBMR MH IK  
:G= IK>?>K>G<>L PA>G :G BLLN> =H>L :KBL> K>F>F;>K MA  
A:L MA> L:F> @H:E BG FBG= Z MH A>EI JNB<DER :G= <HGLM  
LHENMBHG :G= LA:K>= K>LIHGLB;BEBMR BG L>M;.<DL :L P  
/>@:K=E>LL H? PA>MA>K LAHKM HK EHG@ M>KF I:KMG>KLA  
L>>D @H:EL :G= IKH=N<MLZMA>R K>?E><M HG RHNK BGLMB  
L<:i> H? MA> ?B>E=

**Collaborations:** &G <HFI:KBLHG <HEE::HK:MBHGL :K> H?M>G <  
=B??>K>GM @KHNIL H? LM:D>AHE=>KL >:<A A:OBG@ : LI>  
BGLB@AM :G= >:<A LM:G=BG@ MH @:BG : =B??>K>GM ;>G>  
HEE::HK:MBHGL :K> FHLM <HFFHGER NG=>KM:D>G ;R FNEM  
H? PAB<A <HGMKB;NM>L : =BLMBG<M K>LHNK<> :G= >QI>KMB  
MA>K> :K> F:GR P:RL MH LMKN<MNK> : @HH= <HEE::HK:MBH  
<HEE::HK:MBHG BG<EN=> FNMN:E K><H@GBMBHG H? MA:  
I:KMR ;KBG@L MH MA> M::E> MA> ;BEBMR MH <HGG><M M

:KBL> ?KHF >:<A H? MA> =BLMBG<M ?:<>ML H? MA> >??HKM :G= L>BSBG@ O:EN>