

8 6 '(3\$570(17 2) +(\$/1' +80\$1 6(59,&(6

:LWQHVVHV DSSHDULQJ EHIRUH WKH
6HQDWH \$SISRU&LPLWWHH

.QWURGXFWLRQ

&KDLUPDQ %OXQW 05DQNDLQJQHBEHWLQJXLVKHG PHPEH
,W LV DQ KREHWRUJSBX WRGD\ WR GLVFXVV WKH 'HSDUW

YDFFLQHV WKHUDSHXWLFV DQG GLDJQRVWLFV FROOHFWL
SDUWQHUVKLS DPRQJ6FRQSBQWJ&RQG)%\$\$51\$+ DQG WKH
'HSDUWPHQW RI 'HIMQWKHRDL PZRI DQXQDSLURDRKHWQPUHVS
WKH SDQGHPLF 2:6 HQJDJHV ZLWKDSHQYFLWY ILQPOXGQJRW
'HSDUWPHQW RI \$JULFXOWXUH WKSDBSVPWQVHRW9RW(HUDQJ
2:6 FRRUGLQDWHV ZZWGHHHVULQV #H\$V\$XGHOJWDXWLQJ & 29
7KHUDSHXWLF ,QDFFULQHQW\$BQ,9 DSDUWQHUVKLS 1,+TV 5D
'LDJQRVWLFV 5\$'[LQLWLDWLYH DQDQZ,QUNVEW%\$5' \$RDQGOV
,QIHFWRXV 'LVHVVHV 1,\$,'

7R DFFHOHUDWH GHYHORSPHQW ZKLDQGHPHILQVDFLQ2GJ V
KDV EHHQ VHOHFWLQQJWRKXDRWHSURQSHUFDLQGLQDWRWUGL
JRYHUQPHQW VXSSRUW 3URWRFRDQGIRIULWDFH\GHUPRQVWQJDI
ZKLFK ZLOO DOORZ WKH WULDORVWRRSBQFHIRGFRUHHWTXILDFQ
RYHUVHHQ E\ WKH IHGHUDO JRYHVEEHSUDYDRSSBQHWQVRL
ZKLFK SKDUPDFHXWLFDO FRPSDQLHDWGHKHFULGHKDRQHWKLPILQDRV
IURP WUDGLWLRQDPRGHGHORSVWHSW ZLOO SURFHGG VLPXOW
PDQXIDFWXULQJ RI WKH YDFFLQHGDWRRCXWWDWLDQQRDOHDF
HIILDFD\ DQG VDIHVDODV KXS\$HGFQRDVHV WKH ILQDQFLDO
ULVN

:H ZLOO EH ZRUNLQWRKQV\$DQGLQWDFRQVWDQW VW
VFLHQWLWV 2RPSOMKHGD\$ZMDUHSRDRVW WKH\ QHHG W
VDIHW\ DQG HIILDFD\ DV TXLFNO\ DLW\$RUHLXEDHWKHZRSUQLQ
VWDQGDUG PDQQHU DQG E\ NHHSLQWVKH\FDQNSURGIXFRPRQ
JXLGDQFH WR VX\$SRDOW WRKHFKHLDLFDQGRGWRQVGR IRU DJ
SULRULWLHV

7R SXW LW UHDOO\ VLP\$O\ GUXJRGXKDRSFRQFWHLFNBYM
FRPSOLFDWHG ER[HV EXW ER[HV QRQ\$WKHGHQWGRYXHSURSP
SKDVHV \RX QHHG FHUWLILFDWLRQ RI \RXU PDQXIDFWXULQ
PDQXIDFWXULQJ DQG WULHQWRKQEHFLLQHTMDFKVDQGHYHU

WKR VH ER[HV MXVW OLNH ZH ZRXOG IRU DQ\ RWKHU SURMH
OLVW :H[UH DLPLQJ RW RW ER RW MDQ HREXDO\ DV Z

7KH IROORZLQJ WHLOWLPRQWKZLO, G%SDS DFGV&U& EXWLO
2:6 DQG RYHUDO\$HYDWE EQBQWGLUDDQRVWLF HIIRUWV

1DWLRQDO ,QVWLWXWHV RI +HDOWK

1,+ LV WKH ++6 DJHQFH VHHDFKQUHWKSRQVH WR &29,' D
FRURQDYLUXV WHHDWF D\$56V&RKH GLHVHDUFK WR DGGUHV
KHDOWK HPHUJHQF\ LV DQ 1,+ ZLGH HIIRUW

1,+ LQ FROODERB&VGBWLRQKRWKQDKQFKHGHDGQWQRV
SXEOLF SULYDWHHSUWKQHGMKHSRSPWHSWDRS&XWLFV DQG YD
7KH \$&7,9 SXEOLF \$USYEDWLQSDWRQHWWKDFURWVNVKRWGSHUV
JRYHUQRUR9DP ` 0

WEYDWH SDU#` 0ÄÄ XE d@% €E)

PRUWDOLW\ GDWDWLEGGORWJQHILFDQWDDWLRRUWSDIUFHQW Z
IRU WKH JURXS UHFHLYLQJ UHPGHVLYLU YHUVXV SHUFH
SXEOLVKHG RQ 0D *New England Journal of Medicine* : RUNLQJ DV SDUW RI
\$&7,9 SDUWQHUVKLS 1, \$, ' LV GHYHORS LLQS XQS RWHG WLLKH UR
DGDSWLYH GHVLOQ RQDKOM WKHDOYDIOXDWLRQ RYHU WLPH
WKHUDSLHV VQFKDPPDWKRHUDCWKJLEDULFLWLQLE ZKLFK KD
LWHUDWLRQ RI WKH VWXG\ \$&77 FXUUHQWO\ XQGHUZD\

\$QRWKHU SURPLWLQJWKHKNCHDSHROVHO/ DROWL\$ERG L7KHUH D
FRPSDQLHV GHYHORBEQW RSEWKDQGGKDYFOLQDEDOH WUDDOV
WKH \$&7,9 SDUWQHUVKLS DQG LQ FROODERUDWLRQ ZLWK F
VWXG\ WR HYDOXDWH P\$EV LQ RXW\$DWLHDDWV WKKWK PRQW
VHSDUDWH WULDO ZLOO HYDOXDWDRSCELVQLQ HSSDDW H QFOL
DVVHV K\SHULPP RQKLFQJUREYKQ QXDAQIBHRSVE R II R&2 W'U HDL Q
KRVSLWDOLJHG DGXOWV

7KH 1DWLRQDO +HDUW /XQJ DQG %WRKRG CGLWLLRXWHI
VLWH IRU D &DQBGLDQDQWVEMXHBHMFROK QGFILQ M²DLQD QWL
LQIODPPDWRU\ GUQJWFR FURHDOX XRXHW²IR UQWV KHD VR XQJS D ZVLH C
VHWWLQJ \$GGLWLRQDOO\ 1+/%, LVHOLHYV UDRJ LQQ RYKDW H, (PI
&DUH &OLQLFDO 7ULDQV RHYZDROHNFHFRWUSKGRVZ KHSKCHMP B IU
LQGLYLGXDOV ZKRURKDY&2 UHFRYFDUHQGHIOS UHGXFH WKH SURJ
LQ SDWLHQWV ZLWK WPKBGMDFUS VXRPFUJLQ1 D/%OZQOEDD WULD
RI DQWLFRDJXODFQWKH QRSLOQKWRDWWHQ LQJ EORRG FORWV V
SDWLHQWV

7KH 1DWLRQDO &HQWHUDQWDSYBQBDLQFQHQHFDJLQ\$76
1&\$76 3KDUPDFHXWLFDO &ROHFWLRQ D FRPSLODWLRQ RI
PDMRU UHJXODWQZLGHHDQGHRWZRHU FROHFWLRQV RI VPDQ
WR LGHQWLI\ SRWHQWLDO 6\$56 &R9 WKHUDSHXWLFV IRU I
&HQWHUV DFURVV 1,+ DOVR DUH ZRQDLFQJFRQBXDUQGHQWGXV
SXUVXH WKH GHYHORS RHELVDDQWVHG DQWL WKURPERWLF
WUHDWPHQW RI &29,' 1, \$, ' 1&, 1+, /%, WLL\$76H VRK\$UIDKWU

0XVFXORVNH0HWD0 DQG WNKHQ1LWHDVWQR,QRJLEWØWHEVRUGH
6WURNH 1,1'6 DGHQDQXHQBDUWLFDO HIIRUW

1,+ DOVR KDV FRQYHQHG WKH &29,' 7UHDWPHQW *XLG
UHSUHVHQW DQGLYHLVRIRWKHU IHGHUDO DJHQFLHV DORQJ ZI
SURIHVVLQRQDO RUJDQLJDWLRQV DFDDQHPILQHQXIGLWV SDQGL
KLJK &29,' LQFLGHQFH DUHDV 2XHQ\$UWKOHDLVHVRIW&29,'SDQ

WUHDWPHQW JXELGHQGLQFKHRJXLEGHQHPHQSDRYLRQH UHJD
VSHFLILF WUHDWPHQWVORFXDQSDQGLVHRVFRQVLLGHUSRSXODV
LQFOXGLQJ SUHJQDQW ZRPHQ DQG FKLOGUHQ 2Q 0D\
DQDO\VLV RI \$&77 WNKWKHQHQXSHQWRPHQWRPRHQGLQPHGH
WKH WUHDWPHQW RWDZLJHG LQDWHQGLVQDZLDQRTVHSHQGLQDQ

VHQVLWLYH VSHGLDJR RDVQL FUSLWML FDEQ 6\$56Y & B B Q J L F / R O D W
UHDJHQWV WR WKH GHYHORSUV RI WHVWV

7KH 5\$'[8QGHBRVSHXODHSLRQY LQLWLDWQYH VZKΘ QJ B X F R D
SRZHU RI WHFKQRORJLHV GHYHORSHG DQG HQKDQFHG WKU
LPSOHPHQWDWLRQ QID FENDRUUL HWKDOVRS WSHWLQLSR SDXOD WR Q Q V
WKH PRVW 2Q -XQH 1,+ DQQ RUXVQFHLGV LRX/UI RQH ZFRXQ &
HQJDJHG SURMHFWV ZLWKLQ 5\$'[8BQ G KID FJR B D VRW KDKWVKDY
GLVSURSRUWLRQ SDVGHGXU G HQ RIXVQMH V B EVOKH SRSQ V B W Y R Q W
LPSOHPHQWHG WR GHFUHDVH WKHVH GLVSDULWLHV

7KH 1DWLRQDO &DQFHU ,QVWLWXWHWR BRRHGLQDKHLQJ
VHQVLWLYLW\ DQGLSDH 6\$56F & R9 R M F H B O R J L F D O W H V W V Z K
LQGLFDWLYH RI WRS 6\$56 & R9 R V X I & H B Q D J H , Z , R U N L Q J W R H V W
FRODERUDWLYHRQIDVFLRQDVH QH DWZLRQKOT K D S D F L W H I U R R O R J L
ZLWK UHWXUQ RI UHVXOWV WR XXFEM H F W N D U Q K D W G L M Q L R U C H D V
XQGHUVWDQGLQJ B R G H S S O X E D W W R O G F Y O W S L F D O H H I B D W V L
FOLQLFDO WULDOV B R G R V K H D G H W D U N C H R / Q R R U X P W M G V X E M H F
SURWHFWLRQ VWXGLHV

1,\$,' 1&, 1&\$76 D Q G R I , D U % S D U W Q H U L R J L B Q H D V Q H J Z W M
ZKHWKHU DGXOWV LQ WKH 8QLWHG 6WD

FROOHFW GDWD RG WSHFSMLNPD R HIFDOPV \REVVHUYHG LQ SDV
6\$56 &R9 LQIHFWLRQ *Eunit+Kerney, Skier* MIDWLRQDO , QVWLWXWH
+HDOWK DQG +XPDQO'H DORJSDHWDDVH1 , + HIIRU, ' ZLWK SD
WR FRRUGLQDWH UHVHDQGDIPDWRWKHVXGWL V\ VWHP



DYRLG GLVSDULWLHV LQ DFFHVV FORLQHWGRYDLQJFLQXISHOASHWU
WKDQ RQH GRVH LV QHHGHG DQG DVS/RUW DQJWY & FULVQLDFDOR
WKH QDWLRQ¶V LPPXQLJDWLRQ SURJUDP VDIHW\ HIIHFWL
FRQILGHQFH LQ WKH QDWLRQ SURJUDP DQG SROLFLHV

&29,' LV QRW WKURDQ\LIQH DOWRLVGVW 7KH LG
VHDVRQ LV IDVW DSSURDFKLQJ & RWLQR D SULW DORJ DWLRLQ X
DPRQJ RWKHUZLVH KH DQW D WFK LQGHYDVLW VR DQ S DURLXW LQH
YDFFLQDWLRQ KDYH DOVR GHFOLQH D YV D VFKDQW UHQODQLQ
DW ULVN IRU SUHRYHQW DHEOHV G BSHUDY J D WLRQH RHFURYUHFHV KD
GLVUXSWHG E\ &29,' HQV XQ HR DGHU XWRM G LFRVCS EWD D DQSD FLW
ZRUN DJJUHVVLYH D XHQ DL Q DGH D WKRROG URXPXIQ JHDFKLLRQV)X
ZH FRWLQXH WR ILJKW WKHS D QDQD D W K DFR \$ I LGH L Q F D H L Q
YDFFLQHV &' & ZLOP D Q Y J H D W L J H Q L S U R Q W D P Q W R L J K H G B Y F D U D J H
FKLOGKRRG LPPXQLJDWLRQ DWLRLQJ W R R R Q D X D Q F S U G S W U H I R U D
&29,' YDFFLQH

CDC's Immunization Program

9DFFLQHV DUH RQHJ BHSW EOH MF DFKLQW K P W Q W V , Q Y H V W
LPPXQLJDWLRQ SURJUDP K D Y H D Q W S U R M L S P P X Q L J D W L R Q K R I F K L
WKH 8QLWHG 6WDWH D I K Y H V V F R I Q B I H D O W B I G W R S D F W D Q F \ U
KHDOWK GLVSDULWLVH VR ILQSIUR Y D H G R T X D R I G D W U L Q Q L R R F L H W D
, P P X Q L J D W L R Q V K D W L H Q B H S F R P M B I U K R Z Z H F D U H I R U R X U F K L
FKLOGKRRG YDFFLQDWLRQV DUH DW QHDU RU DERYH SH
SUHYHQWDEOH GLVHDVHV KDYH GHFOLQH D W B G / H E V Z L S H K U W H K Q W
LQWURGXFWRQ RI YDFFLQHV \$ G X W K R X Q D H G V Y D I F D I G Q X W W R
EHFRPH VHULRXV S L W D O L P Q G E H F H K W W Y R I F G L Q H D V H D Q W K H O S
&' & ¶ V L P P X Q L J D W L R Q SURJUDP S O D \ W O D M X I Q G O P H Q W P X Q U F D O
JRDOV DQG VXVWDLQLQJ KLJK YDFGHQ DW L R Q G F R Y H D E L J O I L W D
VLJQDWXUH SLHFHV RI WKLV SURJUDP D Q F O X G W L W I O H B B E F M
DQG &' & ¶ V G L V F W L R Q L R Q D P R X Q E J D W L R Q 3 U R J U D P

LQFUHDVLQJ FRPPWQLBFWLRQ SIDURQWSDUSORMLGRUWIDH LP
URXWLQH YDFFLQDWLRQV GXULQJ WKRX&ZD'DFKSDGSHPRYLD
LQIRUPDWLRQ DERXW WKH 9)& SURZKBPVWKIDPHOLHFFHQWVS
LQVXUDQFH FRYHRUZRHN&QJ IZLVDO SIDUWGDWWRWRNRRO Y
DFWLYLWLHV GXULQJ WKH VXPPHDODQG&RQMLXQHQJGFBREUQL
EHWZHHQ KHDOWQGFBN EOSLFRKHLGOWK BILFHGDWDOV OVKYH OVR
EH QHHGHGWRBH DQG PDLQWDLQ WRXUWLEHVS&UDWJWFKMDSF

\$QRWKHU DFWLWRWHIWKFDWLYN GIMWRIL&ZD,LRQYDFGLQSHW
HQVXULQJ SHRSOH KDYH DFFXUDWXLWQHWRWDOJLWQKWRDPDFNLK

Preparing for COVID-19 Vaccines

&'& LV ZRUNLQJ FORWHUODJZLQFK WMDISLWPKGRWZHUJPGRHO FULV
UHODWHG WR D &29,JUDFDWFKURKJ& 2HDG'&WRWDOHGLWU H[SH
SXEOLF KHDOWK SUHSDUHGQHVV DWGRQHVCIRUOWWDOORWUZH
2:6 LQ YDFFLQH SURPRWLRQ GLVWULEXWLRQ DGPLQLVWUD
LQYHVWPHQWV WKURXJK WKH &RURIQDXULWV\$FLG KDPHIDOD
WR SURYLGH LWZDURPHQLJDWBRQOLRQ LQ VXSSOHPHQWDO I
HQKDQFH WKHLU LPPXQLJDWLRQ SURJUDQFHG7KRVVXS\$RMPH
DZDUGHH DQG ORPHQWVWDMWKQGHSRSDWJQLVDSVLRQWPEB
SUHSDUHGQHVV WDRQPDQVGDGEMLRQ WR RWKHU &29,' À PV

7KHUH DUH PDQ\ FVLWR FDRQ 7 B 8 B QHQMD SSCHPGHQLB WLR
YDFFLQH 0DQ\ RZLWQH H GHFWRUPV LQHGWE DW B HF B D D D W HUL
OLFHQVHG YDFFLQHV DQG WKH SULRU



GHWHFW DQG WUGHZLWVWKRUVNXLSDHURVGI RI KDYLQJ & 2

Vaccine Development Efforts

6LQFH ODWH -DQXDU\ %\$5'\$ KDV FRRORERKUDWRIGHZLQVFK
LGHQWLI\ SRWHQWEDDORZQWHBFRB DVXUH FDQGLGDWHV DQ
GHYHORSFHQW %\$5\$FRU/GDRWVDFHVV LQ GHOLYHULQJ HI
UHVSRQVH WR SXEOLHFVKBDVWVXIRFHUWVHQV LQEQDQXGHQWJ
SDQGHPLF (ERQD RXWELLQDNHW \$IULFD DQG LQ WKH 'H
WKH &RQJR DV ZRHOEDVDMKHQ=LND)RU WKHVH SDVW UHVSR
FXUUHQW UHVSRQVHHWR &DQ, 'SUR&RQH HPHUJHQF\ VXSSOH
VXSSRUW WKH XUJHQW QHHG IRU PHGLFDO FRXQWHUPHDVX

\$W WKH RQVHW RI 'SKHSDIQZHG ILQY%\$5\$ PFRQWU DFRGLI D
EHJDQ ZRUNLQJ ZLWKQ5HDQGHURILWDDWHHWKHWBHLQHORSPI
YDFFLQHV DQG WKHUDSHXWLFV IRXQ&Q, GHYHSDORSWK UHRHWKD
SURSK\ODFWLF DQG %D0p€€pÀ` P up€ Lrp0 €pÀ€` 0@pÄ P1 W

,W LV LPSRUWD QW HW R VQLW W OX KDGR Z HQ Q J OQ D Q TX LRJ H C
UHJXODWRU\ DQG W DJHTXKL U H GX LRUPPH QW L QH DGHY Q B W SV D F UL
VDIHW\ RI WKH YDFFLQH LQ RUG HDU W RL Q V SH Q LGW M XLS B R U G M LY C
WKH VDPH WLPH , QH DGHG LHV LR SQ HWRW W Z F J D Q H Q X X S SW X UL Q J H
HQVXUH ZH DUH RGRX FLW DR Q G H G D W R E S B W X R N O A W B S Z G H F F H Q W L Y H
6SHFLIZH D D O H P D N F L Q Q W L Q Y Q V W K H Q H F H V V D U \ P D Q X I D F W X U L
JLYLQJ FRPSDQLH WKR HQ IE G G L Q H Y H Q K V D W Y H O R S P L H Q W D Q G D O
IDVWHU PDQXIDF W X O U G Q V W D Q G E X R W D Q F L Q D Q H D Y H Q V X W X U L Q J
IRU VHOHFWHG FDQGLGDWHV EHLQJ D W G Y D W L F H G L Z K G O H Y H O R S
WKDQ VFDHGH XSD X W K R U D \$ S W B R Q O 7 R U H O D \ \$ S U L O D Q
DJUHHPHQWV ZLW R G S H U Q D D = H Q G H F D Q V V H Q - R K Q V R Q - R K Q V R
SURGXFW GHYHORS PHQW DQG LQYHJV W P S H Q W O L L V Q L G D U J H K V H F

%LRVHUYLFHV , QFLOERKXG GIDOVHFKDUS\, VZR XCHS WKH &RP
XSGDWHG RQ WKH SURJUHVV RI XWILQVWLV&V\$D FHDV ZH PR

6LQFH LWV HVWDEOLSKDMSWR YHQ VLXSSRUXWEEVVS DQW
SXEOLF KHDOWK DQG PHGLFDO HPHUXBQRUMHG: KXW KHEDWK
IORRGV LQIOXHQJDURKQIEHFM LNRXV DQGLVROGHFLFX, KIOXHQJD
(EROD =LND R29WKH SFXQGHILQV &ZHVKKH YH XWKLQULMG HV DQC
UHVRXUFHV SURYLGHMVEV XSPQRJUMHWSR V QLEW LVR R WQ HUKUHD
PLWLJDWLQJ WKH ODVWLQJ LP SDFKHG %RSYH\$ KDVLQ &KFWUMIX
SDUWQHUVKLSV DQSSRURW DQVHGRU PHQD K D DVFR)XQWKHB
%\$5'\$ KZRUNHG ZLWKV LWRV SBYHQRSHURKQVR JSLOVWWRKDFW WDF
UDSLG GHYHORSPHQW DQG PDQXIDFLVQ WIKQJIBF # HRG LF DQZC
HPHUJLQJ WKUHDW

7KDQN \RX DJDLQ IRU \RXU VXSSRUW DERXURSDUMLQVWR
DFFRPSOLVKPHQWGH, DVP WKDW ZH FDLQ WXULLENOMHGDIYDORSDQ
YDFFLQH WR UHFQXRH &2KH' LP S/R RXU QDWLRQ

&RQFOXVLRQ

++6 DSSUHFLDWHVLQMKHUVX/SRUV & DQGHVV LQ RXU ZRUN
:DUS 6SHHG DQG WKH GHYHORSPHQW JRIRYDVLFFLVQ H&R QWK GHD
SRWHQWLDO KHDOWK VRFLDO DQDQGRHQRHPFLWLEYHQYDIFWVQR
SODFLQJ ELJ ILQDQFLDO EHWV RQ WKHVH YDFFLQHV LV D I
DQDO\VLV SXW WKH FWDVWRIRKQDNLVROQZHEGOOLVRQDERGD\2WR
QRWKLQJ RI WKHQQLYRHWWWKBDWDIDHVEHQ SDRHUZHLWVKWRZDUG
:HJUH SXWWLQJ ELOOLRQV RI GRUODDOLVROQ GARKHODUQFKDORV

:H ORRN IRUZDUG WRSDJWHQWUDQG ZIRWNLQJ WRJHWKHU
FRQLQXHV WR RSHQ VDIHO\ DJDLQ 7KDQN \RX IRU WKH R
IRUZDUG WR \RXU TXHVWLRQV