(SLGHPLRORJLFDO 6WXG\ RI 1HRQDWDO %DFW

5DGRXDQL 0$ELULO 0XVWDSKD(OO +DVVDQDOLG$%DUDNDW $

'HSDUWPHQW RI 0HGLFLQH DQG 1HRQDWDO 5HVXVFLWDWLRQ 1DWLRQDO &HQWHU IRU 1HRQDWRORJ\ DQG

5HVHDUFK 7HDP RQ 0DWHUQDO DQG 1HRQDWDO 1XWULWLRQ DQG +HDOWK)DFXOW\ RI 0HGLFLQH 8QLYHU

'HSDUWPHQW RI 3XEOLF +HDOWK)DFXOW\ RI 0HGLFLQH 8QLYHUVLW\ 0RKDPPHG 9 RI 5DEDW 0RURFFR

&KHLNK]DLG +RVSLWDO 0RURFFR

&RUUHVSRQGLQJ DXWKRU $PLQD %DUDNDW 'HSDUWPHQW RI 0HGLFLQH DQG 1HRQDWDO 5HVXVFLWDWLRQ

6LQD KRVSLWDO ,EQ 5XVKG EG   6XLVV 5DEDW DUURNLRWRPLDHO#\DKRR IU (PDLO

5HF GDWH -XO$FF GDWH 6HSWHPEXU GDWH 6HSWHPEHU

$EVWUDFW

1HRQDWDO EDFWHULDO PHQLQJLWLV KDV D PRUWDOLW\ UDWH WKDW H[FHHGV
FDVHV 7KH HSLGHPLRORJ\ RI EDFWHULDO PHQLQJLWLV LV YDULDEOH GHSHQGLQJ R

$LP RI WKH 7RVWXG\ WKH LQFLGHQFH RI QHRQDWDO PHQLQJLWLV NQRZ WKH H
DQG ULVN IDFWRUV

3RSXODWLRQ DQG$ PHWKRGVSHFWLYH VWXG\ DERXW FDVHV RI QHRQDWDO PHQLQ
-DQDU\ 'HFHPEHU DW WKH 1DWLRQDO 5HIHUHQFH &HQWUH IRU 1XWULWLRQ
+RVSLWDO RI 5DEDW

5HVXOWWKH SUHYDOHQFH RI QHRQDWDO EDFWHULDO PHQLQJLWLV ZDV   SHU
EHWZHHQ   DQG \HDUV LQ   RI FDVHV 7KH\ ZHUH LOOLWHUDWH LQ   RI FDVHV
RI FDVHV)DPLOLHV ZHUH IURP XUEDQ HQYLURQPHQW LQ   RI FDVHV 3ULPLSD
KDG YDJLQDO GHOLYHU\ LQ   RI ZRPHQ 7KH $SJDU ZDV   WR   RI QHZERUQV 7
H[WUHPHV RI   DQG   GD\V 7KH VH[UDWLR ZDV   :HUH SUHWHUP FKLOGUHQ LQ
FDVHV 7KH DYHUDJH DJH DW GLDJQRVLV ZDV   GD\ (QFHSKDOLWLV DVVRFLDWHG P
RI FDVHV IROORZHG E\ JURXS % VWUHSWRFRFFXV *%6 ZKLFK UHSUHVHQWV
SRVLWLYH LQ   RI SDWLHQWV 7KH\ ZHUH FRQJHQLWDO DQPDOLHV DVVRFLDWHG
PRQLWRULQJ SUHJQDQF\ DQG WKH SUHVHQFH RI FRQJHQLWDO PDOIRUPDWLRQV ZH
WKH RFFXUUHQFH RI QHRQDWDO EDFWHULDO PHQLQJLWLV 7KH GHDWK RFFXUUHG L

&RQFOXVLRRQDWDO EDFWHULDO PHQLQJLWLV ZDV VLJQLILFDQWO\ UHODWHG WR D

.H\ZRUGV 1HRQDWHV %DFWHULDO 0HQLQJLWLV DQG 0HWKRGV

,QWURGXFWLRQ

1HRQDWDGD\V RI OLIH DUH WKH PRVW
PHQLQJHDO LQIHFWLRQ DQG QHXURORJL
LQ WKHLU FDUH QHRQDWDO EDFWHULDO
PRUWDOLW\ UDQJLQJ IURP   WR
REVHUYHG LQ   RI VXUYLYRUV > @
PHQLQJLWLV UHVXOWV IURP LQFUHDVH
SUHPDWXUH GHOLYHU\ DQG IURP LPPL
GHYHORSLQJ FRXQWULHV ,Q DGGLWLR
ILQGLQJV PDNHV GLDJQRVLV RI PHQLQJ
LQ ROGHU FKLOGUHQ DQG DGXOWV 0RU
VHHQ LQ LQIDQWV DV D FRQVHTXHQFH RI
V\VWHPV DQG LQWLPDWH H[SRVXUH
PRWKHUV 7KH DLP RI RXU VWXG\ ZDV WR
GLVHDVH LQ RXU FRQWH[W WR GHWHUPLQH
PDWHUQDO IDFWRUV DVVRFLDWHG
FRPSOLFDWLRQV

,W LV D UHWURVSHFWLYH GHVFULSWLYH
EDFWHULDO PHQLQJLWLV REVHUYHG LQ
SDUWPHQWRISRSXODWLRQDWULWLRQ RI FKLOG
QHXURORJLFDO FRPSOLFDWLRQGHVSLWH SURJUHVV
KRVSLWDOLQWHG URRPLQHFWLRQ ULVWKHLG
UHWDOLQH URQHQDQR QHVWLXFOODQG LQIODPP
FXOWKUHZL VQWHHI SRZQDWDO$OO WR
QXPEDWKSXQFWXUH RI QLQPDWRU\ FUDQLDO
LWHGFWEYHV SURWHHLG F53 SHURUPHG LQ
FORRWKFRDEWHQ %L&R &V SHZDV FRQVLGHUHG
WKDQ RUHTXDOLWROO PLQH&EQRWDPOLWD
FRQYLGHUHGZHQHZKDULHWORRGSWRRJFRXQW
PRODQGPXWDULQDWH WK\PHVLPWKDQ
HPOQSRVLVLELOLVQIHHWLRQGLRGRPDWOHDVW
k &HUHEURVSLQDO1OXLG &6) REWWHULDO
JOXFRVHLRGHRRJDSKFH DQG RU FKUHEURVSLQDO
LGHQWLI\LUJN IDFWRUV DQG DQDOLH
k &HOOXODU UHVSRQVH VXSHULRU WR
k 3RVLWLYH GLUHFW H[DPLQDWLRQ DIWHU

k 3RVLWLYH FXOWXUH RU SUHVHQFH RI VROXEOH DQWLJHQV LQ &6)

$QDO\VLV RI ULVN IDFWRUV IRU GHYHORSLQJ EDFWHULDO PHQLQJLWLV

6RFLRGHPRJUPDSKLFGDO DQG REVWVKHWULLFDO IHDWXUHV

UXUDO DUHDV ZDV VLJQLILFDQWO\ DVVRFLDWHG ZLWK WKH RFFXUUHQFH RI QHRQ
EDFWHULDO PHQLQJLWLV   YV   S   0RWKHUV DJHG RYHU
\HDUV DFFRXQWHG IRU   RI FDVHV WKLV JURXS ZDV VWDWLVWLFDOO\ PRUH
H[SRVHG WR GHYHORSLQJ PHQLQJLWLV   YV   S   ,Q
XQLYDULDWH DQDO\VLV PXOWLSDULW\ DQG QRW PRQLWRUHG SUHJQDQFLHV ZHUH
VLJQLILFDQWO\ DVVRFLDWHG ZLWK DQ LQFUHDVHG ULVN RI QHRQDWDO EDFWHU
PHQLQJLWLV UHVSHFWLYHO\   YV   S   DQG   YV
S   :H GLG QRW REVHUYH VLJQLILFDQW GLIIHUHQFHV LQ WKH PRGHV RI
GHOLYHU\ DPRQJ QHZERUQV LQIHFWHG JURXSV DQG WKH FRQWURO JURXS
S

1HRQDWDO IHDWXUHV

,Q XQLYDULDWH DQDO\VLV SHULQDWDO DVSK\[LD ZDV D ULVN IDFWRU IRU
GHYHORSLQJ EDFWHULDO PHQLQJLWLV LQ QHZERUQV   YV   S $
ZHLJKW RI OHVV WKDQ   JUDPV DW ELUWK ZDV DVVRFLDWHG ZLWK D KLJKHU
ULVN RI GHYHORSLQJ QHRQDWDO PHQLQJLWLV S   DV ZHOO DV FRQJHQLWDO
GHIHFWV ULVN 0XOWLYDULDWH DQDO\VLV VKRZHG WKDW WKH PDLQ ULVN IDFWRU
QHRQDWDO EDFWHULDO PHQLQJLWLV ZHUH QRW IROORZHG SUHJQDQFLHV 25
   &, >   @ S   WKH VPDOO ELUWK ZHLJKW 25
&, >   @ S   DQG WKH SUHVHQFH RI FRQJHQLWDO PDOIRUPDWLRQV
25   &, >   @ S   7DEOH

'LVFXVVLRQ

7KH GHFUHDVH RI PRUWDOLW\ REVHUYHG LQ UHFHQW \HDUV LQ FDVHV RI
PHQLQJLWLV FDQ EH DWWULEXWHG WR EHWWHU WKHUDSHXWLF HIILFDF\ EXW DOO
HDUOLHU GHWHFWLRQ 2YHU WKH SDVW   \HDUV WKH LQFLGHQFH RI QHRQDWD
EDFWHULDO PHQLQJLWLV KDV FKDQJHG QRW YHU\ > @ ,Q RXU VWXG\ WKH
SUHYDOHQFH RI PHQLQJLWLV ZDV   SHU   OLYH ELUWKV 7KH SUHYDOHQFH
LQ LQGXVWULDOL]HG FRXQWULHV YDULHV EHWZHHQ   DQG   SHU   OLYH
ELUWKV ,Q WKH 8. WKH ODVW HVWLPDWHG LQFLGHQFH IURP PLG   ZDV
   SHU   OLYH ELUWKV ZKLFK DPRXQWV IRU DERXW   FDVHV \HDU 7KH
KLJKHVW QXPEHUV DUH IRXQG LQ WKH GHYHORSLQJ FRXQWULHV YDU\LQJ
EHWZHHQ   DQG   SHU   OLYH ELUWKV > @

+HDWK 37 1LN <XVRII 1. %DNHU &-
'LV &KLOG)HWDO 1HRQDWDO (G   )
*DVFKLJQDQ/UHG\ & 5RPDLQ 2 &RKHQ 5
1HRQDWDO %DFWHULDO 0HQLQJLWLV

+RO(W +DONHW 6 GH /RXYRLV - +DUYH\ '
(QJODQG DQG :DOHV \HDUV RQ $UFK 'LV
)
3RO 5Q +DUULV 0& 1HRQDWDO EDFWHULDO PHQLQJLWLV
1HRQDWRO
5D\ %DQJDORUH - +DULNXPDU & 7XODGKDU $,V OXPEDU SXQFWXUH
QHFHVVDU\ IRU HYDOXDWLRQ RI HDUO\ QHRQDWDO VHSVLV" $UFK 'LV &KLOG

1HRQDWDO PHQLQJLWLV $URKOLQLFDO RXWFF
PHQLQJLWLV DFFRUGLQJ WR ELUWK ZHLJKW
%LQJHQ DFV HW DO7KH PDQDJHPHQW RI QHRQDWD
&DVHV LQ ' <RRUW 3HGLDWU QIHFW 'LV %DFW
QHZERUQ D SURVSHFWLYH VWXG\ RI PRU
3HULRQDWDO PHQLQJLWLV LQ
OLQGHUKLQ &P %H\HQ -- 3HUPDQ 0   3H
RI QHRQDWDO EDFWHULDO PHQLQJLWLV 3HG