

	report_unit	year	ID	noti_	CI_	foci_	total_
1	01 Vientiane Capital	2018	1	0	0	0	9
2	01 Vientiane Capital	2019	1	0	3	1	9
3	01 Vientiane Capital	2020	1	0	1	0	1
4	01 Vientiane Capital	2021	1	1	1	0	1
5	01 Vientiane Capital	2022	1	5	5	1	5
6	02 Phongsali	2018	2	0	25	15	82
7	02 Phongsali	2019	2	1	2	1	3
8	02 Phongsali	2020	2	0	0	0	0
9	02 Phongsali	2021	2	0	0	0	0
10	02 Phongsali	2022	2	0	0	0	0
11	03 Louangnamtha	2018	3	0	0	0	1
12	03 Louangnamtha	2019	3	0	0	0	1
13	03 Louangnamtha	2020	3	0	1	1	1
14	03 Louangnamtha	2021	3	0	0	0	0
15	03 Louangnamtha	2022	3	0	0	0	0
16	04 Oudomxai	2018	4	0	2	1	4
17	04 Oudomxai	2019	4	0	0	0	0
18	04 Oudomxai	2020	4	0	0	0	0
19	04 Oudomxai	2021	4	0	0	0	0
20	04 Oudomxai	2022	4	1	1	1	1
21	05 Bokeo	2018	5	0	0	0	0
22	05 Bokeo	2019	5	0	0	0	0
23	05 Bokeo	2020	5	0	0	0	0
24	05 Bokeo	2021	5	0	0	0	0
25	05 Bokeo	2022	5	0	0	0	0
26	06 Louangphabang	2018	6	0	1	1	5
27	06 Louangphabang	2019	6	0	4	1	5
28	06 Louangphabang	2020	6	0	14	1	14
29	06 Louangphabang	2021	6	1	1	0	4
30	06 Louangphabang	2022	6	0	0	0	0
31	07 Houaphan	2018	7	0	0	0	0
32	07 Houaphan	2019	7	0	0	0	0
33	07 Houaphan	2020	7	0	1	0	1
34	07 Houaphan	2021	7	0	0	0	0
35	07 Houaphan	2022	7	0	0	0	0
36	08 Xainyabouli	2018	8	0	0	0	3
37	08 Xainyabouli	2019	8	0	1	1	3
38	08 Xainyabouli	2020	8	0	4	1	4
39	08 Xainyabouli	2021	8	0	0	0	0
40	08 Xainyabouli	2022	8	1	1	0	1
41	09 Xiangkhouang	2018	9	0	1	0	1
42	09 Xiangkhouang	2019	9	0	1	0	1
43	09 Xiangkhouang	2020	9	0	0	0	0
44	09 Xiangkhouang	2021	9	1	1	1	1
45	09 Xiangkhouang	2022	9	2	2	0	2
46	10 Vientiane	2018	10	0	0	0	5
47	10 Vientiane	2019	10	0	2	0	2
48	10 Vientiane	2020	10	0	0	0	1
49	10 Vientiane	2021	10	1	1	1	1
50	10 Vientiane	2022	10	0	0	0	0
51	11 Bolikhamxai	2018	11	0	0	0	5
52	11 Bolikhamxai	2019	11	0	1	0	1
53	11 Bolikhamxai	2020	11	0	2	2	2
54	11 Bolikhamxai	2021	11	1	1	0	1

	report_unit	year	ID	noti_	CI_	foci_	total_
55	11 Bolikhamxai	2022	11	1	1	0	1
56	12 Khammouan	2018	12	0	11	6	138
57	12 Khammouan	2019	12	0	40	2	49
58	12 Khammouan	2020	12	1	147	13	183
59	12 Khammouan	2021	12	88	90	16	90
60	12 Khammouan	2022	12	40	40	14	40
61	13 Savannakhet	2018	13	0	0	0	0
62	13 Savannakhet	2019	13	0	0	0	0
63	13 Savannakhet	2020	13	0	0	0	0
64	13 Savannakhet	2021	13	2	2	1	2
65	13 Savannakhet	2022	13	38	37	30	38
66	14 Salavan	2018	14	0	0	0	0
67	14 Salavan	2019	14	0	0	0	0
68	14 Salavan	2020	14	0	0	0	0
69	14 Salavan	2021	14	2	2	0	2
70	14 Salavan	2022	14	7	8	5	8
71	15 Xekong	2018	15	0	0	0	0
72	15 Xekong	2019	15	0	0	0	0
73	15 Xekong	2020	15	0	0	0	0
74	15 Xekong	2021	15	0	0	0	0
75	15 Xekong	2022	15	3	3	2	3
76	16 Champasak	2018	16	0	0	0	0
77	16 Champasak	2019	16	0	0	0	0
78	16 Champasak	2020	16	0	0	0	0
79	16 Champasak	2021	16	6	6	0	6
80	16 Champasak	2022	16	46	47	6	48
81	18 Xaisomboun	2018	17	0	0	0	4
82	18 Xaisomboun	2019	17	0	3	0	3
83	18 Xaisomboun	2020	17	0	0	0	0
84	18 Xaisomboun	2021	17	0	0	0	0
85	18 Xaisomboun	2022	17	0	0	0	0

Data dictionary for secondary data analysis

variable name	variable label	value label name	field type	Choices label or Calculation
ID	No			
report_unit	Reporting Unit	report_unit_	dropdown	01 "Vientiane Capital" 02 "Phongsali" 03 "Louangnamtha" 04 "Oudomxai" 05 "Bokeo" 06 "Louangphabang" 07 "Houaphan" 08 "Xainyabouli" 09 "Xiangkhouang" 10 "Vientiane" 11 "Bolikhamsai" 12 "Khammouan" 13 "Savannakhet" 14 "Salavan" 15 "Xekong" 16 "Champasak" 17 "Xaisomboun"
notified within 1 day (For each year from 2018 - 2022)				
noti_####	No. of malaria cases notified within 1 day (####)		numeric	pctnoti_#### = noti_#### / total_####
case investigation completed within 3 days (For each year from 2018 - 2022)				
CI_####	No. of CI completed within 3 days (####)		numeric	pctCI_#### = CI_#### / total_####
Foci investigation completed (For each year from 2018 - 2022)				
foci_####	No. of completed foci investigations (####)		numeric	
Total malaria case (For each year from 2018 - 2022)				
total_####	Total no. of malaria cases (####)		numeric	

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```

1 *****
2 *
3 NL_RASR_Laos Secondary Data
4 *****
5 * Do file      : secondary data_Laos1-3-7.do
6 * Project     : RASR (Laos) project (Secondary data)
7 *
8 * Data used   : Please see each section below
9 *
10 * Data created : 1) Secondary data 1-3-7 Laos (wide).dta
11 *              2) Secondary data 1-3-7 Laos (long).dta
12 *
13 * Date created : 5 Mar 2023
14 * Date modified : 7 Mar 2023
15 *
16 * Author      : Dr. Nilar Aye Tun
17 *
18 * Purpose     : 1) Data cleaning
19 *              2) Table output for completeness and timeliness
20 *              3) Descriptive statistics
21 *****
22
23 clear all
24 capture log close
25 capture set more off
26 capture frame drop
27 version 16.1
28
29 pwd
30 cd "~/Documents/Work/Burnet/RASR - Laos/Data & Script/Datasets"
31
32
33
34 * - - - - -
35 *              Combine all excel sheets into one dataset
36 * - - - - -
37 tempfile timely_noti timely_CI timely_foci total_malaria
38
39 // import Timely notification sheet
40 import excel "secondary data on 1-3-7_Laos.xlsx", sheet("notified within 1-day") cellrange(A4:H21)
41 firstrow clear
42 rename No ID
43 rename ReportingUnit report_unit
44 local i = 2018
45 foreach v of varlist C-G {
46     label var `v' "No. of malaria cases notified within 1 day (`i')"
47     rename `v' noti_`i'
48     local ++i
49 }
50 // Check if there is any remark, and if none, drop it
51 codebook Remark
52 drop Remark
53
54 capture drop __000*
55 save `timely_noti', replace
56
57
58
59 // import timely CI sheet
60 import excel "secondary data on 1-3-7_Laos.xlsx", sheet("case investigations Completed w")
61 cellrange(A4:H21) firstrow clear
62 rename No ID
63 rename ReportingUnit report_unit
64 local i = 2018
65 foreach v of varlist C-G {
66     label var `v' "No. of CI completed within 3 days (`i')"
67     rename `v' CI_`i'

```

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```
67     local ++i
68   }
69
70   // Check if there is any remark, and if none, drop it
71   codebook Remark
72   drop Remark
73
74   capture drop __000*
75   save `timely_CI`, replace
76
77
78   // import foci invx sheet
79   import excel "secondary data on 1-3-7_Laos.xlsx", sheet("foci investigations complete") cellrange(
80   A4:H21) firstrow clear
81
82   rename No ID
83   rename ReportingUnit report_unit
84   local i = 2018
85   foreach v of varlist C-G {
86     label var `v` "No. of completed foci investigations (`i')"
87     rename `v` foci_`i`
88     local ++i
89   }
90
91   // Check if there is any remark, and if none, drop it
92   codebook Remark
93   drop Remark
94
95   capture drop __000*
96   save `timely_foci`, replace
97
98   // import total malaria sheet
99   import excel "secondary data on 1-3-7_Laos.xlsx", sheet("Total Malaria Case") cellrange(A4:H21)
100  firstrow clear
101
102  rename No ID
103  rename ReportingUnit report_unit
104  local i = 2018
105  foreach v of varlist C-G {
106    label var `v` "Total no. of malaria cases (`i')"
107    rename `v` total_`i`
108    local ++i
109  }
110
111  // Check if there is any remark, and if none, drop it
112  codebook Remark
113  drop Remark
114
115  capture drop __000*
116  save `total_malaria`, replace
117
118  // combine all 1-3-7 info in one dataset
119  use "`timely_noti'"
120  merge 1:1 report_unit using `timely_CI`, assert(3) nogen
121  merge 1:1 report_unit using `timely_foci`, assert(3) nogen
122  merge 1:1 report_unit using `total_malaria`, assert(3) nogen
123
124  label data "Secondary data 1-3-7 Laos"
125
126  foreach v in report_unit {
127    encode `v`, gen(unit) label(`v`_)
128    order unit, after(`v`)
129    drop `v`
130    rename unit `v`
131  }
132
```

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```

133
134 /*
135 "0" and blank cells mean the same - that there was no case investigation or notification done
136 (true zero). (Email 17 Feb 2023)
137 */
138 forval i = 2018(1)2022 {
139     foreach v in noti CI foci total {
140         di "This is for `v'`i'"
141         replace `v'`i' = 0 if missing(`v'`i')
142     }
143 }
144 capture drop __000*
145 save "Secondary data 1-3-7 Laos (wide).dta", replace
146 * -----
147
148
149 // Store the variable labels in local
150 local extra " (2018)"
151 foreach x in noti CI foci total {
152     local `x'lbl2018: var label `x'`_2018
153     di "`x'lbl2018'"
154     local `x'lbl: list `x'lbl2018 - extra
155     di "`x'lbl'"
156 }
157
158
159 // reshape to long format
160 reshape long noti_ CI_ foci_ total_, i(report_unit) j(year)
161 foreach x in noti CI foci total {
162     label var `x' "`x'lbl'"
163 }
164
165 capture drop __000*
166 save "Secondary data 1-3-7 Laos (long).dta", replace
167 * -----
168
169
170
171
172
173
174 * -----
175 *                               Exploratory data analysis
176 * -----
177 use "Secondary data 1-3-7 Laos (wide).dta", clear
178 order total*, after(report_unit)
179 order *_2018 *_2019 *_2020 *_2021 *_2022
180 order ID report_unit, first
181
182 // Check if all the cells are zero when there was no index case in that year
183 forval i = 2018 (1) 2022 {
184     foreach y in noti CI foci {
185         assert `y'`i' == 0 if total_`i' == 0
186     }
187 }
188
189
190 // Calculate the n(%) of noti and CI for each unit by each year
191 forval i = 2018 (1) 2022 {
192     foreach y in noti CI {
193         gen pct`y'`i' = (`y'`i'/total_`i')*100
194         replace pct`y'`i' = 0 if missing(pct`y'`i')
195         replace pct`y'`i' = . if total_`i' == 0
196         order pct`y'`i', after(`y'`i')
197     }
198     foreach y in noti CI foci {
199         replace `y'`i' = . if total_`i' == 0

```

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```

200     }
201   }
202
203   /*
204   tabdisp report_unit, c(total_2018 CI_2018 pctCI2018)
205   table report_unit, c(sum total_2018 sum CI_2018 mean pctCI2018) row col missing
206   tabstat total_2018 CI_2018 pctCI2018, by(report_unit)
207   */
208
209   // collapse the dataset
210   collapse (mean) total_2018 CI_2018 pctCI2018, by(report_unit)
211
212   collapse (sum) total_2018 CI_2018
213
214
215   use "Secondary data 1-3-7 Laos (long).dta", clear
216   order total_, after(ID)
217   gen P = 0
218   global n = _N
219   forval i = 1(1)$n {
220     if CI_['i'] != 0 & total_['i'] != 0 {
221       cii proportions total_['i'] CI_['i']
222       qui replace P = r(mean) in `i'
223     }
224   }
225 }
226
227 * -----
228 *       For Table output
229 * -----
230 foreach y in noti CI {
231   gen pct`y' = (`y'/total_)*100
232   replace pct`y' = 0 if missing(pct`y')
233   replace pct`y' = . if total_ == 0
234   order pct`y', after(`y'_)
235 }
236 foreach y in noti CI foci {
237   replace `y'_ = . if total_ == 0
238 }
239 /*
240 bysort year: tabstat total_ CI_ pctCI, by(report_unit)
241 tabdisp report_unit year, c(total_ CI_ pctCI)
242 table report_unit year, c(mean total_ mean CI_ mean pctCI) row col missing
243 */
244
245 foreach v in total_ noti_ CI_ foci_ {
246   local `v'lbl: var label `v'
247   di "`v'lbl'"
248 }
249 collapse (mean) total_ noti_ pctnoti CI_ pctCI foci_, by(report_unit year)
250 foreach v in total_ noti_ CI_ foci_ {
251   label var `v' "`v'lbl'"
252 }
253
254 foreach pct in noti CI {
255   label var pct`pct' "% (timely `pct')"
256 }
257
258 sort year report_unit
259 decode report_unit, gen(ID)
260
261 tempfile tojoin
262 preserve
263 collapse (sum) total_ noti_ CI_ foci_, by(year)
264 foreach y in noti CI {
265   gen pct`y' = (`y'/total_)*100
266 }
267 gen str ID = "Z_Overall"

```

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```

268 li
269 save `tojoin', replace
270 restore
271 append using `tojoin'
272 sort year ID
273 forval i = 0/9 {
274     replace ID = substr(ID, "`i'", "",.)
275 }
276 replace ID = strtrim(ID)
277
278 tempvar mysort
279 bysort year (ID): gen `mysort' = _n
280 li year `mysort' ID if year == 2019
281 replace ID = regexr(ID, "Z_", "")
282 sencode ID, gen(nreport_unit) gsort(`mysort')
283 drop ID report_unit
284 rename nreport_unit report_unit
285 order report_unit, after(year)
286
287 *bysort year: tabstat total_ CI_ pctCI, by(report_unit) nototal
288
289 tabdisp report_unit year, c(total_)
290 bysort year: tabdisp report_unit, c(noti_ pctnoti CI_ pctCI foci_) missing
291 /*
292 From the above two commands, the table contents are copied to excel manually, and we got the
293 following excel file.
294 */
295 import excel "secondary data draft tables.xlsx", sheet("Sheet1") firstrow clear
296
297 rename A report_unit
298 forval i = 2018 (1) 2022 {
299     label var Total_`i' "Index cases (`i')"
300     label var noti_`i' "Case notification within 1 day (`i')"
301     label var CI_`i' "Case investigation within 3 day (`i')"
302     label var foci_`i' "No. of completed foci investigation (`i')"
303     foreach y in pctnoti pctCI {
304         label var `y'_`i' "`y'_`i'"
305     }
306 }
307
308 ds, has(type string)
309 local strlist `r(varlist)'
310 local toremove "report_unit"
311 local mylist: list strlist - toremove
312 foreach y of local mylist {
313     gen n`y' = real(`y')
314     codebook n`y'
315     order n`y', after(`y')
316     local `y'_lbl: var label `y'
317     label var n`y' "`y'_lbl'"
318     drop `y'
319     rename n`y' `y'
320 }
321
322 forval i = 2018 (1) 2022 {
323     foreach y in noti CI {
324         format pct`y'_`i' %9.2f
325         egen str`y'_`i' = concat(pct`y'_`i'), format(%9.1f)
326         replace str`y'_`i' = "(" + str`y'_`i' + "%)" if str`y'_`i' != "."
327         egen n`y'_`i' = concat(`y'_`i' str`y'_`i'), punct(" ")
328         replace n`y'_`i' = substr(n`y'_`i', 1, length(n`y'_`i') - 1) if substr(n`y'_`i', -1, 1) ==
329         "."
330         replace n`y'_`i' = strtrim(n`y'_`i')
331         replace n`y'_`i' = substr(n`y'_`i', 1, length(n`y'_`i') - 1) if substr(n`y'_`i', -1, 1) ==
332         "."
333     }
334     drop str`y'_`i'
335     order n`y'_`i', after(`y'_`i')
336     drop pct`y'_`i'

```


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```
397 clear all
398 exit
399
400
401
402
403
404
405
406
407
408
```