SPEAK Surveillance

Part I:
Monitoring transmission of
L.donovani

Objectives:

- Main objective
  - Determine whether sero surveys can be used as a tool to monitor (absence of) transmission of *L. donovani*

- Secondary objectives:
  - Develop optimal screening algorithms and determine optimal sample size
  - Estimate the cost of sero surveys as monitoring tools for *L. donovani* transmission
  - Historical comparisons with data from previous surveys (in the KALANET trial from 2006-2008) to assess trends in age distribution of *L. donovani* infections
  - Draft recommendations for the use of sero surveys as a tool in monitoring VL elimination

Study design

- Door-to-door sero surveys in three types of areas:
  - currently endemic,
  - previously endemic
  - non-endemic
- Sample size: 6 clusters of 2,000 -3,000
- Screening tests:
  - Step 1: DAT, rK39 RDT, rK39 ELISA
  - Step 2: qPCR

Results to date

- DAT and rK39 ELISA pending due to late availability of DAT
- qPCR once DAT and rK39 ELISA results available*

Category	Tested	rK39 RDT pos (%)
Endemic	5,534	23 (0.42)
Previously endemic	5,410	16 (0.30)
Non-endemic	783	0 (0.0)

* To date 16 rK39 RDT positives tested with qPCR, all negative.

Planning Q2-Q4, 2020

- Complete sero survey in non-endemic clusters (1 wk)
- Complete DAT and rK39 ELISA testing (15,000 samples, 600/wk, 25 wks)
  - Prioritize
    - Fanda (previously endemic, 2,992 samples),
    - Rampur Jagdish (endemic, 2,776 samples)
    - Dangari Sarai (non-endemic, yet to be sampled, ± 2,500 samples)
- Complete costing (4 wks)
- Revisit positives for sampling qPCR (6 x 1 wk)
- Test samples of positives with qPRC (in parallel with above)
- Complete data analysis and compile report (2 wks)

Part II:
Improving VL surveillance at PHC level

Objectives

- Main objectives:
  - Develop and validate surveillance modalities for VL-HIV and PKDL at block PHC level
  - Assess accuracy of diagnostic algorithm under different epidemiological conditions
  - Assess spatial clustering of VL cases and develop and validate a mapping tool to be used for microplanning by the block PHC.
- Secondary objectives:
  - Assess healthcare seeking behavior and diagnostic delays among incident VL patients
  - Asses treatment experience and adherence among VL patients diagnosed 1-5 years ago

Study design

- All activities implemented by PHC staff
- Electronic data capturing through ODK Collect
- Select two Blocks per State in Bihar, Jharkhand, Uttar Pradesh and West Bengal
- Enroll all incident VL cases diagnosed at Block PHCs
  - Collect blood sample for qPCR
  - Conduct interview
  - Conduct home visit for mapping and contact screening (VL, PKDL, leprosy)
  - Refer for HIV testing and document result
- Home visits to all VL cases registered 1, 3 and 5 years previously
  - Screening for PKDL, VL and leprosy of subjects and household contacts
  - Interview on treatment outcome
- Testing with rK39 RDT of all registered PLWHA in study Blocks through ICTCs, anonymized results to be documented

Results to date:
Enrolment of current and past VL patients

- Only started in Bihar and UP
  - Bihar: Kanti, Dariapur
  - UP: Bairia, Bandsih

- No permission on VL testing of PLWHA

- Enrolled to date:

State	Block	Incident VL	Past VL
Bihar	Kanti	6	54
Bihar	Dariapur	26	289
UP	Bairia	7	11
UP	Bandsih	0	24

Results to date

- qPRC results

State	Block	Incident VL patients enrolled	Samples tested	Positive results (%)
Bihar	Kanti	6	0	
Bihar	Dariapur	26	19	18 (95)
UP	Bairia	7	7	7(100)
UP	Bandsih	0		

Results to date

- Home visits to (ex) VL patients by year of diagnosis

Year	Kanti	Dariapur	Bairia	Bandsih
2014	13	85		
2015	14	2		7
2016	13	77		2
2017	9	8	2	7
2018	5	95	8	6
2019	5	28	8	1
2020		8		

Results to date: Home visits by week
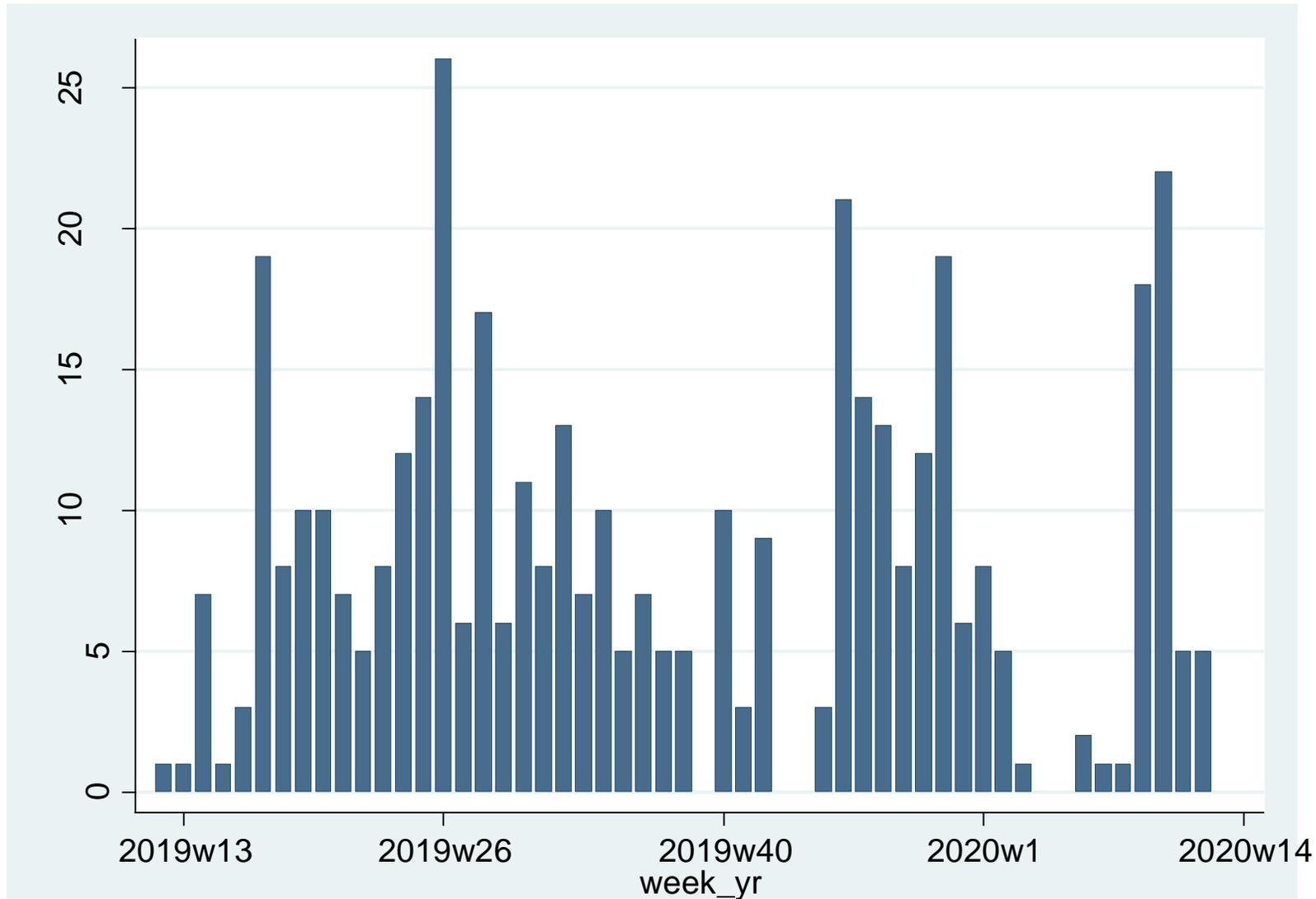
Mapping of VL cases (Dariapur)

Year in which case reported
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019

0   2.5   5   7.5   10 km
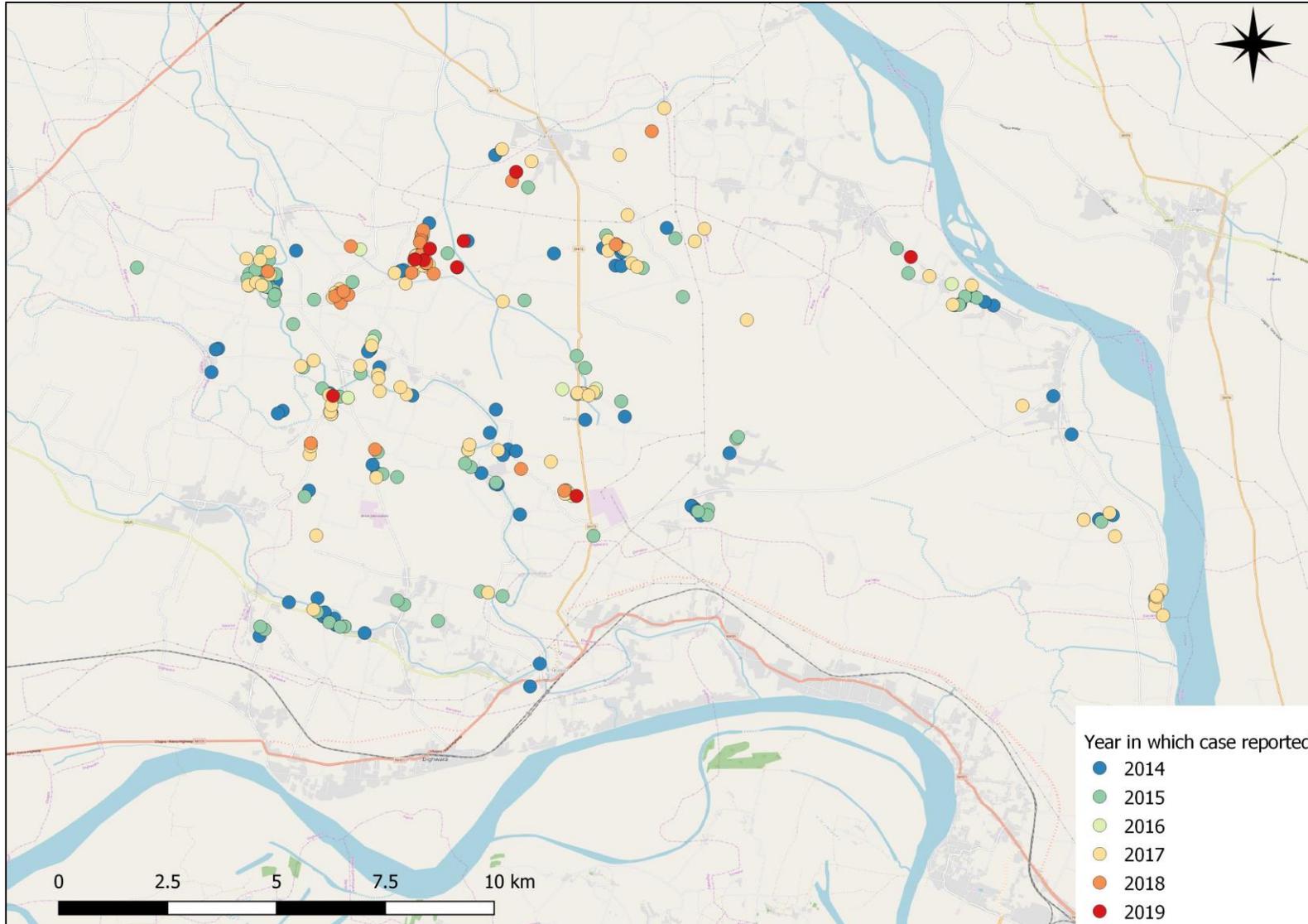
Results to date

- Results of screening of (ex) patients and household contacts:

	Kanti	Dariapur	Bairia	Bandsih
Enumerated	365	2,233	114	133
Screened	177	1,732	89	92
- VL	0	3	0	0
- PKDL	1	17	1	0
- Leprosy	0	1	0	0

Results to date:
Some results of interviews (n=387):

- Type of provider for treatment:
  - Government PHC of hospital   330 (85.3%)
  - Qualified private practitioner   1 (0.3%)
  - NGO treatment center   56 (14.5%)

- State of health at end of treatment
  - Good   370 (96.1%)
  - Better but not good   13 (3.4%)
  - No improvement   2 (0.5%)

Results to date:
Some results of interviews (n=387):

- Did you take additional treatment for your VL episode:

  - No   372 (96.1%)
  - Yes   15 (3.9%)

- Median amount in Rps. (IQR) spent on VL episode: (only 2018/2019 patients, n=164)

  - Transport   410 (200-800)
  - Diagnostics   700 (0 – 1700)
  - Drugs   1660 (300-3800)
  - Fees   200 (0-480)
  - Other*   1000 (625-1800)
  - Total   4352 (2086-8878)

  * Mainly food items

Planning Q2-Q4, 2020

- Analyze data
- Costing of procedures
- Draft study report