

QUALITY IMPROVEMENT STORYBOARD



PROGRAM NAME:	Veterinary Public Health (VPH)		
PROJECT TITLE:	Animal Bite Report Data Entry Codebook Revision		
DPH STRATEGIC GOAL/OBJ.:	Goal 1.5: Improve effectiveness in preventing and controlling infectious diseases. Objective 5.1b: Streamline internal disease reporting and follow-up processes to ensure timely and high-quality management of disease cases and contact investigations		
PROJECT TIMELINE:	Planned: 10/07/2015-09/30/2016	Actual: 10/07/2015-01/26/2017	
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PLAN

1. Getting Started

- There were multiple discrepancies in staff interpretation of the bite database codebook, leading to inconsistent data entry
- It was determined that revision of codebook and current data entry practices was needed to reduce these errors
- A variable was selected that had common errors in entry due to different interpretations of the codebook. The textual data for the "injury description" variable was entered inconsistently 32.7% of the time (Jan/Feb 2015). This was selected as a target variable for improvement.

Project Aim

After comparing a two-month (Aug-Sep) error rate in the "injury description" variable from 2015 to 2016, the goal was a $\geq 5\%$ reduction in data entry errors specifically for the "injury description" variable.

2. Assemble the Team

The project work group included all VPH veterinarians, an epidemiology analyst, a Cal-EIS Fellow, and an epidemiology/biostatistics student volunteer.

3. Examine the Current Approach

The project work group used brainstorming and a fishbone diagram to identify the main causes of data entry error. The work group identified specific issues that contributed to data entry errors:

- Lack of standardization in data entry (i.e. multiple staff entering data differently)
- Multiple reporting forms with varying information used for the database

4. Identify Potential Solutions

Amendment of existing data entry codebook

- Beta testing of revised codebook
- Collect feedback from all users
- Obtain final approval of amended codebook
- Disseminate amended codebook and conduct staff training on codebook

5. Develop an Improvement Theory

The data entry error rate will decrease by $\geq 5\%$ after (1) revising and developing a consistent approach for coding data elements for data entry of bite reports and (2) training all staff dealing with data entry on the revised codebook

DO

6. Test the Theory

- Formed work group of supervisory staff and Cal-EIS Fellow to provide input on codebook revision during bi-monthly sessions
 - Beta tested the codebook (new users, data entry and data analysis users)
 - Revised codebook based on feedback (multiple cycles)
- Approved the final draft of codebook
- Conducted training for all staff on revised codebook (June 2016)
- Codebook implementation (June-July 2016)
- Began random sampling of reports for measuring improvement of error rate in "injury description" variable (Aug - Sep 2016)
 - Compare with random sampling of reports for error rate in "injury description" variable (Aug - Sep 2015)

STUDY

7. Check the Results

Year	Injury variable		
	Estimated Error Rate (%)	Margin of Error (%)	Rate % (CI)
2015	71.2	3.19	71.2 (68.01-74.39)
2016	3.6	1.33	3.6 (2.27-4.93)

ACT

8. Standardize the Improvement or Develop New Theory

- Standard of practice will include:
- Referencing codebook when entering data
- Training new staff on data entry
- Meeting periodically to discuss codebook and problems with data entry
- Revise codebook as necessary

9. Establish Future Plans

- Transition to an integrated surveillance system for more efficient data entry
- Consolidation of multiple data entry forms