CURRENT RABIES CONTROL STATUS
PROVINCE OF AGUSAN DEL NORTE, PHILIPPINES:
One Health Approach

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M2 InterRisk Student
Kasetsart University, Bangkok, Thailand
INTRODUCTION

CURRENT RABIES CONTROL STATUS
PROVINCE OF AGUSAN DEL NORTE, PHILIPPINES:
One Health Approach
Rabies in the Philippines.

The country is one of the top 10 countries in the world with Rabies problem.

Source: http://www.wpro.who.int
Year 2016
260 Human Deaths due to rabies in the Philippines

Year 2008-2016
2,239 Human Fatalities (Ave 248.7 deaths per year)
(Amparo, Jayme et al. 2018)
We had gained notoriety among international communities as one of nations with high endemicity or prevalence of rabies.

http://rabiespoi.org
In 2001, a UK national contracted rabies after being bitten by a dog in the Philippines. He died in a London hospital.

http://rabiespoi.org
In 2006, two Japanese nationals were infected after being bitten by dogs in the Philippines.

http://rabiespoi.org
Norwegian woman dies from rabies after Philippines puppy bite

11 May 2019

CURRENT RABIES CONTROL STATUS
PROVINCE OF AGUSAN DEL NORTE, PHILIPPINES:
One Health Approach
Province of Agusan del Norte
Philippines

Location  9° 10’ 12” N, 125° 30’ 0” E i
Island    Mindanao Island
Region    XIII (Caraga)

Northeast
Province of Surigao del Norte
Mid-east
Province of Surigao del Sur
Southeast
Province of Agusan del Sur
Southwest
Province of Misamis Oriental

https://en.wikipedia.org/wiki/Agusan_del_Norte

Map Courtesy:
Adriaque, Rosendo B.
Provincial Planning Office
Agusan del Norte, Philippines
Province of Agusan del Norte
Philippines

Total No. of Municipalities 10
Total No. of City 1
Total No. of Villages 166
Capital Cabadbaran City

Map Courtesy:
Adriaque, Rosendo B.
Provincial Planning Office
Agusan del Norte, Philippines
Province of Agusan del Norte
Philippines

Total Land Area
2,730.24 km² (1,054.15 sq mi)

Total Human Population
(2015 Census)
354,503

Human Density
130/km² (340/sq mi)

Map Courtesy:
Adriaque, Rosendo B.
Provincial Planning Office
Agusan del Norte, Philippines
Province of Agusan del Norte, Philippines

Total Dog Population
(2017 Dog Census)
21,139

Dog Density
8/km² (340/sq mi)

Map Courtesy:
Adriaque, Rosendo B.
Provincial Planning Office
Agusan del Norte, Philippines
SCENARIO
BEFORE THE ONE-HEALTH APPROACH
HUMAN RABIES MORTALITY

SCENARIO BEFORE THE ONE-HEALTH APPROACH
## Distribution of Human Rabies Mortality

**Caraga Region, Philippines**  
**Year 2013-2016**

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Human Rabies Mortality</th>
<th>% of the Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>5</td>
<td>10.42</td>
</tr>
<tr>
<td>2014</td>
<td>10</td>
<td>20.83</td>
</tr>
<tr>
<td>2015</td>
<td>11</td>
<td>22.92</td>
</tr>
<tr>
<td>2016</td>
<td>10</td>
<td>20.83</td>
</tr>
</tbody>
</table>

**Total Human Rabies Mortality = 36**

**Source:**  
*Annual Reports Year 2013-2016*  
Provincial Health Office-Agusan del Norte  
Department of Health  
Caraga Region, Philippines
Distribution of Human Rabies Mortality by Area
Caraga Region, Philippines
Year 2013-2016

Total Human Rabies Mortality = 36

Source:
Annual Reports Year 2013-2016
Provincial Health Office-Agusan del Norte
Department of Health
Caraga Region, Philippines
### Distribution of Animal Bite Patients by Year

Province of Agusan del Norte, Philippines
Year 2006-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of Animal Bite Patients</th>
<th>% of the Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>1087</td>
<td>5.45</td>
</tr>
<tr>
<td>2007</td>
<td>1348</td>
<td>6.76</td>
</tr>
<tr>
<td>2008</td>
<td>1321</td>
<td>6.62</td>
</tr>
<tr>
<td>2009</td>
<td>1149</td>
<td>5.76</td>
</tr>
<tr>
<td>2010</td>
<td>1022</td>
<td>5.12</td>
</tr>
<tr>
<td>2011</td>
<td>1096</td>
<td>5.49</td>
</tr>
<tr>
<td>2012</td>
<td>1078</td>
<td>5.4</td>
</tr>
<tr>
<td>2013</td>
<td>2173</td>
<td>10.89</td>
</tr>
<tr>
<td>2014</td>
<td>1409</td>
<td>7.06</td>
</tr>
<tr>
<td>2015</td>
<td>3500</td>
<td>17.54</td>
</tr>
<tr>
<td>2016</td>
<td>4766</td>
<td>23.89</td>
</tr>
</tbody>
</table>

**Total Animal Bite Patients = 19949**

**Source:**
Annual Reports Year 2006-2016
Provincial Health Office-Agusan del Norte
Department of Health
Caraga Region, Philippines
Distribution of Human Rabies Mortality by Year
Province of Agusan del Norte, Philippines
Year 2010-2016

Total Human Rabies Mortality = 11

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Human Rabies Mortality</th>
<th>% of the Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>2</td>
<td>18.18</td>
</tr>
<tr>
<td>2011</td>
<td>3</td>
<td>27.27</td>
</tr>
<tr>
<td>2012</td>
<td>1</td>
<td>9.09</td>
</tr>
<tr>
<td>2013</td>
<td>1</td>
<td>9.09</td>
</tr>
<tr>
<td>2014</td>
<td>1</td>
<td>9.09</td>
</tr>
<tr>
<td>2015</td>
<td>3</td>
<td>27.27</td>
</tr>
<tr>
<td>2016</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source:
Annual Reports Year 2010-2016
Provincial Health Office-Agusan del Norte
Department of Health
Caraga Region, Philippines
Rabies Case Fatality Rate
Province of Agusan del Norte, Philippines
Year 2010-2016

<table>
<thead>
<tr>
<th>Year 2010</th>
<th>Year 2011</th>
<th>Year 2012</th>
<th>Year 2013</th>
<th>Year 2014</th>
<th>Year 2015</th>
<th>Year 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Animal Bite Patients</td>
<td>1022</td>
<td>1096</td>
<td>1078</td>
<td>2173</td>
<td>1409</td>
<td>3500</td>
</tr>
<tr>
<td>Total Human Rabies Deaths</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Case Fatality Rate</td>
<td>0.2</td>
<td>0.27</td>
<td>0.09</td>
<td>0.05</td>
<td>0.07</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Source:
Annual Reports Year 2010-2016
Provincial Health Office-Agusan del Norte
Department of Health
Caraga Region, Philippines
ANIMAL RABIES CASES

Source:
Regional Animal Disease Diagnostic Laboratory
Department of Agriculture
Caraga Region, Philippines
Distribution of Animal Rabies Mortality by Year
Province of Agusan del Norte, Philippines
Year 2015-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Animal Rabies Mortality</th>
<th>% of the Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 2015</td>
<td>8</td>
<td>53.33</td>
</tr>
<tr>
<td>Year 2016</td>
<td>7</td>
<td>46.67</td>
</tr>
</tbody>
</table>

Source:
Regional Animal Disease Diagnostic Laboratory
Department of Agriculture
Caraga Region, Philippines
Distribution of Animal Rabies Mortality by Species
Province of Agusan del Norte, Philippines
Year 2015-2016

Source:
Regional Animal Disease Diagnostic Laboratory
Department of Agriculture
Caraga Region, Philippines
Animal rabies mortalities in FOOD ANIMALS! To OUR TABLE?
Rabies piglet
ONE-HEALTH APPROACH
ONE HEALTH APPROACH 8-POINT AGENDA

1. DATABASE ESTABLISHMENT
2. INCREASED DOG VACCINATION COVERAGE AT THE VILLAGE LEVEL
3. FEEDBACK MECHANISM ESTABLISHMENT
4. RABIES INFORMATION DRIVE
5. DOG POPULATION MANAGEMENT
6. LEGISLATION SUPPORT
7. FUND GENERATION
8. CONNECT
ONE HEALTH APPROACH 8-POINT AGENDA

DATABASE ESTABLISHMENT

RabMIS Database (Veterinary)

RabMIS Database (ABTC)
## ONE HEALTH APPROACH 8-POINT AGENDA

### DATABASE ESTABLISHMENT

### INCREASED DOG VACCINATION COVERAGE AT VILLAGE LEVEL

<table>
<thead>
<tr>
<th>RABIES VACCINATION YEARS</th>
<th>Year 2010</th>
<th>Year 2011</th>
<th>Year 2012</th>
<th>Year 2013</th>
<th>Year 2014</th>
<th>Year 2015</th>
<th>Year 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total No. of Dogs Vaccinated against Rabies</strong></td>
<td>17,850</td>
<td>10,200</td>
<td>11,800</td>
<td>9,850</td>
<td>9,960</td>
<td>10,860</td>
<td>9,500</td>
</tr>
<tr>
<td><strong>Annual Target (80%)</strong></td>
<td>12,642</td>
<td>12,642</td>
<td>12,509</td>
<td>12,509</td>
<td>12,509</td>
<td>12,509</td>
<td>12,509</td>
</tr>
<tr>
<td><strong>% Vaccination Coverage</strong></td>
<td>141.20</td>
<td>80.68</td>
<td>94.33</td>
<td>78.74</td>
<td>79.62</td>
<td>86.82</td>
<td>75.94</td>
</tr>
</tbody>
</table>

Source: Rabies Management Information System (RabMiS) Annual Reports 2010-2018
Provincial Veterinary Office Province of Agusan del Norte Caraga Region, Philippines
One Health Approach 8-Point Agenda

Database Establishment

Increased Dog Vaccination Coverage at Village Level

2017 Dog Census

Support. Count them In.

Support. Count them In.

2017 Dog Census

Incentive to Vaccinators at Php3/dog (0.057 USD)

Augment vaccinators’ workforce –
Student Vaccinators
Php300/day (5.739 USD)

Anti-Rabies Student Vaccinators (ARSV)

Assessment

Dog Registration and Dog Anti-Rabies Vaccination Coverage Jan-May 2018
Municipality of Carmen

Quarterly Village Vaccination Coverage Assessment
Dog Rabies Vaccination and Vaccination Coverage at Village Level
Municipality of Carmen, Province of Agusan del Norte, Philippines
Year 2018

<table>
<thead>
<tr>
<th>Village</th>
<th>Annual Vaccination Target</th>
<th>Total Vaccinated Dogs</th>
<th>% Vaccination Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cahayagan</td>
<td>128</td>
<td>159</td>
<td>124.22</td>
</tr>
<tr>
<td>Manoligao</td>
<td>109</td>
<td>59</td>
<td>54.13</td>
</tr>
<tr>
<td>Poblacion</td>
<td>188</td>
<td>227</td>
<td>120.74</td>
</tr>
<tr>
<td>Rojales</td>
<td>140</td>
<td>145</td>
<td>103.57</td>
</tr>
<tr>
<td>San Agustin</td>
<td>70</td>
<td>81</td>
<td>115.71</td>
</tr>
<tr>
<td>Tagcatong</td>
<td>176</td>
<td>198</td>
<td>112.5</td>
</tr>
<tr>
<td>Vinapor</td>
<td>97</td>
<td>109</td>
<td>112.37</td>
</tr>
</tbody>
</table>

This is RabMIS Generated Report
ONE HEALTH APPROACH 8-POINT AGENDA

DATABASE ESTABLISHMENT

INCREASED DOG VACCINATION COVERAGE AT VILLAGE LEVEL

FEEDBACK MECHANISM ESTABLISHMENT

BITING ANIMAL STATUS
SUSPECT RABIES CASES

RABIES HOTLINES
Veterinary Human
ONE HEALTH APPROACH 8-POINT AGENDA

DATABASE ESTABLISHMENT

INCREASED DOG VACCINATION COVERAGE AT VILLAGE LEVEL

FEEDBACK MECHANISM ESTABLISHMENT

RABIES INFORMATION DRIVE
ONE HEALTH APPROACH 8-POINT AGENDA

DATABASE ESTABLISHMENT

INCREASED DOG VACCINATION COVERAGE AT VILLAGE LEVEL

FEEDBACK MECHANISM ESTABLISHMENT

RABIES INFORMATION DRIVE

DOG POPULATION MANAGEMENT

Mandatory Neutering (Non-breeding Purposes)
ONE HEALTH APPROACH 8-POINT AGENDA

DATABASE ESTABLISHMENT

INCREASED DOG VACCINATION COVERAGE AT VILLAGE LEVEL

FEEDBACK MECHANISM ESTABLISHMENT

RABIES INFORMATION DRIVE

DOG POPULATION MANAGEMENT

LEGISLATION SUPPORT

Passage of Ordinance concerning...
ONE HEALTH APPROACH 8-POINT AGENDA

- DATABASE ESTABLISHMENT
- INCREASED DOG VACCINATION COVERAGE AT VILLAGE LEVEL
- FEEDBACK MECHANISM ESTABLISHMENT
- RABIES INFORMATION DRIVE
- DOG POPULATION MANAGEMENT
- LEGISLATION SUPPORT
- FUND GENERATION

AVERAGE ANNUAL INCOME = Php 800,000 (15,316.868 USD)

Php20.00 = 0.383 USD
Php150 = 28.72 USD
HONORARIUM OF ANTI-RABIES STUDENT VACCINATORS

SALARY OF ABTC PERSONNEL (ENCODER AND NURSE)

PROCUREMENT OF MEDICAL SUPPLIES AND ADDITIONAL HARDWARE
DATABASE ESTABLISHMENT

INCREASED DOG VACCINATION COVERAGE AT VILLAGE LEVEL

FEEDBACK MECHANISM ESTABLISHMENT

RABIES INFORMATION DRIVE

DOG POPULATION MANAGEMENT

LEGISLATION SUPPORT

FUND GENERATION

CONNECT

INDIGENOUS PEOPLE (IP)

Hearts For Paws Butuan City

Nonprofit Organization

Member of HEARTS FOR PAWS BUTUAN CITY since July 1, 2018

ANIMAL WELFARE GROUP
SCENARIO

AFTER THE ONE-HEALTH APPROACH
VETERINARY COMPARTMENT

SCENARIO

AFTER THE ONE-HEALTH APPROACH
One Health RabMIS User Areas
Province of Agusan del Norte
Philippines
## Dog Registration in One Health RabMIS User Areas
**Province of Agusan del Norte, Philippines**
**Year 2016-2018**

<table>
<thead>
<tr>
<th></th>
<th>1 Year Before RabMIS Integration</th>
<th>Years After RabMIS Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 2016</td>
<td>Year 2017</td>
</tr>
<tr>
<td><strong>Total No. of Dogs Registered</strong></td>
<td>5576</td>
<td>7928</td>
</tr>
<tr>
<td><strong>%</strong></td>
<td>44.55</td>
<td>44.63</td>
</tr>
</tbody>
</table>

**Source:**
*Rabies Management Information System (RabMIS)*
Annual Reports 2016-2018
Provincial Veterinary Office
Province of Agusan del Norte
Caraga Region, Philippines
DOG REGISTRATION IN ONE HEALTH RABMIS USER AREAS
Province of Agusan del Norte, Philippines
Year 2016-2018

Total No. of Dogs Registered

<table>
<thead>
<tr>
<th>Year</th>
<th>Total No. of Dogs Registered</th>
<th>% Registered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 2016</td>
<td>5576</td>
<td>44.55</td>
</tr>
<tr>
<td>Year 2017</td>
<td>7928</td>
<td>44.63</td>
</tr>
<tr>
<td>Year 2018</td>
<td>11263</td>
<td>63.41</td>
</tr>
</tbody>
</table>

Source:
Rabies Management Information System (RabMIS)
Annual Reports 2016-2018
Provincial Veterinary Office
Province of Agusan del Norte
Caraga Region, Philippines
NOVEH V. TUBO
Owners name

Contact No.
P-6 TUBOD, POBLACION, CARMEN, AGUSAN DEL NORTE
Owners Address

BYTE
Dog name: CAR20163823Y35
Reference No.
Breed MIXED
Color WHITE
Sex MALE
Age 2 Month(s)

Project Initiative of Gov. Ma. Angelica Rosedell M. Amante-Matba

<table>
<thead>
<tr>
<th>Date taken</th>
<th>Vaccine</th>
<th>Lot No. Batch#</th>
<th>Next Schedule</th>
<th>Vaccinator</th>
<th>Veterinarian</th>
<th>Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>03/08/2016</td>
<td>RABISIN</td>
<td>03/08/2017</td>
<td></td>
<td>IRIENITA M. AYensa</td>
<td>JOSEPH DARGANT ES License No. S907</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Year 2010</td>
<td>Year 2011</td>
<td>Year 2012</td>
<td>Year 2013</td>
<td>Year 2014</td>
<td>Year 2015</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td><strong>Total No. of Dogs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaccinated against</td>
<td>17,850</td>
<td>10,200</td>
<td>11,800</td>
<td>9,850</td>
<td>9,960</td>
<td>10,860</td>
</tr>
<tr>
<td><strong>Total Dog</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>15,802</td>
<td>15,802</td>
<td>15,636</td>
<td>15,636</td>
<td>15,636</td>
<td>15,636</td>
</tr>
<tr>
<td><strong>Annual Target</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(80%)</td>
<td>12,642</td>
<td>12,642</td>
<td>12,509</td>
<td>12,509</td>
<td>12,509</td>
<td>12,509</td>
</tr>
<tr>
<td><strong>% Vaccination</strong></td>
<td>141.20</td>
<td>80.68</td>
<td>94.33</td>
<td>78.74</td>
<td>79.62</td>
<td>86.82</td>
</tr>
</tbody>
</table>

Source:
Rabies Management Information System (RabMIS)
Annual Reports 2010-2018
Provincial Veterinary Office
Province of Agusan del Norte
Caraga Region, Philippines
ANIMAL RABIES MORTALITIES
Province of Agusan del Norte, Philippines
Year 2015-2018

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Animal Rabies Mortalities</th>
<th>% of the Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>YEAR 2015</td>
<td>8</td>
<td>27.59</td>
</tr>
<tr>
<td>YEAR 2016</td>
<td>7</td>
<td>24.14</td>
</tr>
<tr>
<td>YEAR 2017</td>
<td>6</td>
<td>20.69</td>
</tr>
<tr>
<td>YEAR 2018</td>
<td>8</td>
<td>27.59</td>
</tr>
</tbody>
</table>

Total Animal Rabies Mortalities = 29

Data Source: Regional Animal Disease Diagnostic Laboratory
Department of Agriculture
Caraga Region, Philippines
SPECIES COMPOSITION OF ANIMAL RABIES CASES
Province of Agusan del Norte, Philippines
Year 2015-2018

Total Animal Rabies Mortalities = 29

- Dog: 23 (79.31%)
- Carabao: 3 (10.34%)
- Goat: 1 (3.44%)
- Pig: 2 (6.9%)

Data Source: Regional Animal Disease Diagnostic Laboratory
Department of Agriculture
Caraga Region, Philippines
### ANIMAL RABIES MORTALITIES
Province of Agusan del Norte, Philippines
Year 2015-2018

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Animal Rabies Mortalities</th>
<th>% of the Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>8</td>
<td>27.59</td>
</tr>
<tr>
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<td>24.14</td>
</tr>
<tr>
<td>2017</td>
<td>6</td>
<td>20.69</td>
</tr>
<tr>
<td>2018</td>
<td>8</td>
<td>27.59</td>
</tr>
</tbody>
</table>

**Data Source:** Regional Animal Disease Diagnostic Laboratory
Department of Agriculture
Caraga Region, Philippines
NUMBER OF ANIMAL RABIES CASES IN NON-OH RABMIS USER AREA
Province of Agusan del Norte, Philippines
Year 2015-2018

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Animal Rabies Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 2015</td>
<td>0</td>
</tr>
<tr>
<td>Year 2016</td>
<td>5</td>
</tr>
<tr>
<td>Year 2017</td>
<td>5</td>
</tr>
<tr>
<td>Year 2018</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Animal Rabies Mortalities = 16

Data Source: Regional Animal Disease Diagnostic Laboratory
Department of Agriculture
Caraga Region, Philippines
NUMBER OF ANIMAL RABIES CASES IN ONE HEALTH RABMIS USER AREAS
Province of Agusan del Norte, Philippines
Year 2015-2018

Data Source: Regional Animal Disease Diagnostic Laboratory
Department of Agriculture
Caraga Region, Philippines
HUMAN COMPARTMENT

SCENARIO
AFTER THE
ONE-HEALTH APPROACH
Animal Bite Patients and Percentage Affected Humans
Province of Agusan del Norte, Philippines
Year 2006-2018

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Animal Bite Patients</th>
<th>% Affected Humans</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>1087</td>
<td>0.38</td>
</tr>
<tr>
<td>2007</td>
<td>1348</td>
<td>0.47</td>
</tr>
<tr>
<td>2008</td>
<td>1321</td>
<td>0.46</td>
</tr>
<tr>
<td>2009</td>
<td>1149</td>
<td>0.40</td>
</tr>
<tr>
<td>2010</td>
<td>1022</td>
<td>0.31</td>
</tr>
<tr>
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Source:
RabMIS
Annual Reports Year 2006-2018
Provincial Health Office-Agusan del Norte
Department of Health
Caraga Region, Philippines
Human Rabies Mortality by Year
Province of Agusan del Norte, Philippines
Year 2010-2018

Total Human Rabies Mortality = 11

Source:
Annual Reports Year 2010-2018
Provincial Health Office-Agusan del Norte
Department of Health
Caraga Region, Philippines

After One-Health Approach (RabMIS Integration)
RABIES CASE FATALITY RATE
Province of Agusan del Norte, Philippines
Year 2010-2018

<table>
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<th>Year</th>
<th>Total Number of Animal Bite Patients</th>
<th>Total Human Rabies Deaths</th>
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Source:
Annual Reports Year 2010-2018
Provincial Health Office-Agusan del Norte
Department of Health
Caraga Region, Philippines
“thank you for sparing us from Rabies...”

Special Thanks
FLAVIE GOUTARD, DVM, MSc, PhD
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JINTANA
GREASE NETWORK
INTERRISK PROFESSORS & CLASSMATES