CONCLUSIONS
Swissys, like other large breed dogs, are relatively short-lived, although some Swissys live to be 12 or 13 years of age. Bloat, epilepsy, and splenic torsion are among the most common and most fatal health conditions exhibited by Greater Swiss Mountain Dogs. Of the remaining common conditions, some may have an impact on the quality of life of the Swissy (hip dysplasia, for example), others may also have an impact on the quality of life of owners (urinary incontinence, for example), and some typically have little impact for Swissy or owner (distichiasis and crooked tail, for example). Cancers, while not among the most common conditions of Swissys, were among the most frequent causes of death. Although a majority of Swissys were described as “very friendly,” the presence of Swissys described as having potentially dangerous temperament characteristics reminds Swissy owners and breeders of their responsibility to breed and raise Swissys in ways that promote temperaments and behaviors appropriate to stable working dogs and safe family pets.

Table 14: Temperament

<table>
<thead>
<tr>
<th>Condition</th>
<th>Total</th>
<th>1-24 mos</th>
<th>25-43 mos</th>
<th>44-64 mos</th>
<th>65-157 mos</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 846</td>
<td>n = 213</td>
<td>n = 203</td>
<td>n = 215</td>
<td>n = 215</td>
</tr>
<tr>
<td>Temperament: Very Shy</td>
<td>Frequency</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Percent</td>
<td>1.2</td>
<td>0.9</td>
<td>1.0</td>
<td>2.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Temperament: Timid</td>
<td>Frequency</td>
<td>59</td>
<td>21</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Percent</td>
<td>7.0</td>
<td>9.9</td>
<td>7.9</td>
<td>6.5</td>
<td>3.7</td>
</tr>
<tr>
<td>Temperament: Reserved</td>
<td>Frequency</td>
<td>131</td>
<td>39</td>
<td>33</td>
<td>27</td>
</tr>
<tr>
<td>Percent</td>
<td>15.5</td>
<td>18.3</td>
<td>16.3</td>
<td>12.6</td>
<td>14.9</td>
</tr>
<tr>
<td>Temperament: Confident</td>
<td>Frequency</td>
<td>422</td>
<td>121</td>
<td>109</td>
<td>95</td>
</tr>
<tr>
<td>Percent</td>
<td>49.9</td>
<td>56.8</td>
<td>53.7</td>
<td>44.2</td>
<td>45.1</td>
</tr>
<tr>
<td>Temperament: Protective</td>
<td>Frequency</td>
<td>266</td>
<td>55</td>
<td>82</td>
<td>67</td>
</tr>
<tr>
<td>Percent</td>
<td>31.4</td>
<td>25.8</td>
<td>40.4</td>
<td>31.2</td>
<td>28.8</td>
</tr>
<tr>
<td>Temperament: Very Friendly</td>
<td>Frequency</td>
<td>572</td>
<td>165</td>
<td>131</td>
<td>125</td>
</tr>
<tr>
<td>Percent</td>
<td>67.6</td>
<td>77.5</td>
<td>64.5</td>
<td>58.1</td>
<td>70.2</td>
</tr>
<tr>
<td>Temperament: Aggressive</td>
<td>Frequency</td>
<td>15</td>
<td>1</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Percent</td>
<td>1.8</td>
<td>0.5</td>
<td>3.4</td>
<td>1.9</td>
<td>1.4</td>
</tr>
<tr>
<td>Temperament: Dog Aggressive</td>
<td>Frequency</td>
<td>59</td>
<td>6</td>
<td>13</td>
<td>21</td>
</tr>
<tr>
<td>Percent</td>
<td>7.0</td>
<td>2.8</td>
<td>6.4</td>
<td>9.8</td>
<td>8.8</td>
</tr>
<tr>
<td>Temperament: Has Bit a Person</td>
<td>Frequency</td>
<td>15</td>
<td>2</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Percent</td>
<td>1.8</td>
<td>0.9</td>
<td>1.0</td>
<td>4.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Temperament: Rage Syndrome</td>
<td>Frequency</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Percent</td>
<td>0.4</td>
<td>0.0</td>
<td>0.5</td>
<td>0.9</td>
<td>0.0</td>
</tr>
</tbody>
</table>
### Appendix A. Stability of Response Rates for the 20 Most Common Conditions

<table>
<thead>
<tr>
<th>Disease/Condition</th>
<th>7-15</th>
<th>7-8</th>
<th>6-15</th>
<th>5-23</th>
<th>4-26</th>
<th>Mean</th>
<th>Hi</th>
<th>Lo</th>
<th>Diff</th>
<th>Diff %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urinary incontinence</td>
<td>11.0</td>
<td>10.9</td>
<td>11.0</td>
<td>11.0</td>
<td>10.8</td>
<td>10.9</td>
<td>11.0</td>
<td>10.8</td>
<td>0.2</td>
<td>1.8%</td>
</tr>
<tr>
<td>Panosteitis</td>
<td>4.7</td>
<td>4.7</td>
<td>4.9</td>
<td>4.7</td>
<td>4.7</td>
<td>4.7</td>
<td>4.7</td>
<td>4.7</td>
<td>0.2</td>
<td>4.2%</td>
</tr>
<tr>
<td>Licking episodes</td>
<td>17.3</td>
<td>17.9</td>
<td>17.8</td>
<td>17.7</td>
<td>16.7</td>
<td>17.5</td>
<td>17.9</td>
<td>16.7</td>
<td>1.2</td>
<td>6.9%</td>
</tr>
<tr>
<td>Cataracts</td>
<td>4.3</td>
<td>4.3</td>
<td>4.4</td>
<td>4.1</td>
<td>4.3</td>
<td>4.3</td>
<td>4.4</td>
<td>4.1</td>
<td>0.3</td>
<td>7.0%</td>
</tr>
<tr>
<td>Pica</td>
<td>9.1</td>
<td>9.9</td>
<td>9.9</td>
<td>9.7</td>
<td>9.9</td>
<td>9.7</td>
<td>9.9</td>
<td>9.1</td>
<td>0.8</td>
<td>8.2%</td>
</tr>
<tr>
<td>Cystitis</td>
<td>8.0</td>
<td>7.8</td>
<td>8.6</td>
<td>8.6</td>
<td>8.3</td>
<td>8.6</td>
<td>8.6</td>
<td>7.8</td>
<td>0.8</td>
<td>9.6%</td>
</tr>
<tr>
<td>Osteochondritis dissecans</td>
<td>5.4</td>
<td>5.5</td>
<td>5.1</td>
<td>5.0</td>
<td>5.6</td>
<td>5.3</td>
<td>5.6</td>
<td>5.0</td>
<td>0.6</td>
<td>11.3%</td>
</tr>
<tr>
<td>Entropion</td>
<td>2.8</td>
<td>2.6</td>
<td>2.6</td>
<td>2.5</td>
<td>2.5</td>
<td>2.6</td>
<td>2.8</td>
<td>2.5</td>
<td>0.3</td>
<td>11.5%</td>
</tr>
<tr>
<td>Idiopathic seizures</td>
<td>4.6</td>
<td>4.1</td>
<td>4.1</td>
<td>4.1</td>
<td>4.1</td>
<td>4.2</td>
<td>4.6</td>
<td>4.1</td>
<td>0.5</td>
<td>11.9%</td>
</tr>
<tr>
<td>Irritable bowel syndrome</td>
<td>5.1</td>
<td>4.5</td>
<td>4.8</td>
<td>5.0</td>
<td>4.7</td>
<td>4.8</td>
<td>5.1</td>
<td>4.5</td>
<td>0.6</td>
<td>12.4%</td>
</tr>
<tr>
<td>Hip dysplasia</td>
<td>9.1</td>
<td>9.4</td>
<td>9.2</td>
<td>9.9</td>
<td>10.6</td>
<td>9.6</td>
<td>10.6</td>
<td>9.1</td>
<td>1.5</td>
<td>15.6%</td>
</tr>
<tr>
<td>Distichiasis</td>
<td>19.4</td>
<td>16.9</td>
<td>16.6</td>
<td>17.1</td>
<td>18.3</td>
<td>17.7</td>
<td>19.4</td>
<td>16.6</td>
<td>2.8</td>
<td>15.9%</td>
</tr>
<tr>
<td>Food allergies</td>
<td>5.4</td>
<td>6.1</td>
<td>6.4</td>
<td>6.3</td>
<td>5.9</td>
<td>6.0</td>
<td>6.4</td>
<td>5.4</td>
<td>1.0</td>
<td>16.6%</td>
</tr>
<tr>
<td>Bloat</td>
<td>5.3</td>
<td>5.5</td>
<td>6.3</td>
<td>6.3</td>
<td>5.6</td>
<td>5.8</td>
<td>6.3</td>
<td>5.3</td>
<td>1.0</td>
<td>17.2%</td>
</tr>
<tr>
<td>Umbilical hernia</td>
<td>9.6</td>
<td>8.1</td>
<td>8.1</td>
<td>8.4</td>
<td>8.1</td>
<td>8.5</td>
<td>9.6</td>
<td>8.1</td>
<td>1.5</td>
<td>17.7%</td>
</tr>
<tr>
<td>Elbow dysplasia</td>
<td>4.4</td>
<td>3.8</td>
<td>3.6</td>
<td>3.7</td>
<td>3.8</td>
<td>3.9</td>
<td>4.4</td>
<td>3.6</td>
<td>0.8</td>
<td>20.7%</td>
</tr>
<tr>
<td>Crooked tail</td>
<td>3.7</td>
<td>3.4</td>
<td>3.0</td>
<td>3.2</td>
<td>2.9</td>
<td>3.2</td>
<td>3.7</td>
<td>2.9</td>
<td>0.8</td>
<td>24.7%</td>
</tr>
<tr>
<td>Skin allergies</td>
<td>4.6</td>
<td>5.4</td>
<td>4.9</td>
<td>5.2</td>
<td>5.9</td>
<td>5.2</td>
<td>5.9</td>
<td>4.6</td>
<td>1.3</td>
<td>25.0%</td>
</tr>
<tr>
<td>Chronic ear infections</td>
<td>3.3</td>
<td>2.6</td>
<td>2.5</td>
<td>2.4</td>
<td>2.3</td>
<td>2.6</td>
<td>3.3</td>
<td>2.3</td>
<td>1.0</td>
<td>38.2%</td>
</tr>
<tr>
<td>Splenic torsion</td>
<td>4.4</td>
<td>3.3</td>
<td>2.5</td>
<td>2.8</td>
<td>2.9</td>
<td>3.2</td>
<td>4.4</td>
<td>2.5</td>
<td>1.9</td>
<td>59.7%</td>
</tr>
</tbody>
</table>

n=846  n= 705  n= 607  n=537  n=443

### Appendix B: Survey Instrument (Summary data in italics, rounded to nearest whole percent)

**GSMD Health Survey 2000 & 2001**

This survey elicits health information about Greater Swiss Mountain Dogs who were living at any time during the years of 2000 and 2001. It is important that a broad representation of the breed be included in the study—including dogs that are healthy as well as those that have various health conditions. Dogs deceased before January 1, 2000 and dogs born on or after January 1, 2002 are NOT eligible for inclusion in the study. Individual survey responses are anonymous and all information will be presented in aggregate form. DO NOT submit a hard copy form if an on-line survey has already been submitted for this dog. Co-owners should work together to ensure that each dog is entered only once. Complete a separate survey for each dog.
### CHARACTERISTICS OF DOG

1. **Sex of this dog:**
   - Females: 444 (53%)
   - Males: 402 (47%)

2. **Dog's year of birth (list year):**
   - Median age of 775 living Swissys = 42 months

3. **Dog's birth month (list month):**

4. **Dog's year of death, if applicable (list year):**
   - Median age of 71 Swissys that had died = 81 months

5. **Dog's month of death, if applicable (list month):**

6. **Dog's cause of death, if applicable (write in cause):**
   - Most common causes were cancer, gastrointestinal, and neurologic

7. **Indicate the reproductive status of this dog (check status):**
   - 33% (a) Intact with no attempted breedings
   - 16% (b) Intact with attempted breedings
   - 42% (c) Neutered before any attempted breedings
   - 10% (d) Neutered after any attempted breedings
   - 6% Missing information

8. **Indicate which of these tests or procedures this dog has undergone:**
   - 55% (a) Hip x-ray
   - 28% (b) Shoulder x-ray
   - 44% (c) Elbow x-ray
   - 10% (d) Prophylactic gastropexy (stomach tacked before any bloat episode)

### COLORING CONDITIONS

- 2% (a) Blue eyes
- 1% (b) Blue coat main color
- 2% (c) Red/brown coat main color
- (d) Other (list below):

### EXTERNAL CONGENITAL

- 10% (a) Umbilical hernia
- 1% (b) Cleft lip or palate
- (c) Other (list below):

### GASTROINTESTINAL

- 5% (a) Irritable bowel syndrome
- <1% (b) Intussusception
- 5% (c) Gastric dilatation and volvulus (bloat)
- 4% (d) Splenic torsion
- 1% (e) Megaesophagus
- 17% (f) Violent licking episodes
- 9% (g) Pica (eats non-food items often)
- (h) Other (list below):

### ORTHOPEDIC CONDITIONS

- 9% (a) Hip dysplasia
- 5% (b) Osteochondritis dissecans (OCD)
- 5% (c) Panosteitis
- 2% (d) Cruciate ligament tear(s)
- 2% (e) Patellarluxation
- 4% (f) Elbow dysplasia
- 1% (g) Spinal myelopathy

### NEUROLOGIC CONDITIONS

- 1% (h) Cervical vertebral instability (wobblers)
- 1% (i) Luxating tarsus (popping hock)
- 1% (j) Intervertebral disc disease
- 4% (k) Crooked tail (kink)
- <1% (l) Hypertrophic osteodystrophy (HOD)

### COLORING CONDITIONS

- 2% (a) Blue eyes
- 1% (b) Blue coat main color
- 2% (c) Red/brown coat main color
- (d) Other (list below):

### GASTROINTESTINAL

- <1% (b) Intussusception
- 5% (c) Gastric dilatation and volvulus (bloat)
- 4% (d) Splenic torsion
- 1% (e) Megaesophagus
- 17% (f) Violent licking episodes
- 9% (g) Pica (eats non-food items often)
- (h) Other (list below):

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- 9% (a) Hip dysplasia
- 5% (b) Osteochondritis dissecans (OCD)
- 5% (c) Panosteitis
- 2% (d) Cruciate ligament tear(s)
- 2% (e) Patellarluxation
- 4% (f) Elbow dysplasia
- 1% (g) Spinal myelopathy

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- 1% (h) Cervical vertebral instability (wobblers)
- 1% (i) Luxating tarsus (popping hock)
- 1% (j) Intervertebral disc disease
- 4% (k) Crooked tail (kink)
- <1% (l) Hypertrophic osteodystrophy (HOD)

### COLORING CONDITIONS

- 2% (a) Blue eyes
- 1% (b) Blue coat main color
- 2% (c) Red/brown coat main color
- (d) Other (list below):

### GASTROINTESTINAL

- <1% (b) Intussusception
- 5% (c) Gastric dilatation and volvulus (bloat)
- 4% (d) Splenic torsion
- 1% (e) Megaesophagus
- 17% (f) Violent licking episodes
- 9% (g) Pica (eats non-food items often)
- (h) Other (list below):

### ORTHOPEDIC CONDITIONS

- 9% (a) Hip dysplasia
- 5% (b) Osteochondritis dissecans (OCD)
- 5% (c) Panosteitis
- 2% (d) Cruciate ligament tear(s)
- 2% (e) Patellar luxation
- 4% (f) Elbow dysplasia
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- 1% (h) Cervical vertebral instability (wobblers)
- 1% (i) Luxating tarsus (popping hock)
- 1% (j) Intervertebral disc disease
- 4% (k) Crooked tail (kink)
- <1% (l) Hypertrophic osteodystrophy (HOD)

### COLORING CONDITIONS

- 2% (a) Blue eyes
- 1% (b) Blue coat main color
- 2% (c) Red/brown coat main color
- (d) Other (list below):

### GASTROINTESTINAL

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- 5% (c) Gastric dilatation and volvulus (bloat)
- 4% (d) Splenic torsion
- 1% (e) Megaesophagus
- 17% (f) Violent licking episodes
- 9% (g) Pica (eats non-food items often)
- (h) Other (list below):

### ORTHOPEDIC CONDITIONS

- 9% (a) Hip dysplasia
- 5% (b) Osteochondritis dissecans (OCD)
- 5% (c) Panosteitis
- 2% (d) Cruciate ligament tear(s)
- 2% (e) Patellar luxation
- 4% (f) Elbow dysplasia
- 1% (g) Spinal myelopathy

### NEUROLOGIC CONDITIONS

- 1% (h) Cervical vertebral instability (wobblers)
- 1% (i) Luxating tarsus (popping hock)
- 1% (j) Intervertebral disc disease
- 4% (k) Crooked tail (kink)
- <1% (l) Hypertrophic osteodystrophy (HOD)

### COLORING CONDITIONS

- 2% (a) Blue eyes
- 1% (b) Blue coat main color
- 2% (c) Red/brown coat main color
- (d) Other (list below):

### GASTROINTESTINAL

- <1% (b) Intussusception
- 5% (c) Gastric dilatation and volvulus (bloat)
- 4% (d) Splenic torsion
- 1% (e) Megaesophagus
- 17% (f) Violent licking episodes
- 9% (g) Pica (eats non-food items often)
- (h) Other (list below):

### ORTHOPEDIC CONDITIONS

- 9% (a) Hip dysplasia
- 5% (b) Osteochondritis dissecans (OCD)
- 5% (c) Panosteitis
- 2% (d) Cruciate ligament tear(s)
- 2% (e) Patellar luxation
- 4% (f) Elbow dysplasia
- 1% (g) Spinal myelopathy

### NEUROLOGIC CONDITIONS

- 1% (h) Cervical vertebral instability (wobblers)
- 1% (i) Luxating tarsus (popping hock)
- 1% (j) Intervertebral disc disease
- 4% (k) Crooked tail (kink)
- <1% (l) Hypertrophic osteodystrophy (HOD)

### COLORING CONDITIONS

- 2% (a) Blue eyes
- 1% (b) Blue coat main color
- 2% (c) Red/brown coat main color
- (d) Other (list below):

### GASTROINTESTINAL

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- 5% (c) Gastric dilatation and volvulus (bloat)
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- 1% (e) Megaesophagus
- 17% (f) Violent licking episodes
- 9% (g) Pica (eats non-food items often)
- (h) Other (list below):

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- 5% (b) Osteochondritis dissecans (OCD)
- 5% (c) Panosteitis
- 2% (d) Cruciate ligament tear(s)
- 2% (e) Patellar luxation
- 4% (f) Elbow dysplasia
- 1% (g) Spinal myelopathy

### NEUROLOGIC CONDITIONS

- 1% (h) Cervical vertebral instability (wobblers)
- 1% (i) Luxating tarsus (popping hock)
- 1% (j) Intervertebral disc disease
- 4% (k) Crooked tail (kink)
- <1% (l) Hypertrophic osteodystrophy (HOD)
8. SKIN CONDITIONS
2% (a) Chronic hot spots
<1% (b) Seborrhea
1% (c) Demodectic mange
<1% (d) Sarcoptic mange
1% (e) Persistent staphylococcal infection (pyoderma)
5% (f) Food allergies
5% (g) Skin allergies (atopic dermatitis)
2% (h) Nasal allergies (allergic rhinitis)
<1% (i) Calcinosis circumscripta
<1% (k) Systemic lupus erythematosus (SLE)
0% (m) Alopecic syndromes (color dilution)
0% (n) Uveodermatologic syndrome (eye and skin)
___ (o) Other (list below)

9. CANCER
1% (a) Mammary gland (breast cancer)
1% (b) Skin, subcutaneous tissue
1% (c) Mouth (list type of tumor below)
<1% (d) Osteosarcoma
<1% (e) Leukemia
<1% (f) Lymphoma
0% (g) Fibrosarcoma
<1% (h) Hemangiosarcoma
<1% (i) Cutaneous histiocytosis
0% (j) Systemic histiocytosis
<1% (k) Malignant histiocytosis
2% (l) Mast cell tumor(s)
___ (m) Other cancers (list below)

10. BLOOD CONDITIONS
1% (a) Anemia (list cause below)
0% (b) Hemophilia
<1% (c) von Willebrand’s disease
0% (d) Factor I deficiency (dysfibrinogenemia)

11. ENDOCRINE CONDITIONS
0% (a) Diabetes mellitus (sugar diabetes)
1% (b) Pancreatitis
0% (c) Cushing's disease
<1% (d) Addison's disease
0% (e) Pituitary disorder (list cause below):

1% (f) Hypothyroidism (low thyroid)
<1% (g) Hyperthyroidism (excessive thyroid)
___ (h) Other (list below)

12. KIDNEY CONDITIONS
8% (a) Cystitis (urinary tract infection)
<1% (b) Familial glomerulonephropathy
<1% (c) Kidney stones
11% (d) Urinary incontinence
<1% (e) Renal dysplasia
___ (f) Other kidney or urinary tract conditions (list below)

13. LIVER CONDITIONS
0% (a) Portosystemic shunt
0% (b) Chronic active hepatitis (not infectious)
___ (c) Other (list below)

14. HEART CONDITIONS
0% (a) Mitral valve defect
0% (b) Tricuspid valve defect
<1% (c) Stenosis (list type below)

15. FEMALE REPRODUCTIVE
7% (a) Irregular heats
4% (b) Refusal to accept male
19% (c) Failure to conceive
2% (d) Mastitis (bad milk)
20% (e) Difficulty whelping
38% (f) Caesarean section
3% (g) Vaginal infection
3% (h) Pyometria
___ (i) Other female reproductive conditions (list below)

16. MALE REPRODUCTIVE
5% (a) Lack of interest in female
0% (b) Impotence (inability to breed willing female)
9% (c) Sterility (no or low sperm)
4% (d) Abnormal sperm
1% (e) Undescended testicle or testicles
6% (f) Prostatitis
___ (g) Other (list below)

17. TEMPERAMENT
1% (a) Very shy
7% (b) Timid
16% (c) Reserved
50% (d) Confident
31% (e) Protective
68% (f) Very friendly
2% (g) Aggressive
7% (h) Dog aggressive
2% (i) Has bit a person
<1% (j) Rage syndrome
___ (k) Other (list below)

18. Please add any additional information pertinent to this dog's health:

THANK YOU!