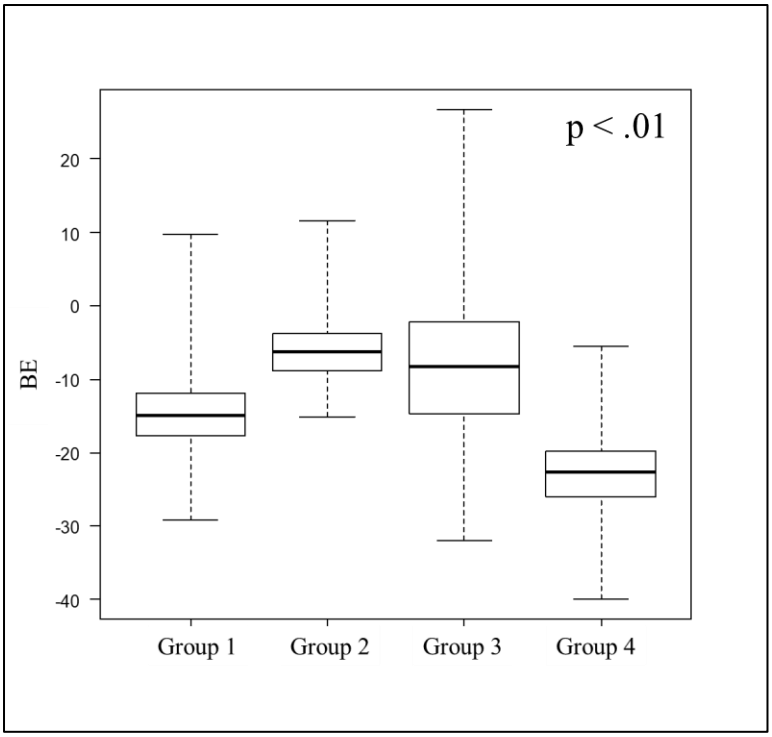
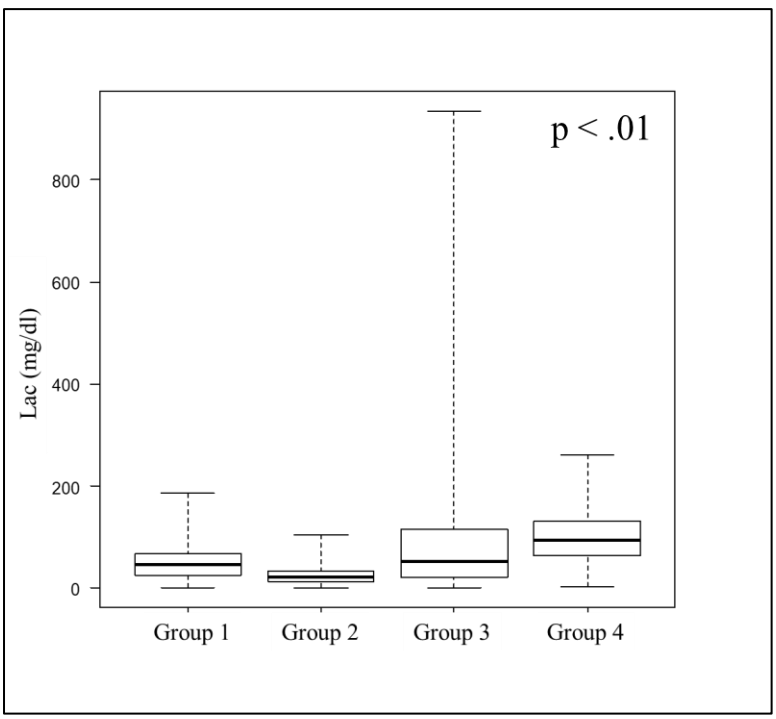
**Supplementary figure 1.** Distributions of variables with the five highest discriminative power values.

In the box plot, the box represents the median and the interquartile range, while the whiskers represent the maximum and minimum values, respectively.

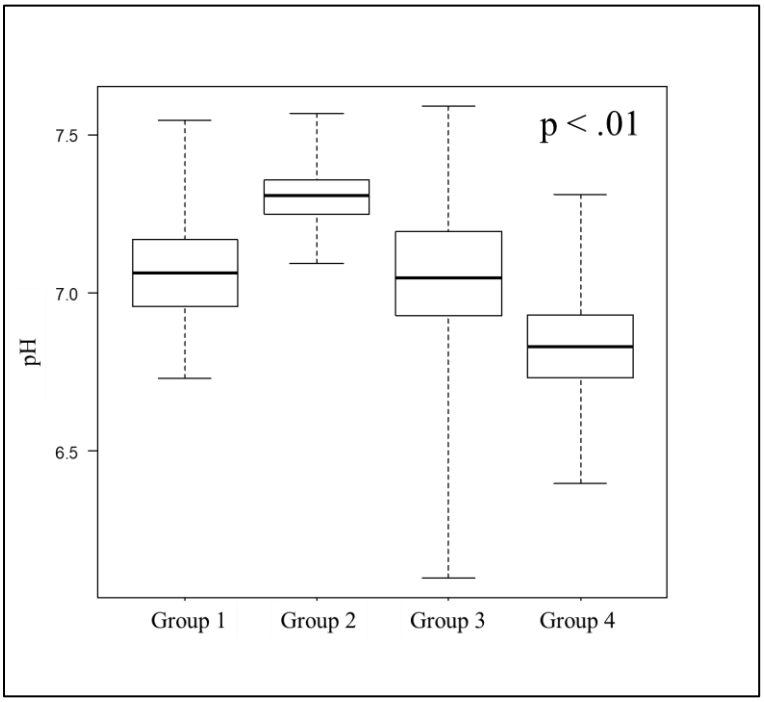
**Supplementary figure 1-a.** The distribution of BE on hospital arrival in each sub-phenotype



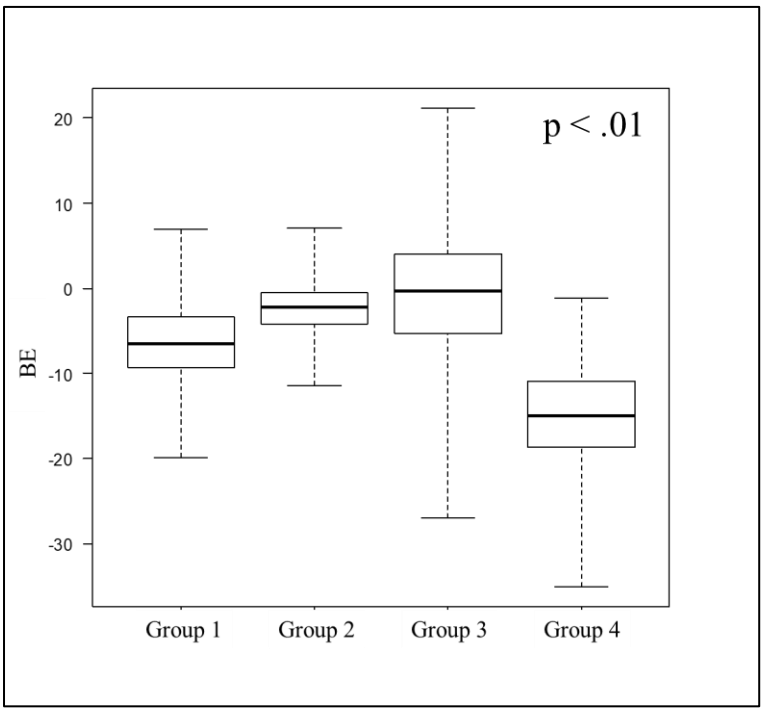

**Supplementary figure 1-b.** The distribution of Lac on admission in each sub-phenotype



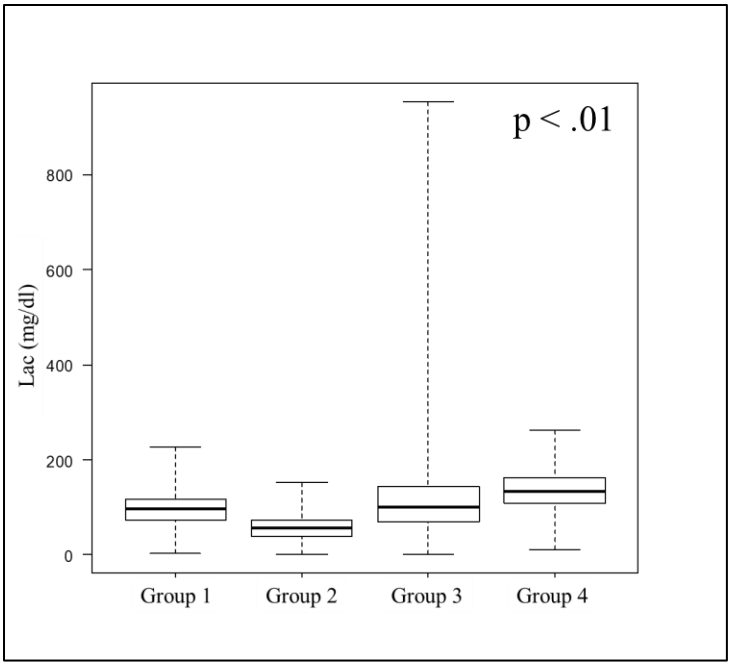
**Supplementary figure 1-c.** The distribution of pH on hospital arrival in each sub-phenotype




**Supplementary figure 1-d.** The distribution of BE on admission in each sub-phenotype




**Supplementary figure 1-e.** The distribution of Lac on hospital arrival in each sub-phenotype




Abbreviations: BE, base excess; Lac, lactic acid.

**Supplementary table 1. Bayesian information criterion of each latent class analysis**

| Number of classes | BIC |
|---|---|
| 2 | -151501 |
| 3 | -150111 |
| 4 | -148988 |
| 5 | -148162 |

**Supplementary table 2. Number of missing data for each variable before the latent class analysis**

| Variables, n (%) | Overall (n = 9,753) |
|---|---|
| Time from call to initiation of CPR | 917 (7.7) |
| Time from EMS contact to hospital arrival | 366 (3.1) |
| Prehospital shock delivery | 1,633 (13.7) |
| Prehospital AAM | 1,974 (16.6) |
| GCS on hospital arrival | 10 (0.1) |
| pH on hospital arrival | 3,941 (33.1) |
| $PaCO_2$ on hospital arrival | 3,935 (33.0) |
| $HCO_3$- on hospital arrival | 4,008 (33.6) |
| BE on hospital arrival | 4,043 (33.9) |
| Lac on hospital arrival | 4,159 (34.9) |
| pH on admission | 7,770 (65.2) |
| $PaO_2$ on admission | 7,776 (65.3) |
| $PaCO_2$ on admission | 7,767 (65.2) |
| $HCO_3$- on admission | 7,813 (65.6) |
| BE on admission | 7,806 (65.5) |
| Lac on admission | 7,899 (66.3) |

Abbreviations: AAM, advanced airway management; BE, base excess; CPR, cardiopulmonary resuscitation; EMS, emergency medical services; GCS, glasgow coma scale; Lac, lactic acid.