Tables - general

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Imports

```
library(tidyverse)
library(yaml)
library(kableExtra)
```

Loading data

```
load('dataset/processed_data.RData')
load('dataset/processed_dictionary.RData')

columns_list <- yaml.load_file("./auxiliar/columns_list.yaml")

outcome_column <- params$outcome_column

if (outcome_column == 'general') {
    df <- df %>% mutate(general = 'All')
}

df[columns_list$outcome_columns] <- lapply(df[columns_list$outcome_columns], as.character)
df[columns_list$outcome_columns] <- lapply(df[columns_list$outcome_columns], as.integer)</pre>
```

Numerical variables

```
medianWithoutNA <- function(x) {</pre>
   median(x[which(!is.na(x))])
}
i = 0
for (column in columns_list$numerical_columns){
    group_by_at(vars(one_of(outcome_column))) %>%
    summarise('Mean' = mean(!!sym(column), na.rm = T),
              'Min' = min(!!sym(column), na.rm = T),
              'Median' = medianWithoutNA(!!sym(column)),
              'Max' = max(!!sym(column), na.rm = T),
              'Standard Deviation' = sd(!!sym(column), na.rm = T),
              'N' = n(),
              'Missing' = sum(is.na(!!sym(column)))) %>%
    ungroup %>%
    mutate(Min = ifelse(is.infinite(Min), NA, Min),
           Max = ifelse(is.infinite(Max), NA, Max)) %>%
    kbl(align = "1", booktabs = T, digits = 3, format = 'latex', label = i,
        caption = df_names %>% filter(variable.name == column) %>% .$field.label) %>%
    column_spec(1, bold = T, width = "8em") %>%
    row_spec(c(1) - 1, extra_latex_after = "\\rowcolor{gray!6}") %>%
    collapse_rows(1, latex_hline = "none") %>%
    kable_styling(latex_options = c("HOLD_position", "repeat_header")) %>%
    print
```

Table 1: Idade no momento do primeiro procedimento

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	65.61	0	69	110.6	17.774	15766	0

Table 2: Número de comorbidades

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	1.252	0	1	8	1.352	15766	0

Table 3: Número de procedimentos

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	1.453	1	1	10	0.841	15766	0

Table 4: Ano do procedimento $1\,$

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2010.589	1999	2010	2021	5.787	15766	0

Table 5: Idade no Procedimento 1

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	65.61	0	69	110.6	17.774	15766	0

Table 6: Ano do procedimento 2

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2013.087	1999	2013	2022	4.683	15766	10905

Table 7: Idade no Procedimento 2

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	65.136	0	69.2	108.7	19.262	15766	10904

Table 8: Ano do procedimento 3

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2014.321	1999	2015	2022	4.783	15766	14289

Table 9: Idade no Procedimento 3

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	62.004	0.4	66	101.1	20.748	15766	14289

Table 10: Ano do procedimento $4\,$

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2014.46	2002	2015	2022	4.806	15766	15281

Table 11: Idade no Procedimento 4

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	59.625	1.9	63.7	97.7	21.921	15766	15281

Table 12: Ano do procedimento 5

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2014.234	2003	2014	2022	4.19	15766	15574

Table 13: Idade no Procedimento 5

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	57.845	3.2	62.75	99.7	22.035	15766	15574

Table 14: Ano do procedimento 6

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2014.728	2003	2015	2021	4.547	15766	15685

Table 15: Idade no Procedimento 6

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	55.865	6.6	58.8	101.6	22.394	15766	15685

Table 16: Ano do procedimento 7

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2015.656	2007	2016.5	2022	4.285	15766	15734

Table 17: Idade no Procedimento 7

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	51.231	8.8	57.1	81.8	20.858	15766	15734

Table 18: Ano do procedimento $8\,$

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2014.917	2008	2015.5	2020	3.942	15766	15754

Table 19: Idade no Procedimento 8

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	52.283	14.3	52.9	81.8	23.027	15766	15754

Table 20: Ano do procedimento 9

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2014.8	2009	2016	2022	5.07	15766	15761

Table 21: Idade no Procedimento 9

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	39.86	15	36.6	82.2	26.06	15766	15761

Table 22: Ano do procedimento 10

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2019	2019	2019	2019	NA	15766	15765

Table 23: Idade no Procedimento 10

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	39.7	39.7	39.7	39.7	NA	15766	15765

Table 24: Tempo entre o P1 e P2 (meses)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	73.31	0	83.7	197.1	40.15	15766	10904

Table 25: Tempo entre o P2 e P3 (meses)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	55.665	0	60.7	170.5	39.734	15766	14289

Table 26: Tempo entre o P3 e P4 (meses)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	39.604	0	31.75	142.7	39.82	15766	15282

Table 27: Tempo entre o P4 e P5 (meses)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	32.376	0	7.1	144.3	38.429	15766	15574

Table 28: Tempo entre o P5 e P6 (meses)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	27.699	0	5.8	110.3	34.88	15766	15685

Table 29: Tempo entre o P6 e P7 (meses)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	31.491	0	3.95	142.3	42.63	15766	15734

Table 30: Tempo entre o P7 e P8 (meses)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	19.983	0.2	2.6	80.9	28.743	15766	15754

Table 31: Tempo entre o P8 e P9 (meses)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	21.72	4.8	8.7	63.2	24.892	15766	15761

Table 32: Tempo entre o P9 e P10 (meses)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	36.8	36.8	36.8	36.8	NA	15766	15765

Table 33: Número de Mudanças do tipo de DCEI

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.087	0	0	3	0.296	15766	10907

Table 34: Número de atendimentos

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2.38	1	2	51	2.222	15766	0

Table 35: Número da Admissão T0 (admissão índice)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	1.435	1	1	32	1.122	15766	0

Table 36: Núm. de episódios de hospitalizações pós-procedimento

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.864	0	0	50	1.687	15766	0

Table 37: Núm. de episódios de hospitalizações pré-procedimento

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.541	0	0	38	1.24	15766	0

Table 38: Ano da admissão T0

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2010.582	1999	2010	2021	5.788	15766	20

Table 39: UTI durante a admissão T0

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	1.642	0	0	191.95	6.726	15766	0

Table 40: Diálise durante a admissão T0

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.011	0	0	28	0.418	15766	0

Table 41: Tempo de seguimento total (anos)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	5.88	0	4.4	22.6	5.24	15766	0

Table 42: Tempo de sobrevida (anos)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	4.084	0	2.7	20.1	4.103	15766	14001

Table 43: Diárias no serviço de Emergência na admissão T0

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.316	0	0	28	1.354	15766	5929

Table 44: Anticoagulantes orais

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.297	0	0	98	2.433	15766	3483

Table 45: Antiarritmicos

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	3.715	0	0	844	18.692	15766	3483

Table 46: Antihipertensivo

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.468	0	0	349	5.357	15766	3483

Table 47: Betabloqueador

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	1.088	0	0	388	8.073	15766	3483

Table 48: IECA/BRA

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	8.881	0	2	530	20.64	15766	3483

Table 49: DVA

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	5.053	0	0	1044	29.043	15766	3483

Table 50: Digoxina

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.233	0	0	50	1.638	15766	3483

Table 51: Estatinas

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	5.126	0	0	421	16.552	15766	3483

Table 52: Diuretico

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	8.477	0	0	1290	44.869	15766	3483

Table 53: Vasodilator

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	8.985	0	0	2408	50.043	15766	3483

Table 54: Insuficiência cardíaca (ivabradina, levosimedan, milrinona, nesiritida, carvedilol)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	4.469	0	0	453	16.494	15766	3483

Table 55: Antagonista da Aldosterona (espironolactona)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2.037	0	0	204	7.759	15766	3483

Table 56: Bloqueador do canal de calcio

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.616	0	0	509	9.594	15766	3483

Table 57: Trombolitico

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.001	0	0	3	0.039	15766	3483

Table 58: Antiplaquetario VO

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0	0	0	0	0	15766	3483

Table 59: Antiplaquetario EV

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.011	0	0	8	0.174	15766	3483

Table 60: Insulina

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.095	0	0	16	0.471	15766	3483

Table 61: Hipoglicemiante

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.359	0	0	90	2.842	15766	3483

Table 62: Hormonio tireoidiano

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0	0	0	0	0	15766	3483

Table 63: Broncodiltador

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0	0	0	0	0	15766	3483

Table 64: Anticonvulsivante

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.88	0	0	390	10.602	15766	3483

Table 65: Psicofármacos (Ansiolítico/ antidepressivo/ antipsicótico)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	3.678	0	0	387	12.426	15766	3483

Table 66: Antibióticos

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	13.372	0	4	1812	59.505	15766	3483

Table 67: Antifúngicos

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.279	0	0	122	3.232	15766	3483

Table 68: Antiviral

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.103	0	0	131	2.489	15766	3483

Table 69: Antiretroviral

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.009	0	0	32	0.448	15766	3483

Table 70: Quantidade de classes medicamentosas utilizadas

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	4.745	1	4	17	2.543	15766	4955

Table 71: Ventilação não invasiva

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.019	0	0	42	0.624	15766	2734

Table 72: Instalação de CEC

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.012	0	0	2	0.109	15766	2734

Table 73: Cirurgia Cardiovascular

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.056	0	0	9	0.374	15766	2734

Table 74: Cirurgia Toracica

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.003	0	0	4	0.067	15766	2734

Table 75: Outros procedimentos cirúrgicos (cir geral, gastrocir, plástica, uro, vascular)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.106	0	0	11	0.528	15766	2734

Table 76: Traqueostomia

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.001	0	0	5	0.055	15766	2734

Table 77: Intervenção coronária percutânea

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.011	0	0	4	0.13	15766	2734

Table 78: Intervenção cardiovascular em laboratório de hemodinâmica (alcoolização septal, valvoplastia percutânea, stent em vasos pulmonares)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.007	0	0	3	0.116	15766	2734

Table 79: Stent

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0	0	0	0	0	15766	2734

Table 80: Angioplastia

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.001	0	0	2	0.039	15766	2734

Table 81: Cateterismo

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.123	0	0	7	0.403	15766	2734

Table 82: Eletrofisiologia

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.082	0	0	11	0.475	15766	2734

Table 83: Suporte cardiocirculatório (ECMO, BIA, Bio-PUMP)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.106	0	0	535	5.477	15766	2734

Table 84: Cateter venoso central

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.028	0	0	4	0.203	15766	2734

Table 85: Drenagem de tórax (instalação /troca) e punção pericárdica ou pleural

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.005	0	0	6	0.106	15766	2734

Table 86: Quantidade de procedimentos invasivos

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.543	0	0	554	5.874	15766	2734

Table 87: Cardioversão/ Desfibrilação (sessão)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.006	0	0	5	0.121	15766	3566

Table 88: Transfusão de hemoderivados

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.03	0	0	34	0.529	15766	2734

Table 89: Interconsulta médica (Especialidades cirúrgicas, infecto, uro, nefro, psiquiatra, dermato, alergista, oncologista, geriatra, etc.)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.35	0	0	199	2.781	15766	2734

Table 90: Equipe Multiprofissional (enf., fono, fisio, nutri, serviço social, psicologia)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2.996	0	0	365	12.924	15766	2734

Table 91: ECG

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	3.893	0	2	140	5.766	15766	2734

Table 92: Holter

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.105	0	0	5	0.353	15766	2734

Table 93: Teste de esforço

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.01	0	0	3	0.107	15766	2734

Table 94: Espirometria / Ergoespirometria

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.005	0	0	2	0.069	15766	2734

Table 95: Tilt Test

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.002	0	0	2	0.051	15766	2734

Table 96: Polissonografia

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.001	0	0	2	0.044	15766	2734

Table 97: Quantidade de exames por métodos gráficos

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	4.017	0	2	140	5.906	15766	2734

Table 98: Exames laboratoriais (exames bioquímicos, exames hematologia/coagulação, anticorpos, dosagem sérica de fármacos)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	59.17	0	10	3474	166.423	15766	2734

Table 99: Culturas (hemocultura, cultura de secreções, urocultura e cultura de cateteres)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.293	0	0	25	1.137	15766	2734

Table 100: Quantidade de exames de análises clínicas

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	59.463	0	10	3487	167.298	15766	2734

Table 101: Citologias

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.006	0	0	5	0.101	15766	2734

Table 102: Biopsias (cardíaca, esterno, parede torácica, tumor em mediastino, pulmonar)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.015	0	0	10	0.257	15766	2734

Table 103: Quantidade de exames histopatológicos

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.021	0	0	10	0.285	15766	2734

Table 104: Angio RM

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.004	0	0	4	0.085	15766	2734

Table 105: Angio TC

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.034	0	0	6	0.233	15766	2734

Table 106: Angiografia

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.002	0	0	3	0.051	15766	2734

Table 107: Aortografia

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.002	0	0	2	0.05	15766	2734

Table 108: Arteriografia

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.001	0	0	2	0.028	15766	2734

Table 109: Cavografia

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.007	0	0	1	0.084	15766	2734

Table 110: Cintilografia

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.065	0	0	5	0.355	15766	2734

Table 111: Ecocardiograma

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.534	0	0	24	1.206	15766	2734

Table 112: Exames endoscópicos (EDA, colonoscopia, retossigmoidoscopia, broncoscopia)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.015	0	0	6	0.168	15766	2734

Table 113: Flebografia

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.035	0	0	5	0.288	15766	2734

Table 114: PET-CT

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.005	0	0	3	0.075	15766	2734

Table 115: Ultrassom

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.172	0	0	14	0.774	15766	2734

Table 116: Tomografia

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.157	0	0	15	0.656	15766	2734

Table 117: Radiografias

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	2.96	0	2	192	7.089	15766	2734

Table 118: Ressonancia magnetica

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.073	0	0	6	0.309	15766	2734

Table 119: Quantidade de exames diagnóstico por imagem

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	4.066	0	2	232	8.885	15766	2734

Table 120: Dieta enteral (frasco)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.036	0	0	115	1.71	15766	3568

Table 121: Dieta parenteral (frasco)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.001	0	0	5	0.061	15766	3568

Table 122: Bomba de infusão contínua (horas)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.939	0	0	1527	23.009	15766	3568

Table 123: Marca-passo temporário (por hora)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.158	0	0	180	3.019	15766	3568

Table 124: Número de procedimentos na admissão T0

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	1.015	1	1	5	0.139	15766	0

Table 125: Número de procedimentos em até 30 dias

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.008	0	0	3	0.098	15766	0

Table 126: Número de procedimentos em até 60 dias

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.009	0	0	3	0.103	15766	0

Table 127: Número de procedimentos em até 180 dias

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.013	0	0	4	0.131	15766	0

Table 128: Número de procedimentos em até 1 ano

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	0.011	0	0	3	0.125	15766	0

Table 129: Quantidade de classes medicamentosas de ação cardiovascular

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	3.112	1	3	10	1.77	15766	6535

Table 130: Quantidade de medicamentos de ação cardiovascular

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	44.023	0	10	5140	133.111	15766	3483

Table 131: Quantidade de antimicrobianos (antibióticos e antifúngicos)

general	Mean	Min	Median	Max	Standard Deviation	N	Missing
All	13.65	0	4	1812	60.633	15766	3483

Categorical variables

```
paste_matrix <- function(...,sep = " ",collapse = NULL){</pre>
    n <- max(sapply(list(...),nrow))</pre>
    p <- max(sapply(list(...),ncol))</pre>
    matrix(paste(...,sep = sep,collapse = collapse),n,p)
}
percent <- function(x) paste0("(", lapply(x, as.character), "%)")</pre>
addpercentage <- function(df, horizontal = FALSE){</pre>
  if (horizontal){
    x <- df %>%
      prop.table(margin = 1) %>%
      addmargins(FUN = list(Total = sum), quiet = TRUE) %>%
      round(2) * 100
    x[nrow(x),] <- " "
    x[-(nrow(x)),] \leftarrow lapply(x[-(nrow(x)),], percent)
  } else {
    x <- df %>%
      prop.table(margin = 2) %>%
      addmargins(FUN = list(Total = sum), quiet = TRUE) %>%
      round(2) * 100
    x[, ncol(x)] <- " "
    x[, -(ncol(x))] \leftarrow lapply(x[, -(ncol(x))], percent)
  }
  y \leftarrow matrix(x, nrow = nrow(df) + 1)
  df <- df %>%
    addmargins(FUN = list(Total = sum), quiet = TRUE)
  df_final <- paste_matrix(df, y)</pre>
  rownames(df_final) <- rownames(df)</pre>
  colnames(df_final) <- colnames(df)</pre>
  return(df_final)
```

```
transpose_columns <- c()</pre>
df[columns_list$outcome_columns] <- lapply(df[columns_list$outcome_columns], as.character)</pre>
for (column in columns_list$categorical_columns){
  if (length(unique(df[[column]])) > 5) next
  variable_name <- df_names %>%
    filter(variable.name == column) %>%
    .$field.label
  abbreviated_name <- df_names %>%
    filter(variable.name == column) %>%
    .$field.label
  caption <- sprintf('Contingency table between %s and %s',
                      str_replace(outcome_column, "_", " "),
                     variable_name)
  if (column %in% transpose_columns){
    temp_table <- table(df[[column]],</pre>
                         df[[outcome_column]],
                         useNA = "ifany") %>%
      addpercentage(horizontal = TRUE)
    has_na <- df[[column]] %>% is.na() %>% sum > 0
    if (has_na){
      rownames(temp_table) [nrow(temp_table) - 1] <- "NA"</pre>
    }
    t <- temp_table %>%
      as.data.frame %>%
      rownames_to_column(var=abbreviated_name) %>%
      kbl(align = "c", booktabs = T, digits = 2, format = 'latex',
          caption = caption) %>%
      row_spec(length(unique(df %>% .[[column]] %>% replace_na("NA"))),
               hline_after = T) %>%
      collapse_rows(1, latex_hline = "none") %>%
      column_spec(4, border_right = T) %>%
      add_header_above(c(setNames(1, ' '),
                          setNames(length(unique(df[[outcome_column]])),
                                   outcome_column))) %>%
      kable_styling(latex_options = c("HOLD_position", "repeat_header"))
  } else {
    temp_table <- table(df[[outcome_column]],</pre>
                         df[[column]],
                         useNA = "ifany") %>%
      addpercentage
    has_na <- df[[column]] %>% is.na() %>% sum > 0
    if (has_na){
      colnames(temp_table) [ncol(temp_table) - 1] <- "NA"</pre>
    }
    t <- temp_table %>%
      as.data.frame %>%
```

Table 132: Contingency table between general and Sexo

	Se		
general	0	1	Total
All Total	7449 (100%) 7449 (100%)	8317 (100%) 8317 (100%)	15766 15766

Table 133: Contingency table between general and Doença cardíaca

Doença cardíaca					
general	0	1	2	NA	Total
All Total	(/	1143 (100%) 1143 (100%)	3463 (100%) 3463 (100%)	2004 (100%) 2004 (100%)	

Table 134: Contingency table between general and Classe funcional de IC (NYHA)

Classe funcional de IC (NYHA)				
general	1	2	NA	Total
All Total	5995 (100%) 5995 (100%)	1346 (100%) 1346 (100%)	8425 (100%) 8425 (100%)	

Table 135: Contingency table between general and Hipertensão arterial

Hipertensão arterial						
general	0	1	Total			
All Total	11933 (100%) 11933 (100%)	3833 (100%) 3833 (100%)	15766 15766			

Table 136: Contingency table between general and Infarto do miocárdio prévio / Doença arterial coronariana

	Infarto do miocárd	io prévio / Doença arterial coronariana	
general	0	1	Total
All Total	14323 (100%) 14323 (100%)	1443 (100%) 1443 (100%)	15766 15766

Table 137: Contingency table between general and Insuficiência cardíaca

Insuficiência cardíaca						
general	0	1	Total			
All Total	10125 (100%) 10125 (100%)	5641 (100%) 5641 (100%)	15766 15766			

Table 138: Contingency table between general and Fibrilação / flutter atrial

Fibrilação / flutter atrial					
general	0	1	Total		
All Total	13383 (100%) 13383 (100%)	2383 (100%) 2383 (100%)	15766 15766		

Table 139: Contingency table between general and Parada cardíaca prévia/ Taquicardia ventricular instável

	Parada cardíaca	a prévia/ Taquicardia ventricular instável	
general	0	1	Total
All	13873 (100%)	1893 (100%)	15766
Total	$13873\ (100\%)$	1893 (100%)	15766

Table 140: Contingency table between general and Transplante cardíaco prévio

general	0	1	Total
All Total	15754 (100%) 15754 (100%)	12 (100%) 12 (100%)	15766 15766

Table 141: Contingency table between general and Valvopatias/ Prótese valvares

	Valvopatias/ Prótese valvares				
general	0	1	Total		
All	14712 (100%)	1054 (100%) 1054 (100%)	15766 15766		
Total	14712 (100%)	1054 (100%)	15700		

Table 142: Contingency table between general and Endocardite prévia

Endocardite prévia						
general	0	1	Total			
All	15633 (100%)	133 (100%)	15766			
Total	15633 (100%)	133 (100%)	15766			

Table 143: Contingency table between general and Diabetes melittus

general	0	1	Total
All Total	13890 (100%) 13890 (100%)	1876 (100%) 1876 (100%)	15766 15766

Table 144: Contingency table between general and Insuficiência renal crônica

general	0	1	Total
All Total	15146 (100%) 15146 (100%)	620 (100%) 620 (100%)	15766 15766

Table 145: Contingency table between general and Hemodiálise

Hemodiálise						
general	0	1	Total			
All Total	15747 (100%) 15747 (100%)	19 (100%) 19 (100%)	15766 15766			

Table 146: Contingency table between general and Acidente Vascular Cerebral/ Acidente isquêmico transitório prévios

	Acidente Vascular	Cerebral/ Acidente isquêmico transitório prévios	
general	0	1	Total
All Total	15267 (100%) 15267 (100%)	499 (100%) 499 (100%)	15766 15766

Table 147: Contingency table between general and Doença pulmonar obstrutiva crônica

	Doença pulmona		
general	0	1	Total
All Total	15553 (100%) 15553 (100%)	213 (100%) 213 (100%)	15766 15766

Table 148: Contingency table between general and Neoplasia em tratamento ou tratada recentemente (12 meses)

	Neoplasia em tratamento ou tratada recentemente (12 meses)		
general	0	1	Total
All Total	15653 (100%) 15653 (100%)	113 (100%) 113 (100%)	15766 15766

Table 149: Contingency table between general and Tipo de Procedimento 1

general	1	2	Total
All Total	10912 (100%) 10912 (100%)	4854 (100%) 4854 (100%)	15766 15766

Table 150: Contingency table between general and Tipo de Reoperação 1

Tipo de Reoperação 1					
general	1	2	3	NA	Total
All Total	3912 (100%) 3912 (100%)	(/	\ /	10912 (100%) 10912 (100%)	1

Table 151: Contingency table between general and Tipo de Procedimento 1 (merge: procedure type com reop type)

	Tipo de Procedimento 1 (merge: procedure type com reop type)				
general	1	2	3	4	Total
All Total	10912 (100%) 10912 (100%)	3912 (100%) 3912 (100%)	909 (100%) 909 (100%)	33 (100%) 33 (100%)	15766 15766

Table 152: Contingency table between general and Tipo de Dispositivo ao final do procedimento 1

Tipo de Dispositivo ao final do procedimento 1					
general	1	2	3	4	Total
All Total	12295 (100%) 12295 (100%)		1254 (100%) 1254 (100%)	445 (100%) 445 (100%)	

Table 153: Contingency table between general and Tipo de Dispositivo ao final do procedimento 1

	Tipo de Dispositiv		
general	1	2	Total
All Total	14067 (100%) 14067 (100%)	1699 (100%) 1699 (100%)	15766 15766

Table 154: Contingency table between general and Óbito intraoperatório 1

	Óbito intraoperatório 1	
general	0	Total
All Total	15766 (100%) 15766 (100%)	15766 15766

Table 155: Contingency table between general and Tipo de Reoperação $2\,$

	Tipo de Reoperação 2					
general	1	2	3	NA	Total	
All Total	3259 (100%) 3259 (100%)			10912 (100%) 10912 (100%)		

Table 156: Contingency table between general and Tipo de Dispositivo ao final do procedimento 2

Tipo de Dispositivo ao final do procedimento 2						
general	1	2	3	4	NA	Total
All					10911 (100%)	
Total	$3623\ (100\%)$	$642\ (100\%)$	$387\ (100\%)$	$203\ (100\%)$	$10911\ (100\%)$	15766

Table 157: Contingency table between general and Óbito intraoperatório 2

general	0	NA	Total
All Total	4861 (100%) 4861 (100%)	10905 (100%) 10905 (100%)	15766 15766

Table 158: Contingency table between general and Tipo de Reoperação 3

Tipo de Reoperação 3					
general	1	2	3	NA	Total
All Total				14403 (100%) 14403 (100%)	

Table 159: Contingency table between general and Tipo de Dispositivo ao final do procedimento 3

Tipo de Dispositivo ao final do procedimento 3						
general	1	2	3	4	NA	Total
All Total	966 (100%) 966 (100%)	251 (100%) 251 (100%)	160 (100%) 160 (100%)	\ /	14290 (100%) 14290 (100%)	

Table 160: Contingency table between general and Óbito intraoperatório 3

general	0	1	NA	Total
All Total	1473 (100%) 1473 (100%)	4 (100%) 4 (100%)	14289 (100%) 14289 (100%)	15766 15766

Table 161: Contingency table between general and Tipo de Reoperação $4\,$

Tipo de Reoperação 4					
general	1	2	3	NA	Total
All Total	192 (100%) 192 (100%)	251 (100%) 251 (100%)	33 (100%) 33 (100%)	15290 (100%) 15290 (100%)	

Table 162: Contingency table between general and Tipo de Dispositivo ao final do procedimento 4

Tipo de Dispositivo ao final do procedimento 4						
general	1	2	3	4	NA	Total
All	288 (100%)	110 (100%)	45 (100%)	42 (100%)	15281 (100%)	15766
Total	$288 \ (100\%)$	110 (100%)	45~(100%)	$42\ (100\%)$	$15281\ (100\%)$	15766

Table 163: Contingency table between general and Óbito intraoperatório 4

Óbito intraoperatório 4							
general	0	NA	Total				
All Total	485 (100%) 485 (100%)	15281 (100%) 15281 (100%)	15766 15766				

Table 164: Contingency table between general and Tipo de Reoperação $5\,$

Tipo de Reoperação 5					
general	1	2	3	NA	Total
All Total				15575 (100%) 15575 (100%)	

Table 165: Contingency table between general and Tipo de Dispositivo ao final do procedimento 5

Tipo de Dispositivo ao final do procedimento 5						
general	1	2	3	4	NA	Total
All	100 (100%)	56 (100%)	22 (100%)	13 (100%)	15575 (100%)	15766
Total	100 (100%)	56 (100%)	22 (100%)	13 (100%)	$15575 \ (100\%)$	15766

Table 166: Contingency table between general and Óbito intraoperatório 5

general	0	NA	Total
All Total	192 (100%) 192 (100%)	15574 (100%) 15574 (100%)	15766 15766

Table 167: Contingency table between general and Tipo de Reoperação $6\,$

Tipo de Reoperação 6					
general	1	2	3	NA	Total
All	26 (100%)	46 (100%)		15688 (100%)	
Total	26 (100%)	46 (100%)	6 (100%)	15688 (100%)	15766

Table 168: Contingency table between general and Tipo de Dispositivo ao final do procedimento 6

Tipo de Dispositivo ao final do procedimento 6						
general	1	2	3	4	NA	Total
All	40 (100%)	25 (100%)	7 (100%)	9 (100%)	15685 (100%)	15766
Total	40 (100%)	25 (100%)	7 (100%)	9 (100%)	$15685 \ (100\%)$	15766

Table 169: Contingency table between general and Óbito intraoperatório 6

Óbito intraoperatório 6					
general	0	NA	Total		
All Total	81 (100%) 81 (100%)	15685 (100%) 15685 (100%)	15766 15766		

Table 170: Contingency table between general and Tipo de Reoperação 7

	Tipo de Reoperação 7					
general	1	2	3	NA	Total	
All Total				15734 (100%) 15734 (100%)		

Table 171: Contingency table between general and Tipo de Dispositivo ao final do procedimento 7

	Tipo de Dispositivo ao final do procedimento 7						
general	1	2	3	4	NA	Total	
All Total					15735 (100%) 15735 (100%)		
Total	13 (100%)	13 (100%)	1 (100%)	4 (100%)	15735 (100%)	15766	

Table 172: Contingency table between general and Óbito intraoperatório 7

	Óbito inti		
general	0	NA	Total
All Total	32 (100%) 32 (100%)	15734 (100%) 15734 (100%)	15766 15766

Table 173: Contingency table between general and Tipo de Reoperação $8\,$

	Tipo de Reoperação 8				
general	1	2	NA	Total	
All Total	3 (100%) 3 (100%)	9 (100%) 9 (100%)	15754 (100%) 15754 (100%)	15766 15766	

Table 174: Contingency table between general and Tipo de Dispositivo ao final do procedimento 8

	Tipo de Dispositivo ao final do procedimento 8					
general	1	2	4	NA	Total	
All Total	7 (100%) 7 (100%)	4 (100%) 4 (100%)	1 (100%) 1 (100%)	15754 (100%) 15754 (100%)	15766 15766	

Table 175: Contingency table between general and Óbito intraoperatório 8

	Óbito intr	Óbito intraoperatório 8				
general	0	NA	Total			
All Total	12 (100%) 12 (100%)	15754 (100%) 15754 (100%)	15766 15766			

Table 176: Contingency table between general and Tipo de Reoperação $9\,$

Tipo de Reoperação 9				
general	2	NA	Total	
All Total	5 (100%) 5 (100%)	15761 (100%) 15761 (100%)	15766 15766	

Table 177: Contingency table between general and Tipo de Dispositivo ao final do procedimento 9

Tipo de Dispositivo ao final do procedimento 9				
2	NA	Total		
	15761 (100%) 15761 (100%)	15766 15766		
		0%) 2 (100%) 15761 (100%)		

Table 178: Contingency table between general and Óbito intraoperatório 9

	Óbito int	Óbito intraoperatório 9				
general	0	NA	Total			
All	5 (100%)	15761 (100%)	15766			
Total	5 (100%)	15761 (100%)	15766			

Table 179: Contingency table between general and Tipo de Reoperação 10

Tipo de Reoperação 10				
2	NA	Total		
	15765 (100%)	15766 15766		
	Tipo de F 2 (100%) (100%)	2 NA (100%) 15765 (100%)		

Table 180: Contingency table between general and Tipo de Dispositivo ao final do procedimento 10

	Tipo de Dis	positivo ao final do procedimento 10	
general	2	NA	Total
All	1 (100%) 1 (100%)	15765 (100%) 15765 (100%)	15766
Total	1 (100%)	15705 (100%)	15766

Table 181: Contingency table between general and Óbito intraoperatório 10

	Óbito intraoperatório 10				
general	0	NA	Total		
All Total	1 (100%) 1 (100%)	15765 (100%) 15765 (100%)	15766 15766		

Table 182: Contingency table between general and Mudança do tipo de DCEI: entre o Procedimento 1 e Procedimento 2

	Mudança do t	cipo de DCEI: ent	re o Procedimento 1 e Procedimento 2	
general	0	1	NA	Total
All Total	4576 (100%) 4576 (100%)		10911 (100%) 10911 (100%)	15766 15766

Table 183: Contingency table between general and Mudança do tipo de DCEI: entre o Procedimento 2 e Procedimento 3

	Mudança do t	ipo de DCEI	E entre o Procedimento 2 e Procedimento 3	
general	0	1	NA	Total
All	1382 (100%)	94 (100%)	14290 (100%)	15766
Total	$1382\ (100\%)$	94 (100%)	14290 (100%)	15766

Table 184: Contingency table between general and Mudança do tipo de DCEI: entre o Procedimento 3 e Procedimento 4

	Mudança do	tipo de DCE	II: entre o Procedimento 3 e Procedimento 4	
general	0	1	NA	Total
All	457 (100%)	\ /	15281 (100%)	15766
Total	457 (100%)	28 (100%)	15281 (100%)	15766

Table 185: Contingency table between general and Mudança do tipo de DCEI: entre o Procedimento 4 e Procedimento 5

	Mudança do	tipo de DC	EI: entre o Procedimento 4 e Procedimento 5	
general	0	1	NA	Total
All Total	182 (100%) 182 (100%)	9 (100%) 9 (100%)	15575 (100%) 15575 (100%)	15766 15766

Table 186: Contingency table between general and Mudança do tipo de DCEI: entre o Procedimento 5 e Procedimento 6

	Mudança d	o tipo de DC	CEI: entre o Procedimento 5 e Procedimento 6	
general	0	1	NA	Total
All Total	74 (100%) 74 (100%)		15685 (100%) 15685 (100%)	15766 15766

Table 187: Contingency table between general and Mudança do tipo de DCEI: entre o Procedimento 6 e Procedimento 7

	Mudança d	o tipo de DO	CEI: entre o Procedimento 6 e Procedimento 7	
general	0	1	NA	Total
All	28 (100%)		15735 (100%)	15766
Total	28 (100%)	3 (100%)	15735 (100%)	15766

Table 188: Contingency table between general and Mudança do tipo de DCEI: entre o Procedimento 7 e Procedimento 8

	Mudança d	o tipo de DO	CEI: entre o Procedimento 7 e Procedimento 8	
general	0	1	NA	Total
	11 (100%)		15754 (100%)	15766
Total	11 (100%)	1 (100%)	15754 (100%)	15766

Table 189: Contingency table between general and Mudança do tipo de DCEI: entre o Procedimento 8 e Procedimento 9

	Mudança	do tipo de DCEI: entre o Procedimento 8 e Procedimento 9	
general	0	NA	Total
All	5 (100%)	15761 (100%)	15766
Total	5 (100%)	15761 (100%)	15766

Table 190: Contingency table between general and Mudança do tipo de DCEI: entre o Procedimento 9 e Procedimento 10

	Mudança do tipo	de DCEI: entre o Procedimento 9 e Procedimento 10	
general	0	NA	Total
All Total	1 (100%) 1 (100%)	15765 (100%) 15765 (100%)	15766 15766

Table 191: Contingency table between general and Diálise durante os episódios de hospitalização

	Diálise durante os e		
general	0	1	Total
All Total	15722 (100%) 15722 (100%)	44 (100%) 44 (100%)	15766 15766

Table 192: Contingency table between general and UTI durante os episódios de hospitalização

	UTI durante os ep		
general	0	1	Total
All Total	12555 (100%) 12555 (100%)	3211 (100%) 3211 (100%)	15766 15766

Table 193: Contingency table between general and Admissão em até 180 dias antes da T0

	Admissão em até		
general	0	1	Total
All Total	14696 (100%) 14696 (100%)	1070 (100%) 1070 (100%)	15766 15766

Table 194: Contingency table between general and Readmissões pós-T0 com diálise

Readmissões pós-T0 com diálise					
general	0	1	2	3	Total
All	15744 (100%)				
Total	15744 (100%)	19 (100%)	2 (100%)	1 (100%)	15766

Table 195: Contingency table between general and Desfecho principal da admissão T0

T0
Total
15766 15766

Table 196: Contingency table between general and Readmissão em até 30 dias

	Readmissão en	Readmissão em até 30 dias			
general	0	1	Total		
All	15163 (100%)	603 (100%)	15766		
Total	$15163 \ (100\%)$	603 (100%)	15766		

Table 197: Contingency table between general and Readmissão entre 31 a 60 dias

	Readmissão ent		
general	0	1	Total
All Total	14860 (100%) 14860 (100%)	906 (100%) 906 (100%)	15766 15766

Table 198: Contingency table between general and Readmissão entre 61 a 180 dias

	Readmissão ent		
general	0	1	Total
All Total	14277 (100%) 14277 (100%)	1489 (100%) 1489 (100%)	15766 15766

Table 199: Contingency table between general and Readmissão em até 1 ano

Readmissão em até 1 ano				
general	0	1	Total	
All Total	13754 (100%) 13754 (100%)	2012 (100%) 2012 (100%)	15766 15766	

Table 200: Contingency table between general and Readmissão cirúrgica em até 30 dias

	Readmissão cirún		
general	0	1	Total
All Total	15629 (100%) 15629 (100%)	137 (100%) 137 (100%)	15766 15766

Table 201: Contingency table between general and Readmissão cirúrgica entre 31 a 60 dias

	Readmissão cirúr		
general	0	1	Total
All	15673 (100%)	93 (100%)	15766
Total	$15673\ (100\%)$	93~(100%)	15766

Table 202: Contingency table between general and Readmissão cirúgica entre 61 a 180 dias

	Readmissão cirúgica entre 61 a 180 dias		
general	0	1	Total
All Total	15617 (100%) 15617 (100%)	149 (100%) 149 (100%)	15766 15766

Table 203: Contingency table between general and Readmissão cirúrgica em até 1 ano

	Readmissão cirú		
general	0	1	Total
All Total	15634 (100%) 15634 (100%)	132 (100%) 132 (100%)	15766 15766

Table 204: Contingency table between general and Desfecho final do estudo

Desfecho final do estudo				
general	1	2	3	Total
All Total	2541 (100%) 2541 (100%)	7728 (100%) 7728 (100%)	5497 (100%) 5497 (100%)	15766 15766

Table 205: Contingency table between general and Óbito intraoperatório

Óbito intraoperatório				
general	0	1	Total	
All Total	15762 (100%) 15762 (100%)	4 (100%) 4 (100%)	15766 15766	

Table 206: Contingency table between general and Óbito hospitalar (intraoperatório ou admissao T0)

	Óbito hospitalar (i		
general	0	1	Total
All Total	15762 (100%) 15762 (100%)	4 (100%) 4 (100%)	15766 15766

Table 207: Contingency table between general and Óbito durante algum episódio de readmissão hospitalar

	Óbito durante algum episódio de readmissão hospitalar		
general	0	1	Total
All	14462 (100%)	1304 (100%)	15766
Total	14462 (100%)	1304 (100%)	15766

Table 208: Contingency table between general and Óbito em até 30 dias após a alta T0

	Óbito em até 30		
general	0	1	Total
All Total	15695 (100%) 15695 (100%)	71 (100%) 71 (100%)	15766 15766

Table 209: Contingency table between general and Óbito em até 180 dias após a alta T0

	Óbito em até 180		
general	0	1	Total
All	15436 (100%)	330 (100%)	15766
Total	15436 (100%)	330 (100%)	15766

Table 210: Contingency table between general and Óbito em até 1 ano após a alta T0

	Óbito em até 1 a		
general	0	1	Total
All Total	15249 (100%) 15249 (100%)	517 (100%) 517 (100%)	15766 15766

Table 211: Contingency table between general and Óbito em até 2 anos após a alta T0

	Óbito em até 2 a		
general	0	1	Total
All Total	15011 (100%) 15011 (100%)	755 (100%) 755 (100%)	15766 15766

Table 212: Contingency table between general and Óbito em até 3 anos após a alta T0

	Óbito em até 3 a		
general	0	1	Total
All Total	14853 (100%) 14853 (100%)	913 (100%) 913 (100%)	15766 15766

Table 213: Contingency table between general and Óbito (status final)

	Óbito (status final)				
general	0	1	Total		
All Total	13225 (100%) 13225 (100%)	2541 (100%) 2541 (100%)	15766 15766		

Table 214: Contingency table between general and Ventilação mecânica / ${\rm IOT}$

Ventilação mecânica / IOT				
general	1	NA	Total	
All Total	2849 (100%) 2849 (100%)	12917 (100%) 12917 (100%)	15766 15766	

Table 215: Contingency table between general and Transplante cardíaco

	Transplante cardíaco			
general	0	1	NA	Total
All Total	13011 (100%) 13011 (100%)	21 (100%) 21 (100%)	2734 (100%) 2734 (100%)	15766 15766