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# Towards the best kidney failure prediction tool: a systematic review and selection aid

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#### ABSTRACT

**Background.** Prediction tools that identify chronic kidney disease (CKD) patients at a high risk of developing kidney failure have the potential for great clinical value, but limited uptake. The aim of the current study is to systematically review all available models predicting kidney failure in CKD patients, organize empirical evidence on their validity and ultimately provide guidance in the interpretation and uptake of these tools.

**Methods.** PubMed and EMBASE were searched for relevant articles. Titles, abstracts and full-text articles were sequentially screened for inclusion by two independent researchers. Data on study design, model development and performance were extracted. The risk of bias and clinical usefulness were assessed and combined in order to provide recommendations on which models to use.

**Results.** Of 2183 screened studies, a total of 42 studies were included in the current review. Most studies showed high discriminatory capacity and the included predictors had large overlap. Overall, the risk of bias was high. Slightly less than half the studies (48%) presented enough detail for the use of their prediction tool in practice and few models were externally validated.

**Conclusions.** The current systematic review may be used as a tool to select the most appropriate and robust prognostic model for various settings. Although some models showed great potential, many lacked clinical relevance due to being developed in a prevalent patient population with a wide range of disease severity. Future research efforts should focus on external validation and impact assessment in clinically relevant patient populations.

Keywords: kidney failure, prediction model, prognostic, systematic review

#### BACKGROUND

Chronic kidney disease (CKD) may lead to kidney failure, although the rates of progression vary substantially between individuals [1]. Prediction tools that can identify patients at high risk of developing kidney failure could have great clinical value. They could be used to inform individualized decision making, employed in determining the appropriate time for referral to nephrologists and used in the planning and preparation of renal replacement therapy (RRT). Prediction tools might also offer opportunities for risk stratification in research and improvement of health policies [2].

Multiple prediction models have been developed to identify individuals at high risk of kidney failure and have been previously described in two systematic reviews [3, 4]. Many of these models showed good predictive abilities in development. However, despite nephrologists and patients acknowledging a lack of prognosis discussions in practice, clinical uptake of these tools is still limited [5]. Policymakers also seem hesitant in endorsing prediction tools. The most recent Kidney Disease: Improving Global Outcomes guideline recommends the use of prediction models for timely referral for planning RRT [6]. However, the guideline, fails to provide guidance on which risk prediction tool should be used to do so. The lack of uptake by clinicians and policymakers has been partly attributed to substandard methodology, a lack of external validation and a shortage of easy calculation options [7].

The last two published reviews in 2012 and 2013 included eight studies each on prediction of kidney failure in CKD patients [3, 4]. Since then the number of available models has greatly increased. A new systematic review of the available models is the first step towards the use and recommendation of robust prognostic tools. The aim of the current study is therefore to systematically review all available models predicting kidney failure in CKD patients, organize empirical evidence on their validity and ultimately provide guidance in the selection of the best prediction tool for various settings.

#### MATERIALS AND METHODS

#### Data sources and searches

The current review was framed by the search for prognostic prediction models for CKD patients, predicting the future event

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This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (http://creativecommons.org/licenses/ by-nc/4.0/), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited. For commercial re-use, please contact journals.permissions@oup.com of kidney failure. To ensure transparent reporting and accurate study appraisal, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), Transparent Reporting of a Multivariable Prediction Model for Individual Prognosis or Diagnosis (TRIPOD) and Checklist for Critical Appraisal and Data Extraction for Systematic Reviews of Prediction Modelling Studies (CHARMS) guidelines were followed where applicable [8–10]. The completed PRISMA checklist is provided as supplementary material. We searched the PubMed and EMBASE databases on 31 December 2017 for English-language studies regarding risk prediction in CKD patients. The search strategies were designed to include relevant development, validation and implementation studies and are provided in Appendix A1.

#### Study selection

Titles, abstracts and full-text articles were sequentially screened for inclusion by two independent researchers (C.L.R. and Y.J.). Discrepancies on inclusion of full-text articles were resolved by consulting a third co-author (M.D.). Articles were included if they met the following predefined selection criteria: (i) the study must develop, validate, update or implement a multivariate prognostic prediction model, with a prediction research question as the aim, as opposed to an aetiological or methodological goal; (ii) the study must present at least one measure to assess model performance; (iii) the study population must consist of adult CKD patients and (iv) the study outcome must include kidney failure or end-stage renal disease. The references of included studies and related reviews were manually screened in order to identify additional relevant studies.

#### Data extraction and quality assessment

Following selection, two reviewers (C.L.R. and Y.J.) independently conducted the data extraction and quality assessment. Discrepancies were discussed with input from an additional coauthor (M.D.) where necessary. Conforming with CHARMS recommendations, information on the source of the data, population, outcome, sample size, missing data, model development and model performance were extracted and summarized. Additionally, data on external validations of models were extracted. Furthermore, the risk of bias and clinical usefulness were judged by both reviewers independently. In order to facilitate further comparison, studies were grouped by study population, which ranged from very broad (general CKD) to specific CKD subgroups such as immunoglobulin A (IgA) nephropathy or diabetic nephropathy. Quality and risk of bias were assessed in both development and validation studies by making use of a novel tool, the Prediction Study Risk of Bias Assessment Tool (PROBAST). Although this tool has yet to be published in its complete form, there is no other formal risk of bias assessment available that is applicable to prediction studies. The PROBAST is specifically designed for systematic reviews of prediction studies and is used as a domain-based approach with 23 signalling questions that categorize the risk of bias into high, low or unclear for five separate domains: participant selection, predictors, outcome, sample size and missing data, and analysis. It also assesses the usability of a model. It has been used in multiple reviews in the past year and was presented in part at the 2016 Cochrane Colloquia [11]. The final test version of PROBAST was obtained through personal e-mail contact with Dr R.C.G. Wolff.

#### Data synthesis

Given the multitude of different models and heterogeneity in study characteristics, we opted for a narrative synthesis of results supported by extensive tables and figures with study characteristics listed per article. Model performance was evaluated by examining the discrimination and calibration of included prediction tools. Discrimination is most often described by the C-statistic and indicates how well the model discriminates between patients with and without the event of interest. It lies between 0.5 and 1, where 0.5 is similar to tossing a coin and 1 indicates perfect discrimination [12]. Important to take into account is that the C-statistic of the same model can vary greatly, dependent on the population on which the model is tested. When a population is heterogeneous in the predictors that make up the prediction tool, the C-statistic may increase substantially [13]. On the other hand, calibration describes the agreement between the absolute number of predicted events and observed events population wide. It is best represented in a plot, wherein the predicted probability of kidney failure is plotted against the observed rate of kidney failure [12]. To evaluate the sample size and risk of overfitting in development studies, the events per candidate predictor (EPV) were extracted. A minimum of 10 EPV has been suggested as rule of thumb for an acceptable sample size in model development studies [14]. For external validation studies, it has been recommended to include a minimum of 100 events in total to obtain a precise estimate of performance [15].

#### RESULTS

#### Study selection

The study selection process is described in a flowchart (Figure 1). Overall, 2183 titles were identified, of which 431 abstracts were assessed, and 90 full-text publications were evaluated in depth. From these articles, a final 42 studies met all inclusion criteria and were included in the current review. Most full-text exclusions were due to the predicted outcome not including kidney failure or the lack of a multivariate model. Although prediction research has seen a great surge in nephrology over the last few years, the first included predictive model was published in 1986 for IgA nephropathy patients. Since the beginning of the 2000s, a substantial increase of published models is apparent, as can be seen in Figure 2. Although the number of developed models has increased almost every year, the number of validation studies has remained small. Of the 42 included studies, 7 exclusively externally validated already existing models [16-22]. Besides development, 10 studies also externally validated their own or previously published models. Disconcertingly, no study assessing the impact of using such a prediction tool was found, which ultimately is the only way of assessing whether the model can improve patient care.

#### Characteristics of development studies

A total of 35 studies were published on the development of novel tools to predict kidney failure in CKD patients. Generally,



FIGURE 1: PRISMA flow diagram of study inclusion.



**FIGURE 2**: Cumulative number of published development and validation studies for models that predict kidney failure in CKD patients (N = 42).

a distinction can be made between models developed for a general CKD patient population (n = 16) and models developed for a population with a specified primary renal disease (n = 19), mainly IgA nephropathy or diabetic nephropathy. The characteristics of all included development studies are described in

Table 1. Since each study developed between 1 and 12 prediction models, the results presented in Table 1 concern the final model(s) as selected by the authors or the model with the best performance if no final model was suggested. The population size differed greatly between studies and ranged from 75 to

Table 1. Baseline cha	uracteristics of	f model developm	ent studies $(N=35)$									
Study	Country	Design	Population	Mean GFR	N total, No. of events	Outcome	Time frame (years)	EPV	Model type	N predictors	Internal validation	C-statisti
General CKD												
Cheng et al. [23]	Taiwan	Single-centre cohort	General CKD Stage 4	I	463, 132	GFR < 15	0.5	З	CART	11	Cross-validation	D: 0.72
Schroeder et al. [24]	USA	Multicentre cohort	General CKD Stages 3 and 4 <sup>a</sup>	47	22 460, 737	RRT	5	74	Cox	8	Bootstrap (+external)	IV: 0.96
Hsu et al. [25]	USA	Cohort	General CKD GFR 20-70	44	2466, 581	RRT, 50% GFR (	I	36	Cox	12	1	D: 0.89
Tangri et al. [26] AJKD	Canada	Single-centre cohort	General CKD Stages 3-5	36	3004, 344	RRT	Dynamic	43	Cox	8	Bootstrap, cross-	IV: 0.91
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Xie et al. [27]	USA	Multicentre cohort	General CKD Stages 3-5 <sup>c</sup>	49	28 779, 1730	RRT	1, 3, 5, 7	115	Cox	5	Cross-validation	IV: 0.92
Marbe at al [38]	Scotlland	Multicentre cohort	General CKD States 3-5	33	3306 147	DDT	Ľ	77	I Amietic	ſ	- (external)	D: 0.94

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| 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 142 RKT 5<br>28 779, 1730 RKT 1, 3, 5<br>2402, 142 RKT 1<br>16 656, 959 RKT 1, 3, 5   | 28779,1730 RKT 1,3,5,7<br>3396,142 RKT 5<br>28779,1730 RKT 1,3,5<br>2402,142 RKT 1,3,5<br>1665,595 RKT 1,3,5<br>1866,77 RKT 1   | 28779,1730 RKT 1,3,5,7<br>3396,142 RKT 5<br>28779,1730 RKT 1,3,5<br>2402,142 RKT 1,3,5<br>1665,599 RKT 1,3,5<br>1866,77 RKT 1,3,5<br>158,40 Death, RKT 2  | 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 142 RKT 5<br>28 779, 1730 RKT 1, 3, 5<br>2402, 142 RKT 1, 3, 5<br>16 656, 959 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>3449, 386 RKT 1, 3, 5  | 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 1730 RKT 5<br>28 779, 1730 RKT 1, 3, 5<br>2403, 142 RKT 1, 3, 5<br>16 656, 959 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>349, 386 RKT 1, 3, 5<br>349, 386 RKT 1, 3, 5<br>382, 190 RKT -  | 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 142 RKT 5<br>28 779, 1730 RKT 1, 3, 5<br>2402, 142 RKT 1, 3, 5<br>16 65, 959 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>349, 386 RKT 1, 3, 5<br>349, 386 RKT 1, 3, 5<br>382, 190 RKT -<br>9782, 323 RKT 5  
  | 28779,1730 RKT 1,3,5,7<br>3396,142 RKT 5<br>28779,1730 RKT 1,3,5<br>2402,142 RKT 1,3,5<br>1666,57 RKT 1,3,5<br>1866,77 RKT 1,3,5<br>349,386 RKT 1,3,5<br>349,386 RKT 2<br>382,190 RKT 2<br>5<br>55<br>6541,369 RKT 5<br>5  
   
   | 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 1730 RKT 5<br>28 779, 1730 RKT 1, 3, 5<br>2402, 142 RKT 1, 3, 5<br>16 656, 959 RKT 1, 3, 5<br>18 66, 77 RKT 1, 3, 5<br>18 66, 77 RKT 1, 3, 5<br>349, 386 RKT 1, 3, 5<br>382, 190 RKT 2<br>382, 1369 RKT 5<br>344, 80 ESRD -  
   
   
   | 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 142 RKT 5<br>28 779, 1730 RKT 1, 3, 5<br>2401, 142 RKT 1, 3, 5<br>2401, 142 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>1886, 77 RKT 1, 3, 5<br>349, 386 RKT 1, 3, 5<br>349, 386 RKT 1, 3, 5<br>382, 190 RKT 5<br>382, 190 RKT 5<br>384, 80 ESRD -<br>861, 60 ESRD -  
   
  | 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 142 RKT 5<br>28 779, 1730 RKT 1, 3, 5<br>2402, 142 RKT 1, 3, 5<br>16 655, 959 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>3449, 386 RKT 1, 3, 5<br>382, 190 RKT 2<br>382, 190 RKT 5<br>382, 1369 RKT 5<br>384, 80 ESRD -<br>5<br>5<br>5<br>5<br>444, 80 ESRD -<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5   | 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 142 RKT 5<br>28 779, 1730 RKT 1, 3, 5<br>2402, 142 RKT 1, 3, 5<br>16 665, 959 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>3449, 386 RKT 1, 3, 5<br>382, 190 RKT 2<br>382, 190 RKT 5<br>344, 80 ESRD 40% GFR 1, 5<br>5<br>5<br>444, 80 ESRD 40% GFR 1, 5<br>5<br>599, 145 RKT, 50% GFR 1, 5<br>599, 145 RKT, 50% GFR 1, 5<br>599, 145 GFR 5<br>599, 145 GFR 5<br>599, 162 GFR 5, 50% GFR 1, 5<br>50% GF   
  | 28779,1730 RKT 1,3,5,7<br>3395,1730 RKT 5<br>28779,1730 RKT 1,3,5<br>2402,142 RKT 1,3,5<br>1666,57 RKT 1,3,5<br>1866,77 RKT 1,3,5<br>1866,77 RKT 1,3,5<br>3449,386 RKT 1,3,5<br>332,190 RKT 2<br>332,190 RKT 2<br>344,80 ESRD,40%GFR4<br>6541,569 ESRD,40%GFR4<br>5<br>599,145 RKT 50%GFR4<br>5<br>900,162 GFR <15<br>901,162 RK <15<br>901,162 RK <15<br>901,162 RKT 50%  
   
   | 28 779, 1730 RKT 1, 3, 5, 7<br>3399, 1730 RKT 5<br>28 779, 1730 RKT 1, 3, 5<br>2401, 142 RKT 1, 3, 5<br>16 656, 959 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>1886, 77 RKT 1, 3, 5<br>382, 190 RKT 2<br>382, 130 RKT 5<br>382, 130 RKT 5<br>349, 323 RKT 5<br>5<br>5<br>6541, 369 RKT 5<br>344, 80 ESRD 40% GFR 4<br>5<br>399, 145 RKT, 50% GFR 4<br>5<br>901, 162 GFR <15, 50% GFR 4<br>5<br>1131, 22 RKT 5<br>901, 162 GFR <15, 50% GFR 4<br>5<br>1131, 22 RKT 5<br>1131, 22 RKT 5<br>1040, 241 Time to ESRD 3-8   
   | 28779,1730 RKT 1,3,5,7<br>3395,1730 RKT 5<br>2879,1730 RKT 1,3,5<br>2402,142 RKT 1,3,5<br>1666,57 RKT 1,3,5<br>1866,77 RKT 1,3,5<br>1866,77 RKT 1,3,5<br>3449,386 RKT 2<br>349,386 RKT 2<br>344,80
ESRD,40% GFR 4<br>5<br>5<br>344,80 ESRD,40% GFR 4<br>5<br>5<br>344,80 ESRD,40% GFR 4<br>5<br>5<br>344,80 ESRD,40% GFR 4<br>5<br>5<br>344,80 ESRD,40% GFR 4<br>5<br>344,80 ESRD,40% GFR 4<br>5<br>5<br>344,80 ESRD,40% GFR 4<br>5<br>131,22 RKT 50% GFR 4<br>5<br>131,22 RKT 50% GFR 4<br>5<br>131,22 RKT 50% GFR 4<br>5<br>131,22 RKT 50% GFR 4<br>5<br>1040,241 RKT 5<br>8<br>1040,241 RKT 5<br>1040,241 RKT 5<br>1040,   
   | 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 1730 RKT 1, 3, 5<br>28 79, 142 RKT 1, 3, 5<br>2402, 142 RKT 1, 3, 5<br>16 656, 959 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>3449, 386 RKT 1, 3, 5<br>382, 190 RKT 2<br>382, 190 RKT 2<br>382, 190 RKT 5<br>384, 80 ESRD 6<br>5<br>5<br>5<br>5<br>444, 80 ESRD 7<br>6541, 369 RKT 5<br>397, 15<br>6541, 369 RKT 5<br>397, 15<br>6541, 369 RKT 5<br>978, 5<br>6541, 369 RKT 5<br>978, 5<br>641, 60 ESRD 40% GFR 4<br>5<br>5<br>91, 162 GFR (-15, 50% GFR 4<br>5<br>1040, 241 Time to ESRD 3-8<br>1040, 241 RKT 5<br>205, - RKT 10  
  | 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 1730 RKT 5, 5<br>28 79, 142 RKT 1, 3, 5<br>2402, 142 RKT 1, 3, 5<br>16 656, 959 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>382, 190 RKT 2<br>382, 190 RKT 2<br>382, 1369 RKT 5<br>3978, 323 RKT 5<br>5<br>5<br>5<br>6541, 369 RKT 5<br>397, 1369 RKT 5<br>5<br>5<br>5<br>6541, 369 RKT 5<br>978, 5<br>6541, 369 RKT 5<br>978, 5<br>6541, 369 RKT 5<br>978, 5<br>641, 60 ESRD, 40% GFR 1, 5<br>5<br>901, 162 GFR <15, 50% GFR 1, 5<br>131, 22 RKT 5<br>1040, 241 Time to ESRD 3-8<br>1040, 241 RKT 5<br>1040, 241 RKT 5<br>205, - RKT 10<br>888, 73 RKT 5<br>888, 73 RKT 5<br>888, 73 RKT 5<br>888, 73 RKT 5<br>888, 73 RKT 10<br>7<br>888, 73 RKT 10<br>7<br>888, 73 RKT 10<br>7<br>888, 73 RKT 10<br>7<br>888, 7<br>888, 7   | 28 779, 1730 RKT 1, 3, 5, 7<br>3397, 1730 RKT 5<br>28 779, 1730 RKT 1, 3, 5<br>2401, 142 RKT 1, 3, 5<br>16 655, 959 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>349, 386 RKT 1, 3, 5<br>349, 386 RKT 1, 3, 5<br>382, 190 RKT 2<br>344, 80 ESRD 6<br>9782, 233 RKT 5<br>5<br>541,
369 RKT 5<br>9782, 23<br>861, 60 ESRD 40% GFR 4<br>5<br>599, 145 RKT 50% GFR 4<br>5<br>911, 162 GFR (-15, 50% GFR 4<br>5<br>1040, 241 Time to ESRD 3-8<br>1040, 241 RKT 5<br>1040, 241 RKT 5<br>205, - RKT 10<br>205, - RKT 5<br>205, - 25, -  | 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 1720 RKT 1, 3, 5<br>2402, 142 RKT 1, 3, 5<br>2402, 142 RKT 1, 3, 5<br>16 655, 959 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>3449, 386 RKT 1, 3, 5<br>382, 190 RKT 2<br>382, 190 RKT 2<br>382, 190 RKT 5<br>384, 80 ESRD 49% GFR 1<br>5<br>5<br>5<br>541, 369 RKT 5<br>399, 145 RKT 5<br>5<br>5<br>6541, 369 RKT 5<br>399, 145 RKT 5<br>5<br>901, 162 GFR 5<br>5<br>901, 162 GFR 5<br>901, 162 GFR 5<br>904, 241 Time to ESRD 3-8<br>1040, 241 RKT 5<br>1040, 241 RKT 5<br>100, 200 RKT 5<br>100, 200 RKT 5<br>205 RKT 5   
  | 28 779, 1730 RKT 1, 3, 5, 7<br>3395, 1730 RKT 5<br>28 79, 1730 RKT 1, 3, 5<br>2402, 142 RKT 1, 3, 5<br>16 655, 959 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>349, 386 RKT 1, 3, 5<br>382, 190 RKT 2<br>382, 190 RKT 2<br>384, 80 ESRD 40% GFR 1<br>5<br>5<br>541, 369 RKT 5<br>397, 145 RKT 5<br>5<br>541, 369 RKT 5<br>5<br>597, 145 RKT 5<br>5<br>597, 145 RKT 5<br>5<br>597, 145 RKT 5<br>5<br>6541, 369 RKT 5<br>5<br>5<br>641, 60 ESRD 40% GFR 1<br>5<br>5<br>131, 22 RKT 5<br>5<br>131, 22 RKT 5<br>686, 66 ESRD 40% GFR 1<br>5<br>1040, 241 Time to ESRD 3-8<br>1040, 241 RKT 5<br>688, 73 RKT 5<br>1040, 241 RKT 5<br>688, 75 RKT 5<br>1040, 241 RKT 5<br>688, 75 RKT 5<br>332, 45 Death, RKT 1<br>5<br>619, 67 ESRD 2, 5<br>807, 0<br>332, 45 Death, RKT 1<br>5<br>393, 45 RKT 5<br>807, 0<br>332, 45 RKT 5<br>332, 45 RKT 5<br>34, 0<br>35, 0<br>80, 0<br>30,   | 28779,1730 RKT 1,3,5,7<br>3395,1720 RKT 5<br>2879,1720 RKT 1,3,5<br>2402,142 RKT 1,3,5<br>1665,959 RKT 1,3,5<br>1866,77 RKT 1,3,5<br>3449,386 RKT 1,3,5<br>382,190 RKT 2<br>382,190 RKT 2<br>384,80 ESRD 6<br>5<br>5<br>541,369 RKT 5<br>5<br>5341,369 RKT 5<br>5<br>5341,369 RKT 5<br>5<br>5<br>541,369 RKT 5<br>5<br>5<br>6541,369 RKT 5<br>5<br>5<br>6541,369 RKT 5<br>5<br>5<br>641,60 ESRD 4<br>6<br>7<br>5<br>5<br>641,60 ESRD 3-8<br>861,60 ESRD 4<br>5<br>641,60 ESRD 4<br>5<br>641,369 RKT 5<br>5<br>641,369 RKT 5<br>5<br>641,369 RKT 5<br>5<br>641,369 RKT 5<br>5<br>641,369 ESRD 4<br>6<br>7<br>5<br>6<br>1040,241 Time to ESRD 3-8<br>1040,241 RKT 5<br>6<br>8,73 RKT 5<br>1040,241 RKT 5<br>6<br>1040,241 RKT 5<br>6<br>1040,241 RKT 5<br>6<br>1040,241 RKT 5<br>5<br>1040,241 RKT 5<br>2<br>3,32,45 RKT 10,20<br>3,32,45 RKT 10,20<br>10,20<br>3,32,45 RKT 10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20<br>10,20   
   | 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 142 RKT 5<br>28 779, 1730 RKT 1, 3, 5<br>2401, 142 RKT 1, 3, 5<br>16 656, 959 RKT 1, 3, 5<br>18 66, 77 RKT 1, 3, 5<br>18 66, 77 RKT 1, 3, 5<br>349, 386 RKT 1, 3, 5<br>349, 323 RKT 5<br>382, 190 RKT 2<br>382, 190 RKT 2<br>384, 80 ESRD 40% GFR 4<br>5<br>344, 80 ESRD 40% GFR 4<br>5<br>394, 45 ESRD 2<br>1040, 241 Time to ESRD 3-8<br>1040, 241 Time to ESRD 3-8<br>1040, 241 Time to ESRD 3-8<br>1040, 241 RKT 5<br>5<br>131, 22 GFR <15 50% GFR 4<br>5<br>1040, 241 RKT 5<br>1040, 241 Time to ESRD 3-8<br>1040, 241 RKT 5<br>5<br>1040, 241 RKT 5<br>5<br>1040, 241 RKT 5<br>5<br>1040, 241 RKT 10, 20<br>688, 73 RKT 10, 20<br>995, 222 RKT 10, 20<br>995, 228 RKT 10  | 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 1730 RKT 5, 1, 3, 5<br>240, 142 RKT 1, 3, 5<br>240, 142 RKT 1, 3, 5<br>18, 656, 959 RKT 1, 3, 5<br>1866, 77 RKT 1, 3, 5<br>382, 190 RKT 2, 3<br>382, 190 RKT 2, 3<br>382, 190 RKT 2, 3<br>382, 190 RKT 2, 3<br>382, 190 RKT 2, 3<br>384, 60 ESRD 40% GFR 4, 5<br>384, 60 ESRD 40% GFR 4, 5<br>399, 145 RKT 50% GFR 4, 5<br>131, 22 RKT 50% GFR 4, 5<br>1040, 241 Time to ESRD 3-8<br>1040, 241 Time to ESRD 3-8<br>1040, 241 Time to ESRD 3-8<br>1040, 241 RKT 5<br>32, 45 Death, RKT 6<br>5<br>332, 45 Death, RKT 1, 0, 20<br>995, 228, 232 RKT 1, 2<br>390, 57 ESRD 2, 5, 10<br>393, 54 RKT 10, 20<br>393, 54 RKT 10, 20<br>30, 55 RKT 10, 20<br>30, 57 RKT 10, | 28 779, 1730 RKT 1, 3, 5, 7<br>3396, 1730 RKT 5, 3, 5<br>240, 142 RKT 1, 3, 5<br>240, 142 RKT 1, 3, 5<br>16 656, 959 RKT 1, 3, 5<br>18 66, 77 RKT 1, 3, 5<br>382, 190 RKT 1, 3, 5<br>382, 190 RKT 2, 2<br>382, 323 RKT 506 GFR 1, 2, 3, 5<br>6541, 369 RKT 506 GFR 1, 2, 3, 5<br>382, 145 RKT 506 GFR 1, 2<br>383, 160 ESRD 3-<br>1040, 241 Time to ESRD 3-3<br>1040, 241 Time to ESRD 3-3<br>1040, 241 RKT 506 GFR 1, 2<br>5<br>301, 162 GFR <15, 506 GFR 1, 2<br>301, 162 GFR <15, 506 GFR 1, 2<br>303, 45 ESRD 3-3<br>1040, 241 RKT 506 GFR 1, 2<br>332, 45 Death, RKT 10, 20<br>332, 45 Death, RKT 10, 20<br>333, 45 Death, RKT 10, 20<br>333, 45 Death, RKT 10, 20<br>333, 45 RKT 20, 20<br>333, 45 RKT 10, 20<br>34 RKT 10, 20<br>34 RKT   | 28 779, 1730       RKT       1,3,5,7         3396, 1730       RKT       1,3,5         240, 142       RKT       1,3,5         240, 142       RKT       1,3,5         16 656, 959       RKT       1,3,5         186, 77       RKT       1,3,5         188, 40       Death, RKT       1,3,5         382, 190       RKT       1,3,5         382, 190       RKT       1,3,5         382, 130       RKT       2         382, 130       RKT       2         382, 1369       RKT       2         382, 1369       RKT       2         9782, 323       RKT       2         381, 60       ESRD, 40% GFR J       -         599, 145       RKT, 50% GFR J       -         901, 162       GFR <15, 50% GFR J   
   | 28 779, 1730       RKT       1, 3, 5, 7         3396, 1720       RKT       1, 3, 5         240, 142       RKT       1, 3, 5         240, 142       RKT       1, 3, 5         16 656, 959       RKT       1, 3, 5         186, 77       RKT       1, 3, 5         188, 40       Death, RKT       1, 3, 5         382, 190       RKT       1, 3, 5         382, 190       RKT       1, 3, 5         382, 130       RKT       1, 3, 5         382, 130       RKT       2         382, 130       RKT       2         9782, 323       RKT       2         382, 145       RKT       2         382, 150       RKT       2         9782, 323       RKT       2         978, 323       RKT       2         974, 80       ESRD       2         9861, 60       ESRD, 40% GFR J       2         990, 162       GFR <15, 50% GFR J   |
| t         General CKD Stages 3-5°         49         28 779, 1730         RKT           t         General CKD Stages 3-5         33         3396, 142         RKT           t         General CKD Stages 3-5°         -         28 779, 1730         RKT           t         General CKD Stages 3-5°         -         28 779, 1730         RKT           t         General CKD Stages 3-5°         -         28 779, 1730         RKT           t         General CKD Stages 3-4         28         2402, 142         RKT           t         General CKD Stages 3-4         28         2402, 142         RKT | t         General CKD Stages 3-5°         49         28 779, 1730         RRT           t         General CKD Stages 3-5         33         336, 142         RRT           t         General CKD Stages 3-5         -         28 779, 1730         RRT           t         General CKD Stages 3-5         -         28 779, 1730         RRT           t         General CKD Stages 3-5°         -         2402, 142         RRT           t         General CKD Stages 3-5°         -         166 56, 599         RRT           t         General CKD Stages 4 and 5'd         25         1866, 77         RRT | t         General CKD Stages 3-5°         49         28 779, 1730         RRT           t         General CKD Stages 3-5         33         3396, 142         RRT           t         General CKD Stages 3-5         -         28 779, 1730         RRT           t         General CKD Stages 3-5         -         28 779, 1730         RRT           t         General CKD Stages 3-5°         -         2402, 142         RRT           t         General CKD Stages 3-4         28         140, 56, 59         RRT           t         General CKD Stages 3-5°         -         16656, 59         RRT           ort         General CKD Stages 3-34         25         1866, 77         RRT           ort         General CKD Stages 3-34d         32         158, 40         Death, RRT  | t         General CKD Stages 3-5 <sup>c</sup> 49         28 779, 1730         RKT           t         General CKD Stages 3-5         33         3396, 142         RKT           t         General CKD Stages 3-5         -         28 779, 1730         RKT           t         General CKD Stages 3-5         -         28 779, 1730         RKT           t         General CKD Stages 3-4         28         2402, 142         RKT           t         General CKD Stages 3-4         28         140, 787         RKT           ort         General CKD Stages 3-5 <sup>c</sup> -         16656, 599         RKT           ort         General CKD Stages 4 and 5 <sup>d</sup> 25         1866, 77         RKT           ort         General CKD Stages 3 and 4         32         158, 40         Death, RKT           ort         General CKD Stages 3-5         36         3449, 386         RKT | t         General CKD Stages 3-5°         49         28 779, 1730         RKT           t         General CKD Stages 3-5°         33         336, 142         RKT           t         General CKD Stages 3-5°         -         28 779, 1730         RKT           t         General CKD Stages 3-5°         -         28 779, 142         RKT           t         General CKD Stages 3-4°         -         2402, 142         RKT           t         General CKD Stages 3-4°         -         2402, 142         RKT           t         General CKD Stages 3-5°         -         16656, 59         RKT           t         General CKD Stages 3-5°         -         158, 40         Death, RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           ott         General CKD Stages 3-5         36         3449, 386         RKT  | t         General CKD Stages 3-5°         49         28 779, 1730         RKT           t         General CKD Stages 3-5°         33         3396, 142         RKT           t         General CKD Stages 3-5°         -         28 779, 1730         RKT           t         General CKD Stages 3-5°         -         28 779, 1730         RKT           t         General CKD Stages 3-4°         -         28 779, 142         RKT           t         General CKD Stages 3-4°         -         2402, 142         RKT           ort         General CKD Stages 3-5°         -         16656, 595         RKT           ort         General CKD Stages 3-5°         -         158, 40         Death, RKT           ort         General CKD Stages 3-5         36         3449, 386         RKT           ort         General CKD Stages 3-5         36         3449, 386         RKT           ort         General CKD Stages 3-5         36         3449, 386         RKT  
  | t         General CKD Stages 3-5°         49         28 779, 1730         RKT           t         General CKD Stages 3-5°         33         3396, 142         RKT           t         General CKD Stages 3-5°         -         28 779, 1730         RKT           t         General CKD Stages 3-5°         -         28 779, 1730         RKT           t         General CKD Stages 3-5°         -         2402, 142         RKT           t         General CKD Stages 3-5°         -         16 656, 959         RKT           t         General CKD Stages 3-5°         -         16 656, 959         RKT           t         General CKD Stages 3-5°         -         158, 40         Death, RKT           ort         General CKD Stages 3-5         36         349, 386         RKT           ort         General CKD Stages 3-5         36         3449, 386         RKT           ort         General CKD Stages 3-5         36         342, 323         RKT           ort         General CKD Stages 3-5°         -         9782, 333         RKT  
   
   | t         General CKD Stages 3-5 <sup>c</sup> 49         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> 3         3396, 142         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 142         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         2402, 142         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         166 55, 599         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         166 55, 599         RKT           t         General CKD Stages 3-5 <sup>d</sup> 36         3449, 386         RKT           t         General CKD Stages 3-5 <sup>d</sup> 36         3449, 386         RKT           ort         General CKD Stages 3-5 <sup>d</sup> -         9782, 333         RKT           ort         General CKD Stages 3-5 <sup>d</sup> -         9782, 333         RKT           c         General CKD Stages 3-5 <sup>d</sup> -         9782, 333         RKT           c         General CKD Stages 3-5 <sup>d</sup> -         6541, 369         RKT           c         General CKD Stages 3-5 <sup>d</sup> - <td< td=""><td>t         General CKD Stages 3-5<sup>c</sup>         49         28 779, 1730         RKT           t         General CKD Stages 3-5         33         3396, 142         RKT           t         General CKD Stages 3-5         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-4         28         2402, 132         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           ort         General CKD Stages 3-5         36         3449, 386         RKT           ort         General CKD Stages 3-5         382, 190         RKT         66641, 369           ort         General CKD Stages 3-5         382, 190         RKT         66641, 369           ort         General CKD Stages 3-5         -         973, 338         RKT           ort         General CKD Stages 3-5         -         &lt;</td><td>t         General CKD Stages 3-5<sup>c</sup>         49         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         2402, 142         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         16 655, 959         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         16 656, 959         RKT           t         General CKD Stages 3-5<sup>d</sup>         36         3449, 386         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5<sup>d</sup>         -         9782, 333         RKT           t         General CKD Stages 3-5<sup>d</sup>         -         9782, 333         RKT           t         General CKD Stages 3-5<sup>d</sup>         -         6541, 369         RKT           t         General CKD Stages 3-5<sup>d</sup>         -         6541</td><td>t         General CKD Stages 3-5<sup>c</sup>         49         28 779, 1730         RKT           t         General CKD Stages 3-5         33         3396, 142         RKT           t        
General CKD Stages 3-5<sup>c</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         2402, 142         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         16 655, 959         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         16 656, 959         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5<sup>d</sup>         -         9782, 332         RKT           t         General CKD Stages 3-5<sup>d</sup>         -         9782, 332         RKT           c         General CKD Stages 3-5<sup>d</sup>         -         578, 400         RKT           t         General CKD Stages 3-5<sup>d</sup>         -         578, 618</td><td>t         General CKD Stages 3-5<sup>c</sup>         49         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         2402, 142         RKT           t         General CKD Stages 3-5<sup>c</sup>         -         16 655, 959         RKT           t         General CKD Stages 3-5<sup>d</sup>         36         3449, 386         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5         36         344, 309         RKT           t         General CKD Stages 3-5         36         344, 80         S82, 190           t         General CKD Stages 3-5         -         978, 190         RKT           t         General CKD Stages 3-5         36         344, 80         S87           t         General CKD Stages 3-5         36         944, 80         S87           t         General CKD Stages 3-5         36         382, 190</td><td>t         General CKD Stages <math>3-5^{\circ}</math>         49         <math>28</math> 779, 1730         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         3         <math>336</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>28</math> 779, 1730         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>28</math> 779, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>2402</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>16656</math>, 559         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         36         <math>3449</math>, 366         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         36         <math>3449</math>, 366         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>9782</math>, 333         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>9782</math>, 333         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>9782</math>, 333         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>9782</math>, 332         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>9782</math>, 3369         RKT           General CKD Stages <math>3</math></td><td>t         General CKD Stages 3-5<sup>4</sup>         49         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>4</sup>         -         28 779, 142         RKT           t         General CKD Stages 3-5<sup>4</sup>         -         16 656, 595         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5         36         344, 309         RKT           t         General CKD Stages 3-5         36         344, 80         S861, 60           t         General CKD Stages 3-5         -         978, 190         RKT           t         General CKD Stages 3-5         36         344, 80         S861, 60           t         General CKD Stages 3-5         36         944, 80         S861, 60         S8RD           t         General CKD Stages 3-5         36</td><td>t         General CKD Stages 3-5<sup>4</sup>         49         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>4</sup>         2         2402, 142         RKT           t         General CKD Stages 3-5<sup>4</sup>         2         16 656, 959         RKT           tt         General CKD Stages 3-5         36         3449, 386         RKT           tt         General CKD Stages 3-5         36         3449, 386         RKT           tt         General CKD Stages 3-5         36         344, 309         RKT           tt         General CKD Stages 3-5         36         344, 809         RKT           tt         General CKD Stages 3-5         36         344, 809         RKT           tt         General CKD Stages 3-5         36         344, 809         RKT           tt         General CKD Stages 3-5         36         344, 809         RKT           tt         General CKD Stages 3-5         36         373, 31</td><td>I         General CKD Stages 3-5<sup>4</sup>         49         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         2402, 142         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         16 656, 959         RKT           I         General CKD Stages 3-5         36         349, 386         RKT           I         General CKD Stages 3-5         36         344, 3286         RKT           I         General CKD Stages 3-5         36         344, 309         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         9782, 3233         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         9782, 3233         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         9782, 3233         RKT           I         General CKD Stages 3-5<sup>5</sup>         36         974, 80         ESRD           I         General CKD Stages 3-5<sup>5</sup>         374, 80         ES</td><td>t         General CKD Stages 3-5°         49         28 779, 1730         RKT           t         General CKD Stages 3-5°         -         23 779, 1730         RKT           t         General CKD Stages 3-5°         -         23 779, 1730         RKT           t         General CKD Stages 3-5°         -         23 779, 1730         RKT           t         General CKD Stages 3-5°         -         2402, 142         RKT           ort         General CKD Stages 3-5°         -         16 656, 959         RKT           ort         General CKD Stages 3-5         36         344, 386         RKT           ort         General CKD Stages 3-5         36         344, 309         RKT           ort         General CKD Stages 3-5         36         344, 80         S861, 60         ESRD, 40% GFR J           ort         General CKD Stages 3-5         36         344, 80         ESRD         40% GFR J           ort         General CKD Stages 3-5         36         344, 80         ESRD         40% GFR J           ort         General CKD Stages 3-5         36         344, 80         ESRD         40% GFR J           ort         General CKD Stages 3-5         36         344, 80         ESRD         40</td><td>t         General CKD Stages 3-5<sup>4</sup>         49         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           t         General CKD Stages 3-5<sup>4</sup>         -         2402, 142         RKT           rt         General CKD Stages 3-5<sup>4</sup>         -         16 656, 959         RKT           rt         General CKD Stages 3-5         36         344, 328         RKT           rt         General CKD Stages 3-5         36         344, 309         RKT           rt         General CKD Stages 3-5         36         344, 80         SKT           rt         General CKD Stages 3-5         36         344, 80         SKT           rt         General CKD Stages 3-5         36         344, 80         SKT           rt         General CKD Stages 3-5         36         344, 80         SKT           rt
        General CKD Stages 3-5         36         382, 190         RKT           rt         General CKD Stages 3-5         36         382, 190</td><td>I         General CKD Stages 3-5<sup>4</sup>         49         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         2402, 142         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         16 656, 959         RKT           I         General CKD Stages 3-5         36         344, 386         RKT           I         General CKD Stages 3-5         36         344, 309         RKT           I         General CKD Stages 3-5         36         344, 80         S87           I         General CKD Stages 3-5         36         344, 80         S87           I         General CKD Stages 3-5         36         344, 80         S87           I         General CKD Stages 3-5         36         344, 80         S87           I         General CKD Stages 3-5         36         382, 190         RKT           I         General CKD Stages 3-5         36         344, 80         S87<!--</td--><td>I         General CKD Stages 3-5<sup>4</sup>         49         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         2402, 142         RKT           I         General CKD Stages 3-5<sup>4</sup>         36         3449, 386         RKT           I         General CKD Stages 3-5         36         3449, 386         RKT           I         General CKD Stages 3-5         36         344, 309         RKT           General CKD Stages 3-5         36         344, 80         RKT           General CKD Stages 3-5         36         344, 80</td><td>I         General CKD Stages <math>3-5^{\circ}</math>         49         <math>28</math> 779, 1730         RKT           I         General CKD Stages <math>3-5^{\circ}</math>         -         <math>28</math> 779, 1730         RKT           I         General CKD Stages <math>3-5^{\circ}</math>         -         <math>2305</math>, 142         RKT           General CKD Stages <math>3-5^{\circ}</math>         -         <math>2402</math>, 142         RKT           General CKD Stages <math>3-5^{\circ}</math>         -         <math>2402</math>, 142         RKT           General CKD Stages <math>3-5^{\circ}</math>         -         <math>16656, 595</math>         RKT           R         General CKD Stages <math>3-5</math>         36         <math>3449, 386</math>         RKT           General CKD Stages <math>3-5</math>         36         <math>344, 306</math>         RKT           General CKD Stages <math>3-5</math> <math>366, 77</math> <math>8KT</math> <math>8KT</math>           General CKD Stages <math>3-5</math> <math>366</math> <math>322</math> <math>382, 190</math> <math>RKT</math>           General CKD Stages <math>3-5</math> <math>366</math> <math>324, 800</math> <math>8KT</math> <math>6641, 610</math>           General CKD Stages <math>3-5</math> <math>366, 160</math> <math>8KT</math> <math>6641, 610</math> <math>861, 600</math> <math>881, 600</math>           Lupus nephritis         <math>78</math> <math>990, 145</math> <math>8KT</math> <math>990, 145</math> <math>8KT</math>           Ut         Lupus nephritis</td><td>t         General CKD Stages <math>3-5^{\circ}</math>         49         <math>28</math> 779, 1730         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>28</math> 779, 1730         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>2305</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>2402</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>2402</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         36         <math>3449</math>, 386         RKT           t         General CKD Stages <math>3-5</math>         36         <math>3449</math>, 386         RKT           t         General CKD Stages <math>3-5</math>         36         <math>344</math>, 80         RKT           t         General CKD Stages <math>3-5</math>         36         <math>344</math>, 80         RKT           t         General CKD Stages <math>3-5^{\circ}</math> <math>22</math> <math>382</math>, 190         RKT           t         General CKD Stages <math>3-5^{\circ}</math> <math>344</math>, 80         <math>861</math>, 60         ESRD, 40% GFR 1           t         General CKD Stages <math>3-5^{\circ}</math> <math>344</math>, 80         ESRD, 40% GFR 1         <math>120</math>           t         General CKD Stages <math>3-5^{\circ}</math> <math>344</math>, 80         ESRD, 40% GFR 1         <math>120</math></td><td>t         General CKD Stages <math>3-5^{\circ}</math>         49         <math>28</math> 779, 1730         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         3         <math>336</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         2         <math>2402</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         2         <math>2402</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         2         <math>2402</math>, 142         RKT           rt         General CKD Stages <math>3-5^{\circ}</math>         3         <math>349</math>, 356         RKT           rt         General CKD Stages <math>3-5^{\circ}</math>         3         <math>3449</math>, 356         RKT           rt         General CKD Stages <math>3-5^{\circ}</math> <math> 9782</math>, 332         RKT           rt         General CKD Stages <math>3-5^{\circ}</math> <math> 9782</math>, 332         RKT           rt         General CKD Stages <math>3-5^{\circ}</math> <math> 9782</math>, 332         RKT           rt         General CKD Stages <math>3-5^{\circ}</math> <math> 9782</math>, 332         RKT           rt         General CKD Stages <math>3-5^{\circ}</math> <math> 9784</math>, 80         GFR &lt;15, 50% GFR L</td>           rt         General CKD Stages <math>3-5^{\circ}</math> <math> 9782</math>, 332         RKT         <math>966</math>     &lt;</td><td>t         General CKD Stages <math>3-5^{\circ}</math>         49         <math>28</math> 779, 1730         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         2         <math>379</math>, 1730         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         2         <math>379</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         2         <math>3402</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         2         <math>3492</math>, 366         78         RKT           rt         General CKD Stages <math>3-5^{\circ}</math>         3         349, 386         RKT         RKT           rt         General CKD Stages <math>3-5^{\circ}</math>         3         344, 93.386         RKT         <math>9782</math> <math>342, 480</math> <math>8715</math>           rt         General CKD Stages <math>3-5^{\circ}</math> <math>-7</math> <math>9782</math> <math>332, 190</math>         RKT           rt         General CKD Stages <math>3-5^{\circ}</math> <math>-7</math> <math>9782</math> <math>344, 80</math> <math>5805</math>           rt         General CKD Stages <math>3-5^{\circ}</math> <math>-7</math> <math>9782</math> <math>332, 190</math>         RKT           rt         General CKD Stages <math>3-5^{\circ}</math> <math>-7</math> <math>9782</math> <math>881, 60</math> <math>5804</math> <math>678</math>           rt         General CKD Stages <math>3-5^{\circ}</math> <math>-70044</math></td><td>It         General CKD Stages <math>3-5^{\circ}</math>         49         28 779, 1730         RKT           It         General CKD Stages <math>3-5^{\circ}</math>         -         23 779, 1730         RKT           It         General CKD Stages <math>3-5^{\circ}</math>         -         23 779, 1730         RKT           It         General CKD Stages <math>3-5^{\circ}</math>         -         2402, 142         RKT           It         General CKD Stages <math>3-5^{\circ}</math>         -         2402, 142         RKT           It         General CKD Stages <math>3-5^{\circ}</math>         -         166 55, 559         RKT           It         General CKD Stages <math>3-5^{\circ}</math>         3         349, 386         RKT           It         General CKD Stages <math>3-5^{\circ}</math>         -         949, 386         RKT           General CKD Stages <math>3-5^{\circ}</math>         -         9782, 333         RKT           General CKD Stages <math>3-5^{\circ}</math>         -         9782, 332         RKT           It         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 966 GFR I,           <t< td=""></t<></td></td<> | t         General CKD Stages 3-5 <sup>c</sup> 49         28 779, 1730         RKT           t         General CKD Stages 3-5         33         3396, 142         RKT           t         General CKD Stages 3-5         -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 1730         RKT   
       t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-4         28         2402, 132         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           ort         General CKD Stages 3-5         36         3449, 386         RKT           ort         General CKD Stages 3-5         382, 190         RKT         66641, 369           ort         General CKD Stages 3-5         382, 190         RKT         66641, 369           ort         General CKD Stages 3-5         -         973, 338         RKT           ort         General CKD Stages 3-5         -         <  
   
  | t         General CKD Stages 3-5 <sup>c</sup> 49         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         2402, 142         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         16 655, 959         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         16 656, 959         RKT           t         General CKD Stages 3-5 <sup>d</sup> 36         3449, 386         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5 <sup>d</sup> -         9782, 333         RKT           t         General CKD Stages 3-5 <sup>d</sup> -         9782, 333         RKT           t         General CKD Stages 3-5 <sup>d</sup> -         6541, 369         RKT           t         General CKD Stages 3-5 <sup>d</sup> -         6541  | t         General CKD Stages 3-5 <sup>c</sup> 49         28 779, 1730         RKT           t         General CKD Stages 3-5         33         3396, 142         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         2402, 142         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         16 655, 959         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         16 656, 959         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5 <sup>d</sup> -         9782, 332         RKT           t         General CKD Stages 3-5 <sup>d</sup> -         9782, 332         RKT           c         General CKD Stages 3-5 <sup>d</sup> -         578, 400         RKT           t         General CKD Stages 3-5 <sup>d</sup> -         578, 618  
  | t         General CKD Stages 3-5 <sup>c</sup> 49         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         2402, 142         RKT           t         General CKD Stages 3-5 <sup>c</sup> -         16 655, 959         RKT           t         General CKD Stages 3-5 <sup>d</sup> 36         3449, 386         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5         36         344, 309         RKT           t         General CKD Stages 3-5         36         344, 80         S82, 190           t         General CKD Stages 3-5         -         978, 190         RKT           t         General CKD Stages 3-5         36         344, 80         S87           t         General CKD Stages 3-5         36         944, 80         S87           t         General CKD Stages 3-5         36         382, 190   
   
   | t         General CKD Stages $3-5^{\circ}$ 49 $28$ 779, 1730         RKT           t         General CKD Stages $3-5^{\circ}$ 3 $336$ , 142         RKT           t         General CKD Stages $3-5^{\circ}$ - $28$ 779, 1730         RKT           t         General CKD Stages $3-5^{\circ}$ - $28$ 779, 142         RKT           t         General CKD Stages $3-5^{\circ}$ - $2402$ , 142         RKT           t         General CKD Stages $3-5^{\circ}$ - $16656$ , 559         RKT           t         General CKD Stages $3-5^{\circ}$ 36 $3449$ , 366         RKT           t         General CKD Stages $3-5^{\circ}$ 36 $3449$ , 366         RKT           t         General CKD Stages $3-5^{\circ}$ - $9782$ , 333         RKT           t         General CKD Stages $3-5^{\circ}$ - $9782$ , 333         RKT           t         General CKD Stages $3-5^{\circ}$ - $9782$ , 333         RKT           t         General CKD Stages $3-5^{\circ}$ - $9782$ , 332         RKT           t         General CKD Stages $3-5^{\circ}$ - $9782$ , 3369         RKT           General CKD Stages $3$   
   
   | t         General CKD Stages 3-5 <sup>4</sup> 49         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>4</sup> -         28 779, 142         RKT           t         General CKD Stages 3-5 <sup>4</sup> -         16 656, 595         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5         36         3449, 386         RKT           t         General CKD Stages 3-5         36         344, 309         RKT           t         General CKD Stages 3-5         36         344, 80         S861, 60           t         General CKD Stages 3-5         -         978, 190         RKT           t         General CKD Stages 3-5         36         344, 80         S861, 60           t         General CKD Stages 3-5         36         944, 80         S861, 60         S8RD           t         General CKD Stages 3-5         36   
  | t         General CKD Stages 3-5 <sup>4</sup> 49         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>4</sup> 2         2402, 142         RKT           t         General CKD Stages 3-5 <sup>4</sup> 2         16 656, 959         RKT           tt         General CKD Stages 3-5         36         3449, 386         RKT           tt         General CKD Stages 3-5         36         3449, 386         RKT           tt         General CKD Stages 3-5         36         344, 309         RKT           tt         General CKD Stages 3-5         36         344, 809         RKT           tt         General CKD Stages 3-5         36         344, 809         RKT           tt         General CKD Stages 3-5         36         344, 809         RKT           tt         General CKD Stages 3-5         36         344, 809         RKT           tt         General CKD Stages 3-5         36         373, 31  
   | I         General CKD Stages 3-5 <sup>4</sup> 49         28 779, 1730         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         2402, 142         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         16 656, 959         RKT           I         General CKD Stages 3-5         36         349, 386         RKT           I         General CKD Stages 3-5         36         344, 3286         RKT           I         General CKD Stages 3-5         36         344, 309         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         9782, 3233         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         9782, 3233         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         9782, 3233         RKT           I         General CKD Stages 3-5 <sup>5</sup> 36         974, 80         ESRD           I         General CKD Stages 3-5 <sup>5</sup> 374, 80         ES  
  | t         General CKD Stages 3-5°         49         28 779, 1730         RKT           t         General CKD Stages 3-5°         -         23 779, 1730         RKT           t         General CKD Stages 3-5°         -         23 779, 1730         RKT           t         General CKD Stages 3-5°         -         23 779, 1730         RKT           t         General CKD Stages 3-5°         -         2402, 142         RKT           ort         General CKD Stages 3-5°         -         16 656, 959         RKT           ort         General CKD Stages 3-5         36         344, 386         RKT           ort         General CKD Stages 3-5         36         344, 309         RKT           ort         General CKD Stages 3-5         36         344, 80         S861, 60         ESRD, 40% GFR J           ort         General CKD Stages 3-5         36         344, 80         ESRD         40% GFR J           ort         General CKD Stages 3-5         36         344, 80         ESRD         40% GFR J           ort         General CKD Stages 3-5         36         344, 80         ESRD         40% GFR J           ort         General CKD Stages 3-5         36         344, 80         ESRD         40   
  | t         General CKD Stages 3-5 <sup>4</sup> 49         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           t         General CKD Stages 3-5 <sup>4</sup> -         2402, 142         RKT           rt         General CKD Stages 3-5 <sup>4</sup> -         16 656, 959         RKT           rt         General CKD Stages 3-5         36         344, 328         RKT           rt         General CKD Stages 3-5         36         344, 309         RKT           rt         General CKD Stages 3-5         36         344, 80         SKT           rt         General CKD Stages 3-5         36         344, 80         SKT           rt         General CKD Stages 3-5         36         344, 80         SKT           rt         General CKD Stages 3-5         36         344, 80         SKT           rt         General CKD Stages 3-5         36         382, 190         RKT           rt         General CKD Stages 3-5         36         382, 190  
   | I         General CKD Stages 3-5 <sup>4</sup> 49         28 779, 1730         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         2402, 142         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         16 656, 959         RKT           I         General CKD Stages 3-5         36         344, 386         RKT           I         General CKD Stages 3-5         36         344, 309         RKT           I         General CKD Stages 3-5         36         344, 80         S87           I         General CKD Stages 3-5         36         344, 80         S87           I         General CKD Stages 3-5         36         344, 80         S87           I         General CKD Stages 3-5         36         344, 80         S87           I         General CKD Stages 3-5         36         382, 190         RKT           I         General CKD Stages 3-5         36         344, 80         S87 </td <td>I         General CKD Stages 3-5<sup>4</sup>         49         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         28 779, 1730         RKT           I         General CKD Stages 3-5<sup>4</sup>         -         2402, 142         RKT           I         General CKD Stages 3-5<sup>4</sup>         36         3449, 386         RKT           I         General CKD Stages 3-5         36         3449, 386         RKT           I         General CKD Stages 3-5         36         344, 309         RKT           General CKD Stages 3-5         36         344, 80         RKT           General CKD Stages 3-5         36         344, 80</td> <td>I         General CKD Stages <math>3-5^{\circ}</math>         49         <math>28</math> 779, 1730         RKT           I         General CKD Stages <math>3-5^{\circ}</math>         -         <math>28</math> 779, 1730         RKT           I         General CKD Stages <math>3-5^{\circ}</math>         -         <math>2305</math>, 142         RKT           General CKD Stages <math>3-5^{\circ}</math>         -         <math>2402</math>, 142         RKT           General CKD Stages <math>3-5^{\circ}</math>         -         <math>2402</math>, 142         RKT           General CKD Stages <math>3-5^{\circ}</math>         -         <math>16656, 595</math>         RKT           R         General CKD Stages <math>3-5</math>         36         <math>3449, 386</math>         RKT           General CKD Stages <math>3-5</math>         36         <math>344, 306</math>         RKT           General CKD Stages <math>3-5</math> <math>366, 77</math> <math>8KT</math> <math>8KT</math>           General CKD Stages <math>3-5</math> <math>366</math> <math>322</math> <math>382, 190</math> <math>RKT</math>           General CKD Stages <math>3-5</math> <math>366</math> <math>324, 800</math> <math>8KT</math> <math>6641, 610</math>           General CKD Stages <math>3-5</math> <math>366, 160</math> <math>8KT</math> <math>6641, 610</math> <math>861, 600</math> <math>881, 600</math>           Lupus nephritis         <math>78</math> <math>990, 145</math> <math>8KT</math> <math>990, 145</math> <math>8KT</math>           Ut         Lupus nephritis</td> <td>t         General CKD Stages <math>3-5^{\circ}</math>         49         <math>28</math> 779, 1730         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>28</math> 779, 1730         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>2305</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>2402</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         -         <math>2402</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         36         <math>3449</math>, 386         RKT           t         General CKD Stages <math>3-5</math>         36         <math>3449</math>, 386         RKT           t         General CKD Stages <math>3-5</math>         36         <math>344</math>, 80         RKT           t         General CKD Stages <math>3-5</math>         36         <math>344</math>, 80         RKT           t         General CKD Stages <math>3-5^{\circ}</math> <math>22</math> <math>382</math>, 190         RKT           t         General CKD Stages <math>3-5^{\circ}</math> <math>344</math>, 80         <math>861</math>, 60         ESRD, 40% GFR 1           t         General CKD Stages <math>3-5^{\circ}</math> <math>344</math>, 80         ESRD, 40% GFR 1         <math>120</math>           t         General CKD Stages <math>3-5^{\circ}</math> <math>344</math>, 80         ESRD, 40% GFR 1         <math>120</math></td> <td>t         General CKD Stages <math>3-5^{\circ}</math>         49         <math>28</math> 779, 1730         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         3         <math>336</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         2         <math>2402</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         2         <math>2402</math>, 142         RKT           t         General CKD Stages <math>3-5^{\circ}</math>         2         <math>2402</math>, 142         RKT           rt         General CKD Stages <math>3-5^{\circ}</math>         3         <math>349</math>, 356         RKT           rt         General CKD Stages <math>3-5^{\circ}</math>         3         <math>3449</math>, 356         RKT           rt         General CKD Stages <math>3-5^{\circ}</math> <math> 9782</math>, 332         RKT           rt         General CKD Stages <math>3-5^{\circ}</math> <math> 9782</math>, 332         RKT           rt         General CKD Stages <math>3-5^{\circ}</math> <math> 9782</math>, 332         RKT           rt         General CKD Stages <math>3-5^{\circ}</math> <math> 9782</math>, 332         RKT           rt         General CKD Stages <math>3-5^{\circ}</math> <math> 9784</math>, 80         GFR &lt;15, 50% GFR L</td> rt         General CKD Stages $3-5^{\circ}$ $ 9782$ , 332         RKT $966$ < | I         General CKD Stages 3-5 <sup>4</sup> 49         28 779, 1730         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         28 779, 1730         RKT           I         General CKD Stages 3-5 <sup>4</sup> -         2402, 142         RKT           I         General CKD Stages 3-5 <sup>4</sup> 36         3449, 386         RKT           I         General CKD Stages 3-5         36         3449, 386         RKT           I         General CKD Stages 3-5         36         344, 309         RKT           General CKD Stages 3-5         36         344, 80  
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   | t         General CKD Stages $3-5^{\circ}$ 49 $28$ 779, 1730         RKT           t         General CKD Stages $3-5^{\circ}$ 3 $336$ , 142         RKT           t         General CKD Stages $3-5^{\circ}$ 2 $2402$ , 142         RKT           t         General CKD Stages $3-5^{\circ}$ 2 $2402$ , 142         RKT           t         General CKD Stages $3-5^{\circ}$ 2 $2402$ , 142         RKT           rt         General CKD Stages $3-5^{\circ}$ 3 $349$ , 356         RKT           rt         General CKD Stages $3-5^{\circ}$ 3 $3449$ , 356         RKT           rt         General CKD Stages $3-5^{\circ}$ $ 9782$ , 332         RKT           rt         General CKD Stages $3-5^{\circ}$ $ 9782$ , 332         RKT           rt         General CKD Stages $3-5^{\circ}$ $ 9782$ , 332         RKT           rt         General CKD Stages $3-5^{\circ}$ $ 9782$ , 332         RKT           rt         General CKD Stages $3-5^{\circ}$ $ 9784$ , 80         GFR <15, 50% GFR L  | t         General CKD Stages $3-5^{\circ}$ 49 $28$ 779, 1730         RKT           t         General CKD Stages $3-5^{\circ}$ 2 $379$ , 1730         RKT           t         General CKD Stages $3-5^{\circ}$ 2 $379$ , 142         RKT           t         General CKD Stages $3-5^{\circ}$ 2 $3402$ , 142         RKT           t         General CKD Stages $3-5^{\circ}$ 2 $3492$ , 366         78         RKT           rt         General CKD Stages $3-5^{\circ}$ 3         349, 386         RKT         RKT           rt         General CKD Stages $3-5^{\circ}$ 3         344, 93.386         RKT $9782$ $342, 480$ $8715$ rt         General CKD Stages $3-5^{\circ}$ $-7$ $9782$ $332, 190$ RKT           rt         General CKD Stages $3-5^{\circ}$ $-7$ $9782$ $344, 80$ $5805$ rt         General CKD Stages $3-5^{\circ}$ $-7$ $9782$ $332, 190$ RKT           rt         General CKD Stages $3-5^{\circ}$ $-7$ $9782$ $881, 60$ $5804$ $678$ rt         General CKD Stages $3-5^{\circ}$ $-70044$  | It         General CKD Stages $3-5^{\circ}$ 49         28 779, 1730         RKT           It         General CKD Stages $3-5^{\circ}$ -         23 779, 1730         RKT           It         General CKD Stages $3-5^{\circ}$ -         23 779, 1730         RKT           It         General CKD Stages $3-5^{\circ}$ -         2402, 142         RKT           It         General CKD Stages $3-5^{\circ}$ -         2402, 142         RKT           It         General CKD Stages $3-5^{\circ}$ -         166 55, 559         RKT           It         General CKD Stages $3-5^{\circ}$ 3         349, 386         RKT           It         General CKD Stages $3-5^{\circ}$ -         949, 386         RKT           General CKD Stages $3-5^{\circ}$ -         9782, 333         RKT           General CKD Stages $3-5^{\circ}$ -         9782, 332         RKT           It         General CKD Stages $3-5^{\circ}$ -         9782, 966 GFR I, <t< td=""></t<>   |
| ntre cohort General CKD Stages 3–5 33 3396, 142<br>ntre cohort General CKD Stages 3–5 – 28 779, 1730<br>ntre cohort General CKD Stages 3–4 28 2402, 142<br>ntre cohort General CKD Stages 3–5 – 16 656, 959  | entre cohort         General CKD Stages 3-5         33         336, 142           entre cohort         General CKD Stages 3-5         -         28779, 1730           entre cohort         General CKD Stages 3-4         28         2402, 142           entre cohort         General CKD Stages 3-5         -         2402, 142           entre cohort         General CKD Stages 3-5         -         1666, 559           eentre cohort         General CKD Stages 4 and 5 <sup>d</sup> 2         1866, 77   | antre cohort General CKD Stages $3-5$ 33 336, 142<br>after cohort General CKD Stages $3-5$ - 28779, 1730<br>after cohort General CKD Stages $3-4$ 28 2402, 142<br>after cohort General CKD Stages $3-5$ - 16656, 959<br>centre cohort General CKD Stages $4$ and $5^d$ 25 1866, 77<br>after cohort General CKD Stages $3$ and $4$ 32 158, 40  | ntre cohort         General CKD Stages 3-5         33         336, 142           ntre cohort         General CKD Stages 3-5         -         28779, 1730           ntre cohort         General CKD Stages 3-5         -         28779, 1730           ntre cohort         General CKD Stages 3-5         -         2402, 142           ntre cohort         General CKD Stages 3-5         -         1656, 959           entre cohort         General CKD Stages 3-5         -         1656, 959           entre cohort         General CKD Stages 3-4         25         1866, 77           ntre cohort         General CKD Stages 3-4         32         158, 40           entre cohort         General CKD Stages 3-5         36         349, 386   | nume cohort         General CKD Stages $3-5$ 33         336, 142           nute cohort         General CKD Stages $3-5$ -         28779, 1730           nute cohort         General CKD Stages $3-5$ -         28779, 1730           nute cohort         General CKD Stages $3-5$ -         2402, 142           nute cohort         General CKD Stages $3-5$ -         16656, 559           centre cohort         General CKD Stages $4$ and $5^4$ 2         1866, 77           nute cohort         General CKD Stages $3-5$ -         1666, 79           nute cohort         General CKD Stages $3$ and $4$ 32         1866, 77           nute cohort         General CKD Stages $3-5$ 36         3449, 386           centre cohort         General CKD Stages $3-5$ 36         3449, 386   | entre cohort         General CKD Stages $3-5$ 33         336, 142           entre cohort         General CKD Stages $3-5$ -         28779, 1730           entre cohort         General CKD Stages $3-5$ -         28779, 1730           entre cohort         General CKD Stages $3-5$ -         2402, 142           entre cohort         General CKD Stages $3-5$ -         1656, 559           centre cohort         General CKD Stages $4$ and $5^4$ 2         2402, 142           entre cohort         General CKD Stages $4$ and $5^4$ 2         1866, 77           entre cohort         General CKD Stages $3$ and $4$ 32         1866, 77           entre cohort         General CKD Stages $3-5$ 36         3449, 386           centre cohort         General CKD Stages $3-5$ 36         3449, 386           centre cohort         General CKD Stages $3-5$ 36         3449, 386           entre cohort         General CKD Stages $3-5$ 2         382, 190   
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        9782, 323           re cohort         General CKD Stages 3-5''         -         9782, 323           re cohort         General CKD Stages 3-5''         -         9782, 323           re cohort<td>re cohort         General CKD Stages <math>3-5</math>         33         33%6, 142           re cohort         General CKD Stages <math>3-5</math>         -         28         739, 1730           re cohort         General CKD Stages <math>3-5</math>         -         2402, 142         28           re cohort         General CKD Stages <math>3-5^{\circ}</math>         -         16656, 959         1666, 77           re cohort         General CKD Stages <math>3</math> and <math>4</math>         32         158, 40         366, 77           re cohort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         3749, 386           re cohort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         3749, 386           re cohort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         374, 306           re cohort         General CKD Stages <math>3-5^{\circ}</math>         2         382, 190         972, 323           re cohort         General CKD Stages <math>3-5^{\circ}</math>         - 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        9782, 329           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 329           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 369           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 369           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 369           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 369</td><td>cohort         General
CKD Stages 3-5         33         336, 142           cohort         General CKD Stages 3-5'         -         28         779, 1730           cohort         General CKD Stages 3-5'         -         28         779, 1730           cohort         General CKD Stages 3-5'         -         240, 142         28           cohort         General CKD Stages 3-5'         -         1656, 959         240, 142           cohort         General CKD Stages 3-5         36         3449, 386         3449, 386           cohort         General CKD Stages 3-5         36         3449, 386         366, 77           cohort         General CKD Stages 3-5'         36         3449, 386         361, 60           cohort         General CKD Stages 3-5'         -         953, 190         569, 145           cohort         General CKD Stages 3-5'         -         932, 190         569           cohort         General CKD Stages 3-5'         -         932, 323         569           cohort         General CKD Stages 3-5'         -         934, 80         569, 145           cohort         Leneral CKD Stages 3-5'         -         599, 145         569, 145           cohort         Lupus nephropathy         <t< td=""><td>cohort         General CKD Shages 3-5         33         3396, 142           cohort         General CKD Shages 3-5         -         28779, 1730           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         1656, 559           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         344, 30           cohort         General CKD Shages 3-5         36         344, 80           cohort         Leneral CKD Shages 3-5         36         344, 80</td></t<><td>cohort         General (CK) Shages <math>3-5</math>         33         3396, 142           cohort         General (CK) Shages <math>3-5^{\circ}</math>         -         28779, 1730           cohort         General (CK) Shages <math>3-5^{\circ}</math>         -         240, 142           cohort         General (CK) Shages <math>3-5^{\circ}</math>         -         1656, 959           cohort         General CKD Shages <math>3-5^{\circ}</math>         -         1656, 959           cohort         General CKD Shages <math>3-5^{\circ}</math>         -         1656, 959           cohort         General CKD Shages <math>3-5^{\circ}</math>         36         349, 386           cohort         General CKD Shages <math>3-5^{\circ}</math>         36         349, 386           cohort         General CKD Shages <math>3-5^{\circ}</math>         2         382, 190           cohort         General CKD Shages <math>3-5^{\circ}</math>         2         344, 80           cohort         General CKD Shages <math>3-5^{\circ}</math>         -         559, 145           cohort         General CKD Shages <math>3-5^{\circ}</math>         2         344, 80           cohort         General CKD Shages <math>3-5^{\circ}</math>         -         559, 145           cohort         Laural CKD Shages <math>3-5^{\circ}</math>         -         559, 145           cohort         Laural CKD Shages <math>3-5^{\circ}</math>         -         559, 145           cohort</td><td>cohort         General CKD Shages 3-5         33         3396, 142           cohort         General CKD Shages 3-5         -         28779, 1730           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         246, 779, 1730           cohort         General CKD Shages 3-5         -         1666, 77           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         344, 30           cohort         General CKD Shages 3-5         36         344, 80           cohort         Leneral CKD Shages 3-5         36         344, 80           cohort         Leneral CKD Shages 3-5         36         344, 8</td><td>cohort         General CKD Stages 3-5         33         3396, 142           cohort         General CKD Stages 3-5         -         28&lt;779, 1730</td>           cohort         General CKD Stages 3-5         -         286, 579           cohort         General CKD Stages 3-5         -         240, 142           cohort         General CKD Stages 3-5         -         240, 142           cohort         General CKD Stages 3-5         -         1666, 57           cohort         General CKD Stages 3-5         36         3449, 386           cohort         General CKD Stages 3-5         36         3449, 386           cohort         General CKD Stages 3-5         36         3449, 386           cohort         General CKD Stages 3-5         36         344, 80           cohort         General CKD Stages 3-5         36         344, 80           cohort         General CKD Stages 3-5         36         344, 80           Gonort         General CKD Stages 3-5         36         344, 80           cohort         General CKD Stages 3-5         36         344, 80           cohort         General CKD Stages 3-5         36         344, 80           cohort         Laneral CKD Stages 3-5         36         344, 80</td><td>obort         General CKD Stages <math>3-5</math>         33         3396, 142           obort         General CKD Stages <math>3-5^{c}</math>         -         28779, 1730           obort         General CKD Stages <math>3-5^{c}</math>         -         28779, 1730           obort         General CKD Stages <math>3-5^{c}</math>         -         28779, 1730           obort         General CKD Stages <math>3-5^{c}</math>         -         2865, 959           cohort         General CKD Stages <math>3-5^{c}</math>         -         2402, 142           ohort         General CKD Stages <math>3-5^{c}</math>         36         3449, 386           cohort         General CKD Stages <math>3-5^{c}</math>         36         3449, 386           cohort         General CKD Stages <math>3-5^{c}</math>         2         382, 190           obort         General CKD Stages <math>3-5^{c}</math>         2         384, 80           obort         General CKD Stages <math>3-5^{c}</math>         344, 80         344, 80           obort         General CKD Stages <math>3-5^{c}</math>         3861, 60         344, 80           c</td><td>blort         General CKD Stages <math>3-5</math>         33         3396, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         739, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28779, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959           abort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959           abort         General CKD Stages <math>3-5^{\circ}</math>         -         1666, 77           abort         General CKD Stages <math>3-5^{\circ}</math>         3         349, 386           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 323           abort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 323           abort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 323           abort         General CKD Stages <math>3-5^{\circ}</math>         -         973, 366           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         973, 366           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         6541, 369           dott         General CKD Stages <math>3-5^{\circ}</math>         -         6541, 80           dott         General CKD Stages <math>3-5^{\circ}</math>         -         6541, 80           <t< td=""><td>hort         General CKD Stages <math>3-5</math>         33         3396, 142           hort         General CKD Stages <math>3-5^{\circ}</math>         -         28         73, 1730           hort         General CKD Stages <math>3-5^{\circ}</math>         -         28         73, 1730           hort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         36         344, 80         -         -         553, 323           ohort         General CKD Stages <math>3-5^{\circ}</math>         2         2         382, 190         -         -         554, 306           ohort         General CKD Stages <math>3-5^{\circ}</math>         2         2         384, 80         -         -         554, 306           ohort         General CKD Stages <math>3-5^{\circ}</math>         2         2         384, 80         -         -         554, 40         -         -         554, 40         -         -         554, 40         -         -         554, 40         -         -         554, 40         -         -         544, 80</td><td>hort         General CKD Stages <math>3-5</math>         33         3396, 142           hort         General CKD Stages <math>3-5^{\circ}</math>         -         28         73, 1730           hort         General CKD Stages <math>3-5^{\circ}</math>         -         28         73, 1730           hort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959         -           hort         General CKD Stages
<math>3-5^{\circ}</math>         -         1665, 959         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         36         344, 80         -         554, 190           ohort         General CKD Stages <math>3-5^{\circ}</math>         2         2         382, 190         -         554, 1369           hort         General CKD Stages <math>3-5^{\circ}</math>         2         2         384, 80         -         554, 1369           hort         General CKD Stages <math>3-5^{\circ}</math>         2         2         381, 60         -         -         554, 1369           hort         General CKD Stages <math>3-5^{\circ}</math>         3         344, 80         -         -         554, 1369           hort         Lapus nephropathy         7         3         344, 80         -         -</td><td>hort         General CKD Stages <math>3-5</math>         33         33%, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         79, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         79, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         2402, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         -         1666, 579           abort         General CKD Stages <math>3-5^{\circ}</math>         3         349, 386           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         1666, 77           abort         General CKD Stages <math>3-5^{\circ}</math>         -         378, 40           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 336           abort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 326           abort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 326           abort         General CKD Stages <math>3-5^{\circ}</math>         -         978, 40           cohot         General CKD Stages <math>3-5^{\circ}</math>         -         978, 40           cohot         Lapus nephropathy         3         344, 80           abort         Iapus nephropathy         861, 60         1040, 241           abo</td><td>bort         General CKD Stages <math>3-5</math>         33         3396, 142           bort         General CKD Stages <math>3-5</math>         -         28         739, 1730           bort         General CKD Stages <math>3-5</math>         -         28         739, 1730           bort         General CKD Stages <math>3-5</math>         -         28         739, 1730           bort         General CKD Stages <math>3-5</math>         -         1666, 77           bort         General CKD Stages <math>3-5</math>         36         3449, 386           ohot         General CKD Stages <math>3-5</math>         36         3449, 386           ohot         General CKD Stages <math>3-5^{*}</math>         -         9782, 323           ohot         General CKD Stages <math>3-5^{*}</math>         -         9782, 323           ohot         General CKD Stages <math>3-5^{*}</math>         -         978, 40           ohot         Lipus nephropathy         33         44, 80           ohot</td><td>hort         General CKD Stages <math>3-5</math>         33         33%, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         739, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         739, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         739, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         1666, 77         2402, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         73         2403, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         36         344, 80         344, 80         344, 80         344, 80           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         345, 60         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         346, 60         344, 80         344, 80         344, 80         346, 60         344, 80</td></t<></td></td> | thre cohort         General CKD Stages 3-5         33         3396, 142           thre cohort         General CKD Stages 3-5         -         28779, 1730           thre cohort         General CKD Stages 3-5         -         28779, 1730           thre cohort         General CKD Stages 3-5         -         1656, 559           thre cohort         General CKD Stages 3-5         -         1656, 559           ntre cohort         General CKD Stages 3-5         -         1656, 590           ntre cohort         General CKD Stages 3-5         36         349, 386           ntre cohort         General CKD Stages 3-5         36         349, 386           ntre cohort         General CKD Stages 3-5         36         349, 386           ntre cohort         General CKD Stages 3-5         36         349, 386           otter cohort         General CKD Stages 3-5         36         349, 386           otter cohort         General CKD Stages 3-5         -         9782, 323           otter cohort         General CKD Stages 3-5         -         9782, 323           otter cohort         General CKD Stages 3-5         -         9782, 323           otter cohort         General CKD Stages 3-5         -         5641, 369   
   
  | re cohort         General CKD Stages 3-5         33         3396, 142           re cohort         General CKD Stages 3-5'         -         28 779, 1730           re cohort         General CKD Stages 3-5'         -         28779, 1730           re cohort         General CKD Stages 3-5'         -         2402, 142           re cohort         General CKD Stages 3-4'         28         2402, 142           re cohort         General CKD Stages 3-4'         28         3449, 386           re cohort         General CKD Stages 3-5         36         3449, 386           re cohort         General CKD Stages 3-5         36         3449, 386           tre cohort         General CKD Stages 3-5         36         3449, 386           tre cohort         General CKD Stages 3-5'         36         3449, 386           tre cohort         General CKD Stages 3-5''         -         9782, 323           re cohort         General CKD Stages 3-5''         -         9782, 323           re cohort         General CKD Stages 3-5''         -         9782, 323           re cohort         General CKD
Stages 3-5''         -         9782, 323           re cohort         General CKD Stages 3-5''         -         9782, 323           re cohort <td>re cohort         General CKD Stages <math>3-5</math>         33         33%6, 142           re cohort         General CKD Stages <math>3-5</math>         -         28         739, 1730           re cohort         General CKD Stages <math>3-5</math>         -         2402, 142         28           re cohort         General CKD Stages <math>3-5^{\circ}</math>         -         16656, 959         1666, 77           re cohort         General CKD Stages <math>3</math> and <math>4</math>         32         158, 40         366, 77           re cohort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         3749, 386           re cohort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         3749, 386           re cohort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         374, 306           re cohort         General CKD Stages <math>3-5^{\circ}</math>         2         382, 190         972, 323           re cohort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         944, 80           re cohort         General CKD Stages <math>3-5^{\circ}</math>         -         934, 80         944, 80           re cohort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         944, 80           re cohort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323</td> <td>ecohort         General CKD Stages 3-5         33         3366, 142           e cohort         General CKD Stages 3-5         -         28         739, 1730           e cohort         General CKD Stages 3-5         -         28         739, 1730           e cohort         General CKD Stages 3-5         -         16656, 959         16656, 959           tre cohort         General CKD Stages 4 and 5<sup>4</sup>         2         2402, 142         2656, 959           tre cohort         General CKD Stages 3 and 4         32         1586, 77         366           tre cohort         General CKD Stages 3-5         36         3449, 386         366           tre cohort         General CKD Stages 3-5         36         3449, 386         376, 376           tre cohort         General CKD Stages 3-5         36         3449, 386         367, 40           tre cohort         General CKD Stages 3-5         36         344, 80         372, 323           e cohort         General CKD Stages 3-5         2         382, 190         374, 80           e cohort         General CKD Stages 3-5         3         344, 80         374, 80           e cohort         General CKD Stages 3-5         3         344, 80         361, 60           tre cohort</td> <td>cohort         General CKD Stages 3–5         33         3396, 142           cohort         General CKD Stages 3–5         -         28779, 1730           cohort         General CKD Stages 3–5         -         28779, 1742           cohort         General CKD Stages 3–5         -         16656, 599           recohort         General CKD Stages 3–5         -         16656, 599           recohort         General CKD Stages 3–5         -         16656, 599           recohort         General CKD Stages 3–5         36         3449, 386           recohort         General CKD Stages 3–5         36         3449, 386           recohort         General CKD Stages 3–5         36         3449, 386           recohort         General CKD Stages 3–5         36         344, 30           recohort         General CKD Stages 3–5         36         344, 80           recohort         General CKD Stages 3–5         -         953, 190           recohort         General CKD Stages 3–5         -         954, 369           recohort         General CKD Stages 3–5         -         954, 80           recohort         General CKD Stages 3–5         -         954, 369           recohort         General CKD Stages 3–5</td> <td>cohort         General CKD Stages <math>3-5</math>         33         3396, 142           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         28779, 1730           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         28779, 1730           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         1656, 559           ecohort         General CKD Stages <math>3-5^{\circ}</math>         -         1656, 559           ecohort         General CKD Stages <math>3-5^{\circ}</math>         -         1656, 595           ecohort         General CKD Stages <math>3-5^{\circ}</math>         -         1656, 595           ecohort         General CKD Stages <math>3-5^{\circ}</math>         -         158, 40           ecohort         General CKD Stages <math>3-5^{\circ}</math>         -         382, 190           ecohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 329           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 329           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 369           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 369           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 369           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 369</td> <td>cohort         General CKD Stages 3-5         33         336, 142           cohort         General CKD Stages 3-5'         -         28         779, 1730           cohort         General CKD Stages 3-5'         -         28         779, 1730           cohort         General CKD Stages 3-5'         -         240, 142         28           cohort         General CKD Stages 3-5'         -         1656, 959         240, 142           cohort         General CKD Stages 3-5         36         3449, 386         3449, 386           cohort         General CKD Stages 3-5         36         3449, 386         366, 77           cohort         General CKD Stages 3-5'         36         3449, 386         361, 60           cohort         General CKD Stages 3-5'         -         953, 190         569, 145           cohort         General CKD Stages 3-5'         -         932, 190         569           cohort         General CKD Stages 3-5'         -         932, 323         569           cohort         General CKD Stages 3-5'         -         934, 80         569, 145           cohort         Leneral CKD Stages 3-5'         -         599, 145         569, 145           cohort         Lupus nephropathy         <t< td=""><td>cohort         General CKD Shages 3-5         33         3396, 142           cohort         General CKD Shages 3-5         -         28779, 1730           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         1656, 559           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         344, 30           cohort         General CKD Shages 3-5         36         344, 80           cohort         Leneral CKD Shages 3-5         36         344, 80</td></t<><td>cohort         General (CK) Shages <math>3-5</math>         33         3396, 142           cohort         General (CK) Shages <math>3-5^{\circ}</math>         -         28779, 1730           cohort         General (CK) Shages <math>3-5^{\circ}</math>         -         240, 142           cohort         General (CK) Shages <math>3-5^{\circ}</math>         -         1656, 959           cohort         General CKD Shages <math>3-5^{\circ}</math>         -         1656, 959           cohort         General CKD Shages <math>3-5^{\circ}</math>         -         1656, 959           cohort         General CKD Shages <math>3-5^{\circ}</math>         36         349, 386           cohort         General CKD Shages <math>3-5^{\circ}</math>         36         349, 386           cohort         General CKD Shages <math>3-5^{\circ}</math>         2         382, 190           cohort         General CKD Shages <math>3-5^{\circ}</math>         2         344, 80           cohort         General CKD Shages <math>3-5^{\circ}</math>         -         559, 145           cohort         General CKD Shages <math>3-5^{\circ}</math>         2         344, 80           cohort         General CKD Shages <math>3-5^{\circ}</math>         -         559, 145           cohort         Laural CKD Shages <math>3-5^{\circ}</math>         -         559, 145           cohort         Laural CKD Shages <math>3-5^{\circ}</math>         -         559, 145           cohort</td><td>cohort         General CKD Shages 3-5         33         3396, 142           cohort         General CKD Shages 3-5         -         28779, 1730           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         246, 779, 1730           cohort         General CKD Shages 3-5         -         1666, 77           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         344, 30           cohort         General CKD Shages 3-5         36         344, 80           cohort         Leneral CKD Shages 3-5         36         344, 80           cohort         Leneral CKD Shages 3-5         36         344, 8</td><td>cohort         General CKD Stages 3-5         33        
3396, 142           cohort         General CKD Stages 3-5         -         28&lt;779, 1730</td>           cohort         General CKD Stages 3-5         -         286, 579           cohort         General CKD Stages 3-5         -         240, 142           cohort         General CKD Stages 3-5         -         240, 142           cohort         General CKD Stages 3-5         -         1666, 57           cohort         General CKD Stages 3-5         36         3449, 386           cohort         General CKD Stages 3-5         36         3449, 386           cohort         General CKD Stages 3-5         36         3449, 386           cohort         General CKD Stages 3-5         36         344, 80           cohort         General CKD Stages 3-5         36         344, 80           cohort         General CKD Stages 3-5         36         344, 80           Gonort         General CKD Stages 3-5         36         344, 80           cohort         General CKD Stages 3-5         36         344, 80           cohort         General CKD Stages 3-5         36         344, 80           cohort         Laneral CKD Stages 3-5         36         344, 80</td> <td>obort         General CKD Stages <math>3-5</math>         33         3396, 142           obort         General CKD Stages <math>3-5^{c}</math>         -         28779, 1730           obort         General CKD Stages <math>3-5^{c}</math>         -         28779, 1730           obort         General CKD Stages <math>3-5^{c}</math>         -         28779, 1730           obort         General CKD Stages <math>3-5^{c}</math>         -         2865, 959           cohort         General CKD Stages <math>3-5^{c}</math>         -         2402, 142           ohort         General CKD Stages <math>3-5^{c}</math>         36         3449, 386           cohort         General CKD Stages <math>3-5^{c}</math>         36         3449, 386           cohort         General CKD Stages <math>3-5^{c}</math>         2         382, 190           obort         General CKD Stages <math>3-5^{c}</math>         2         384, 80           obort         General CKD Stages <math>3-5^{c}</math>         344, 80         344, 80           obort         General CKD Stages <math>3-5^{c}</math>         3861, 60         344, 80           c</td> <td>blort         General CKD Stages <math>3-5</math>         33         3396, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         739, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28779, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959           abort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959           abort         General CKD Stages <math>3-5^{\circ}</math>         -         1666, 77           abort         General CKD Stages <math>3-5^{\circ}</math>         3         349, 386           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 323           abort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 323           abort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 323           abort         General CKD Stages <math>3-5^{\circ}</math>         -         973, 366           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         973, 366           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         6541, 369           dott         General CKD Stages <math>3-5^{\circ}</math>         -         6541, 80           dott         General CKD Stages <math>3-5^{\circ}</math>         -         6541, 80           <t< td=""><td>hort         General CKD Stages <math>3-5</math>         33         3396, 142           hort         General CKD Stages <math>3-5^{\circ}</math>         -         28         73, 1730           hort         General CKD Stages <math>3-5^{\circ}</math>         -         28         73, 1730           hort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         36         344, 80         -         -         553, 323           ohort         General CKD Stages <math>3-5^{\circ}</math>         2         2         382, 190         -         -         554, 306           ohort         General CKD Stages <math>3-5^{\circ}</math>         2         2         384, 80         -         -         554, 306           ohort         General CKD Stages <math>3-5^{\circ}</math>         2         2         384, 80         -         -         554, 40         -         -         554, 40         -         -         554, 40         -         -         554, 40         -         -         554, 40         -         -         544, 80</td><td>hort         General CKD Stages <math>3-5</math>         33         3396, 142           hort         General CKD Stages <math>3-5^{\circ}</math>         -         28         73, 1730           hort         General CKD Stages <math>3-5^{\circ}</math>         -         28         73, 1730           hort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959         -           hort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         36         344, 80         -         554, 190           ohort         General CKD Stages <math>3-5^{\circ}</math>         2         2         382, 190         -         554, 1369           hort         General CKD Stages <math>3-5^{\circ}</math>         2         2         384, 80         -         554, 1369           hort         General CKD Stages <math>3-5^{\circ}</math>         2         2         381, 60         -         -         554, 1369           hort         General CKD Stages <math>3-5^{\circ}</math>         3         344, 80         -         -         554, 1369           hort         Lapus nephropathy         7         3         344, 80         -         -</td><td>hort         General CKD Stages <math>3-5</math>         33         33%, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         79, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         79, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         2402, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         -         1666, 579           abort         General CKD Stages <math>3-5^{\circ}</math>         3         349, 386           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         1666, 77           abort         General CKD Stages <math>3-5^{\circ}</math>         -         378, 40           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 336           abort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 326           abort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 326           abort         General CKD Stages <math>3-5^{\circ}</math>         -         978, 40           cohot         General CKD Stages <math>3-5^{\circ}</math>         -         978, 40           cohot         Lapus nephropathy         3         344, 80           abort         Iapus nephropathy         861, 60         1040, 241           abo</td><td>bort         General CKD Stages <math>3-5</math>         33         3396, 142           bort         General CKD Stages <math>3-5</math>         -         28         739, 1730           bort         General CKD Stages <math>3-5</math>         -         28         739, 1730           bort         General CKD Stages <math>3-5</math>         -         28         739, 1730           bort         General CKD Stages <math>3-5</math>         -         1666, 77           bort         General CKD Stages <math>3-5</math>         36         3449, 386           ohot         General CKD Stages <math>3-5</math>         36         3449, 386           ohot         General CKD Stages <math>3-5^{*}</math>         -         9782, 323           ohot         General CKD Stages <math>3-5^{*}</math>         -         9782, 323           ohot         General CKD Stages <math>3-5^{*}</math>         -         978, 40           ohot         Lipus nephropathy         33         44, 80           ohot</td><td>hort         General CKD Stages <math>3-5</math>         33         33%, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         739, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         739, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         739, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         1666, 77         2402, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         73         2403, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         36         344, 80         344, 80         344, 80         344, 80           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80  
      344, 80         344, 80         345, 60         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         346, 60         344, 80         344, 80         344, 80         346, 60         344, 80</td></t<></td> | re cohort         General CKD Stages $3-5$ 33         33%6, 142           re cohort         General CKD Stages $3-5$ -         28         739, 1730           re cohort         General CKD Stages $3-5$ -         2402, 142         28           re cohort         General CKD Stages $3-5^{\circ}$ -         16656, 959         1666, 77           re cohort         General CKD Stages $3$ and $4$ 32         158, 40         366, 77           re cohort         General CKD Stages $3-5^{\circ}$ 36         3449, 386         3749, 386           re cohort         General CKD Stages $3-5^{\circ}$ 36         3449, 386         3749, 386           re cohort         General CKD Stages $3-5^{\circ}$ 36         3449, 386         374, 306           re cohort         General CKD Stages $3-5^{\circ}$ 2         382, 190         972, 323           re cohort         General CKD Stages $3-5^{\circ}$ -         972, 323         944, 80           re cohort         General CKD Stages $3-5^{\circ}$ -         934, 80         944, 80           re cohort         General CKD Stages $3-5^{\circ}$ -         972, 323         944, 80           re cohort         General CKD Stages $3-5^{\circ}$ -         972, 323   | ecohort         General CKD Stages 3-5         33         3366, 142           e cohort         General CKD Stages 3-5         -         28         739, 1730           e cohort         General CKD Stages 3-5         -         28         739, 1730           e cohort         General CKD Stages 3-5         -         16656, 959         16656, 959           tre cohort         General CKD Stages 4 and 5 <sup>4</sup> 2         2402, 142         2656, 959           tre cohort         General CKD Stages 3 and 4         32         1586, 77         366           tre cohort         General CKD Stages 3-5         36         3449, 386         366           tre cohort         General CKD Stages 3-5         36         3449, 386         376, 376           tre cohort         General CKD Stages 3-5         36         3449, 386         367, 40           tre cohort         General CKD Stages 3-5         36         344, 80         372, 323           e cohort         General CKD Stages 3-5         2         382, 190         374, 80           e cohort         General CKD Stages 3-5         3         344, 80         374, 80           e cohort         General CKD Stages 3-5         3         344, 80         361, 60           tre cohort  
   | cohort         General CKD Stages 3–5         33         3396, 142           cohort         General CKD Stages 3–5         -         28779, 1730           cohort         General CKD Stages 3–5         -         28779, 1742           cohort         General CKD Stages 3–5         -         16656, 599           recohort         General CKD Stages 3–5         -         16656, 599           recohort         General CKD Stages 3–5         -         16656, 599           recohort         General CKD Stages 3–5         36         3449, 386           recohort         General CKD Stages 3–5         36         3449, 386           recohort         General CKD Stages 3–5         36         3449, 386           recohort         General CKD Stages 3–5         36         344, 30           recohort         General CKD Stages 3–5         36         344, 80           recohort         General CKD Stages 3–5         -         953, 190           recohort         General CKD Stages 3–5         -         954, 369           recohort         General CKD Stages 3–5         -         954, 80           recohort         General CKD Stages 3–5         -         954, 369           recohort         General CKD Stages 3–5   
   
  | cohort         General CKD Stages $3-5$ 33         3396, 142           cohort         General CKD Stages $3-5^{\circ}$ -         28779, 1730           cohort         General CKD Stages $3-5^{\circ}$ -         28779, 1730           cohort         General CKD Stages $3-5^{\circ}$ -         1656, 559           ecohort         General CKD Stages $3-5^{\circ}$ -         1656, 559           ecohort         General CKD Stages $3-5^{\circ}$ -         1656, 595           ecohort         General CKD Stages $3-5^{\circ}$ -         1656, 595           ecohort         General CKD Stages $3-5^{\circ}$ -         158, 40           ecohort         General CKD Stages $3-5^{\circ}$ -         382, 190           ecohort         General CKD Stages $3-5^{\circ}$ -         9782, 329           cohort         General CKD Stages $3-5^{\circ}$ -         9782, 329           cohort         General CKD Stages $3-5^{\circ}$ -         9782, 369  
  | cohort         General CKD Stages 3-5         33         336, 142           cohort         General CKD Stages 3-5'         -         28         779, 1730           cohort         General CKD Stages 3-5'         -         28         779, 1730           cohort         General CKD Stages 3-5'         -         240, 142         28           cohort         General CKD Stages 3-5'         -         1656, 959         240, 142           cohort         General CKD Stages 3-5         36         3449, 386         3449, 386           cohort         General CKD Stages 3-5         36         3449, 386         366, 77           cohort         General CKD Stages 3-5'         36         3449, 386         361, 60           cohort         General CKD Stages 3-5'         -         953, 190         569, 145           cohort         General CKD Stages 3-5'         -         932, 190         569           cohort         General CKD Stages 3-5'         -         932, 323         569          
cohort         General CKD Stages 3-5'         -         934, 80         569, 145           cohort         Leneral CKD Stages 3-5'         -         599, 145         569, 145           cohort         Lupus nephropathy <t< td=""><td>cohort         General CKD Shages 3-5         33         3396, 142           cohort         General CKD Shages 3-5         -         28779, 1730           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         1656, 559           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         344, 30           cohort         General CKD Shages 3-5         36         344, 80           cohort         Leneral CKD Shages 3-5         36         344, 80</td></t<> <td>cohort         General (CK) Shages <math>3-5</math>         33         3396, 142           cohort         General (CK) Shages <math>3-5^{\circ}</math>         -         28779, 1730           cohort         General (CK) Shages <math>3-5^{\circ}</math>         -         240, 142           cohort         General (CK) Shages <math>3-5^{\circ}</math>         -         1656, 959           cohort         General CKD Shages <math>3-5^{\circ}</math>         -         1656, 959           cohort         General CKD Shages <math>3-5^{\circ}</math>         -         1656, 959           cohort         General CKD Shages <math>3-5^{\circ}</math>         36         349, 386           cohort         General CKD Shages <math>3-5^{\circ}</math>         36         349, 386           cohort         General CKD Shages <math>3-5^{\circ}</math>         2         382, 190           cohort         General CKD Shages <math>3-5^{\circ}</math>         2         344, 80           cohort         General CKD Shages <math>3-5^{\circ}</math>         -         559, 145           cohort         General CKD Shages <math>3-5^{\circ}</math>         2         344, 80           cohort         General CKD Shages <math>3-5^{\circ}</math>         -         559, 145           cohort         Laural CKD Shages <math>3-5^{\circ}</math>         -         559, 145           cohort         Laural CKD Shages <math>3-5^{\circ}</math>         -         559, 145           cohort</td> <td>cohort         General CKD Shages 3-5         33         3396, 142           cohort         General CKD Shages 3-5         -         28779, 1730           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         246, 779, 1730           cohort         General CKD Shages 3-5         -         1666, 77           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         344, 30           cohort         General CKD Shages 3-5         36         344, 80           cohort         Leneral CKD Shages 3-5         36         344, 80           cohort         Leneral CKD Shages 3-5         36         344, 8</td> <td>cohort         General CKD Stages 3-5         33         3396, 142           cohort         General CKD Stages 3-5         -         28&lt;779, 1730</td> cohort         General CKD Stages 3-5         -         286, 579           cohort         General CKD Stages 3-5         -         240, 142           cohort         General CKD Stages 3-5         -         240, 142           cohort         General CKD Stages 3-5         -         1666, 57           cohort         General CKD Stages 3-5         36         3449, 386           cohort         General CKD Stages 3-5         36         3449, 386           cohort         General CKD Stages 3-5         36         3449, 386           cohort         General CKD Stages 3-5         36         344, 80           cohort         General CKD Stages 3-5         36         344, 80           cohort         General CKD Stages 3-5         36         344, 80           Gonort         General CKD Stages 3-5         36         344, 80           cohort         General CKD Stages 3-5         36         344, 80           cohort         General CKD Stages 3-5         36         344, 80           cohort         Laneral CKD Stages 3-5         36         344, 80   
  | cohort         General CKD Shages 3-5         33         3396, 142           cohort         General CKD Shages 3-5         -         28779, 1730           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         1656, 559           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         344, 30           cohort         General CKD Shages 3-5         36         344, 80           cohort         Leneral CKD Shages 3-5         36         344, 80  
  | cohort         General (CK) Shages $3-5$ 33         3396, 142           cohort         General (CK) Shages $3-5^{\circ}$ -         28779, 1730           cohort         General (CK) Shages $3-5^{\circ}$ -         240, 142           cohort         General (CK) Shages $3-5^{\circ}$ -         1656, 959           cohort         General CKD Shages $3-5^{\circ}$ -         1656, 959           cohort         General CKD Shages $3-5^{\circ}$ -         1656, 959           cohort         General CKD Shages $3-5^{\circ}$ 36         349, 386           cohort         General CKD Shages $3-5^{\circ}$ 36         349, 386           cohort         General CKD Shages $3-5^{\circ}$ 2         382, 190           cohort         General CKD Shages $3-5^{\circ}$ 2         344, 80           cohort         General CKD Shages $3-5^{\circ}$ -         559, 145           cohort         General CKD Shages $3-5^{\circ}$ 2         344, 80           cohort         General CKD Shages $3-5^{\circ}$ -         559, 145           cohort         Laural CKD Shages $3-5^{\circ}$ -         559, 145           cohort         Laural CKD Shages $3-5^{\circ}$ -         559, 145           cohort  
   | cohort         General CKD Shages 3-5         33         3396, 142           cohort         General CKD Shages 3-5         -         28779, 1730           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         240, 142           cohort         General CKD Shages 3-5         -         246, 779, 1730           cohort         General CKD Shages 3-5         -         1666, 77           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         349, 386           cohort         General CKD Shages 3-5         36         344, 30           cohort         General CKD Shages 3-5         36         344, 80           cohort         Leneral CKD Shages 3-5         36         344, 80           cohort         Leneral CKD Shages 3-5         36         344, 8   | cohort         General CKD Stages 3-5         33         3396, 142           cohort         General CKD Stages 3-5         -         28<779, 1730   
  | obort         General CKD Stages $3-5$ 33         3396, 142           obort         General CKD Stages $3-5^{c}$ -         28779, 1730           obort         General CKD Stages $3-5^{c}$ -         28779, 1730           obort         General CKD Stages $3-5^{c}$ -         28779, 1730           obort         General CKD Stages $3-5^{c}$ -         2865, 959           cohort         General CKD Stages $3-5^{c}$ -         2402, 142           ohort         General CKD Stages $3-5^{c}$ 36         3449, 386           cohort         General CKD Stages $3-5^{c}$ 36         3449, 386           cohort         General CKD Stages $3-5^{c}$ 2         382, 190           obort         General CKD Stages $3-5^{c}$ 2         384, 80           obort         General CKD Stages $3-5^{c}$ 344, 80         344, 80           obort         General CKD Stages $3-5^{c}$ 3861, 60         344, 80           c  
  | blort         General CKD Stages $3-5$ 33         3396, 142           abort         General CKD Stages $3-5^{\circ}$ -         28         739, 1730           abort         General CKD Stages $3-5^{\circ}$ -         28779, 1730           abort         General CKD Stages $3-5^{\circ}$ -         1665, 959           abort         General CKD Stages $3-5^{\circ}$ -         1665, 959           abort         General CKD Stages $3-5^{\circ}$ -         1666, 77           abort         General CKD Stages $3-5^{\circ}$ 3         349, 386           cohort         General CKD Stages $3-5^{\circ}$ -         9782, 323           abort         General CKD Stages $3-5^{\circ}$ -         9782, 323           abort         General CKD Stages $3-5^{\circ}$ -         9782, 323           abort         General CKD Stages $3-5^{\circ}$ -         973, 366           cohort         General CKD Stages $3-5^{\circ}$ -         973, 366           cohort         General CKD Stages $3-5^{\circ}$ -         6541, 369           dott         General CKD Stages $3-5^{\circ}$ -         6541, 80           dott         General CKD Stages $3-5^{\circ}$ -         6541, 80 <t< td=""><td>hort         General CKD Stages <math>3-5</math>         33         3396, 142           hort         General CKD Stages <math>3-5^{\circ}</math>         -         28         73, 1730           hort         General CKD Stages <math>3-5^{\circ}</math>         -         28         73, 1730           hort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         36         344, 80         -         -         553, 323           ohort         General CKD Stages <math>3-5^{\circ}</math>         2         2         382, 190         -         -         554, 306           ohort         General CKD Stages <math>3-5^{\circ}</math>         2         2         384, 80         -         -         554, 306           ohort         General CKD Stages <math>3-5^{\circ}</math>         2         2         384, 80         -         -         554, 40         -         -         554, 40         -         -         554, 40         -         -         554, 40         -         -         554, 40         -         -         544, 80</td><td>hort         General CKD Stages <math>3-5</math>         33         3396, 142           hort         General CKD Stages <math>3-5^{\circ}</math>         -         28         73, 1730           hort         General CKD Stages <math>3-5^{\circ}</math>         -         28         73, 1730           hort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959         -           hort         General CKD Stages <math>3-5^{\circ}</math>         -         1665, 959         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         -           ohort         General CKD Stages <math>3-5^{\circ}</math>         36         344, 80         -         554, 190           ohort         General CKD Stages <math>3-5^{\circ}</math>         2         2         382, 190         -         554, 1369           hort         General CKD Stages <math>3-5^{\circ}</math>         2         2         384, 80         -         554, 1369           hort         General CKD Stages <math>3-5^{\circ}</math>         2         2         381, 60         -         -         554, 1369           hort         General CKD Stages <math>3-5^{\circ}</math>         3         344, 80         -         -         554, 1369           hort         Lapus nephropathy         7         3         344, 80         -         -</td><td>hort         General CKD Stages <math>3-5</math>         33         33%, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         79, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         79, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         2402, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         -         1666, 579           abort         General CKD Stages <math>3-5^{\circ}</math>         3         349, 386           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         1666, 77           abort         General CKD Stages <math>3-5^{\circ}</math>         -         378, 40           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 336           abort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 326           abort         General CKD Stages <math>3-5^{\circ}</math>         -         9782, 326           abort         General CKD Stages <math>3-5^{\circ}</math>         -         978, 40           cohot         General CKD Stages <math>3-5^{\circ}</math>         -         978, 40           cohot         Lapus nephropathy         3         344, 80           abort         Iapus nephropathy         861, 60         1040, 241           abo</td><td>bort         General CKD Stages <math>3-5</math>         33         3396, 142           bort         General CKD Stages <math>3-5</math>         -         28         739, 1730           bort         General CKD Stages <math>3-5</math>         -         28         739, 1730           bort         General CKD Stages <math>3-5</math>         -       
 28         739, 1730           bort         General CKD Stages <math>3-5</math>         -         1666, 77           bort         General CKD Stages <math>3-5</math>         36         3449, 386           ohot         General CKD Stages <math>3-5</math>         36         3449, 386           ohot         General CKD Stages <math>3-5^{*}</math>         -         9782, 323           ohot         General CKD Stages <math>3-5^{*}</math>         -         9782, 323           ohot         General CKD Stages <math>3-5^{*}</math>         -         978, 40           ohot         Lipus nephropathy         33         44, 80           ohot</td><td>hort         General CKD Stages <math>3-5</math>         33         33%, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         739, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         739, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         28         739, 1730           abort         General CKD Stages <math>3-5^{\circ}</math>         -         1666, 77         2402, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         36         3449, 386         73         2403, 142           abort         General CKD Stages <math>3-5^{\circ}</math>         36         344, 80         344, 80         344, 80         344, 80           cohort         General CKD Stages <math>3-5^{\circ}</math>         -         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         345, 60         344, 80         344, 80         344, 80         344, 80         344, 80         344, 80         346, 60         344, 80         344, 80         344, 80         346, 60         344, 80</td></t<> | hort         General CKD Stages $3-5$ 33         3396, 142           hort         General CKD Stages $3-5^{\circ}$ - 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<math>3-5^{\circ}</math>         -         <math>166\ 56, 959</math>         RKT           ohott         General CKD Stages <math>3-5^{\circ}</math>         -         <math>166\ 56, 959</math>         RKT           ohott         General CKD Stages <math>3-5</math>         36         <math>3449</math>, <math>386</math>         RKT           cohott         General CKD Stages <math>3-5</math>         36         <math>3449</math>, <math>386</math>         RKT           ohott         General CKD Stages <math>3-5</math>         2         <math>382</math>, <math>190</math>         RKT           ohott         General CKD Stages <math>3-5^{\circ}</math>         -         <math>9782</math>, <math>323</math>         RKT           ohott         General CKD Stages <math>3-5^{\circ}</math>         -         <math>974</math>, <math>30</math>         ESRD           ohott         General CKD Stages <math>3-5^{\circ}</math>         -         <math>974</math>, <math>30</math>         ESRD           ohott         General CKD Stages <math>3-5^{\circ}</math>         -         <math>974</math>, <math>406</math> <math>678</math>, <math>678</math>           ohott         General CKD Stages <math>3-5^{\circ}</math>         -         <math>974</math>, <math>400</math> <math>E8RD</math>           ohott         Lapus tephropathy         861, <math>60</math>         ESRD         <math>678</math>&lt;</td><td>hortGeneral CKD Stages <math>3-5^{\circ}</math>-<math>28</math><math>729</math>, <math>1730</math>RKThortGeneral CKD Stages <math>3-5^{\circ}</math>-<math>2402</math>, <math>142</math>RKThortGeneral CKD Stages <math>3-5</math><math>25</math><math>166</math>, <math>57</math>RKThortGeneral CKD Stages <math>3-5</math><math>25</math><math>186</math>, <math>57</math>RKThortGeneral CKD Stages <math>3-5</math><math>36</math><math>349</math>, <math>36</math>RKThortGeneral CKD Stages <math>3-5</math><math>36</math><math>3449</math>, <math>36</math>RKThortGeneral CKD Stages <math>3-5^{\circ}</math><math> 9782</math>, <math>323</math>RKThortGeneral CKD Stages <math>3-5^{\circ}</math><math> 9782</math>, <math>323</math>RKThortLupus nephritis<math>78</math><math>901</math>, <math>162</math>GFR &lt;<math>15</math>, <math>50^{\circ}</math>hortLypus nephritis<math>78</math><math>901</math>, <math>162</math>GFR &lt;<math>15</math>, <math>50^{\circ}</math>hortLypus nephropathy<math>861</math>, <math>60</math><math>280</math>, <math>145</math>RKThortLypus nephropathy<math>87</math><math>1040</math>, <math>241</math>RKThortLypus nephropathy<math>87</math><math>1040</math>, <math>241</math>RKThortLypus nephropathy<math> 131</math>, <math>22</math>RKThortLypus nephropathy<math> 1040</math>, <math>241</math>RKThortLypus nephropathy<math> 1040</math>, <math>241</math>RKT</td><td>hort         General CKD Stages 3-5"         -         28 779, 1730         RKT           hort         General CKD Stages 3-4         28         2402, 142         RKT           hort         General CKD Stages 3-4         25         2402, 142         RKT           hort         General CKD Stages 3-4         35         166, 57         9         RKT           ohot         General CKD Stages 3-5         349, 386         RKT         RKT           ohot         General CKD Stages 3-5         349, 386         RKT         Post           ohot         General CKD Stages 3-5         349, 386         RKT         Post           hort         General CKD Stages 3-5         353, 190         RKT         Post           hort         General CKD Stages 3-5         353, 148         RKT         Post           hort         General CKD Stages 3-5         353, 148         RKT         Post           hort         General CKD Stages 3-5         353, 148         RKT         Post           hort         General CKD Stages 3-5         5         344, 80         ESRD           hort         General CKD Stages 3-5         5         553, 148         FKT           hort         Lapus nephropathy         33</td><td>bhort         General CKD Stages 3-5°         -         28 779, 1730         RKT           bhort         General CKD Stages 3-4         28         2402, 142         RKT           bhort         General CKD Stages 3-5         -         16 656, 959         RKT           bhort         General CKD Stages 3-5         349, 386         RKT         RKT           ohort         General CKD Stages 3-5         35         186, 67         RKT           ohort         General CKD Stages 3-5         35         349, 386         RKT           ohort         General CKD Stages 3-5         35         349, 386         RKT           ohort         General CKD Stages 3-5         -         9782, 323         RKT           ohort         General CKD Stages 3-5         -         978, 146         RKT           ohort         General CKD Stages 3-5         -         978, 145         GFR &lt;15, 50%</td>           Diabetic nephropathy         33         861, 60         ESRD         40%, GF           Diabetic nephropathy         33         861, 60         ESRD         40%, GF           ohort         Iqpus nephritis         78         50%, 145         GFR &lt;15, 50%</t<> | cohort         General CKD Stages 3-5°         -         28 779, 1730         RKT           cohort         General CKD Stages 3-4         28         2402, 142         RKT           cohort         General CKD Stages 3-4         28         2402, 142         RKT           cohort         General CKD Stages 3-5         -         16 656, 959         RKT           cohort         General CKD Stages 3-5         36         3449, 386         RKT           cohort         General CKD Stages 3-5         36         3449, 386         RKT           cohort         General CKD Stages 3-5         36         3449, 386         RKT           cohort         General CKD Stages 3-5         36         3449, 386         RKT           cohort         General CKD Stages 3-5         36         344, 306         RKT           cohort         General CKD Stages 3-5         3861, 60         ESRD         RKT           cohort         General CKD Stages 3-5         363, 190         RKT         General CKD Stages 3-5           cohort         General CKD Stages 3-5         344, 80         SRD         General CKD Stages 3-5           cohort         General CKD Stages 3-5         344, 80         SRD         GeneRD           cohort   
  | cohort         General CKD Stages 3-5'         -         28 779, 1730         RKT           cohort         General CKD Stages 3-4         28         2402, 142         RKT           cohort         General CKD Stages 3-4         28         2402, 142         RKT           cohort         General CKD Stages 3-5         16 656, 959         RKT           ohort         General CKD Stages 3-5         36         3449, 386         RKT           cohort         General CKD Stages 3-5         36         3449, 386         RKT           cohort         General CKD Stages 3-5         36         3449, 386         RKT           cohort         General CKD Stages 3-5         36         3449, 386         RKT           cohort         General CKD Stages 3-5         36         344, 80         RKT           cohort         General CKD Stages 3-5         36         344, 80         RKT           cohort         General CKD Stages 3-5         36         344, 80         RKT           cohort         General CKD Stages 3-5         344, 80         RKT         50%           cohort         General CKD Stages 3-5         344, 80         RKT         50%           cohort         General CKD Stages 3-5         344, 80  
   | ohort General CKD Stages 3–5 <sup>c</sup> – 28.779, 1730 RKT<br>ohort General CKD Stages 3–4 28 2402, 142 RKT<br>ochort General CKD Stages 3–4 28 2402, 142 RKT<br>ohort General CKD Stages 3–5 25 186, 67 RKT<br>cohort General CKD Stages 3–5 36 3449, 386 RKT<br>cohort General CKD Stages 3–5 36 3449, 386 RKT<br>ohort General CKD Stages 3–5 382, 190 RKT<br>ohort General CKD Stages 3–5 382, 190 RKT<br>ohort General CKD Stages 3–5 344, 80 Stage<br>ohort General CKD Stages 3–5 344, 80 Stage<br>ohort General CKD Stages 3–5 344, 80 Stage<br>General CKD Stages 3–5 36 3449, 386 RKT<br>General CKD Stages 3–5 36 3449, 386 RKT<br>General CKD Stages 3–5 4 - 5541, 369 RKT<br>General CKD Stages 3–5 4 - 5441, 360 ESRD<br>dott General CKD Stages 3–5 4 - 131, 22 RKT<br>ohort IgA nephropathy 87 1040, 241 Time to ESRD<br>ohort IgA nephropathy 68 619, 67 ESRD<br>ohort IgA nephropathy 75 333, 45 RKT<br>cohort IgA nephropathy 75 333, 45 Death, RKT<br>cohort IgA nephropathy 75 995, 22 RKT<br>Dabetic nephropathy 75 995, 22 RKT<br>CMT Dabetic nephropathy 75 995, 22 RKT<br>CMT Dabetic nephropathy 75 995, 22 RKT<br>CMT Dabetic nephropathy 75 995, 22 RKT  | ohort         General CKD Stages $3-5^{\circ}$ - $28\ 779, 1730$ RKT           ohort         General CKD Stages $3-4^{\circ}$ 28 $2402, 142$ RKT           ohort         General CKD Stages $3-5^{\circ}$ - $166\ 56, 959$ RKT           ohott         General CKD Stages $3-5^{\circ}$ - $166\ 56, 959$ RKT           ohott         General CKD Stages $3-5$ 36 $3449$ , $386$ RKT           cohott         General CKD Stages $3-5$ 36 $3449$ , $386$ RKT           ohott         General CKD Stages $3-5$ 2 $382$ , $190$ RKT           ohott         General CKD Stages $3-5^{\circ}$ - $9782$ , $323$ RKT           ohott         General CKD Stages $3-5^{\circ}$ - $974$ , $30$ ESRD           ohott         General CKD Stages $3-5^{\circ}$ - $974$ , $30$ ESRD           ohott         General CKD Stages $3-5^{\circ}$ - $974$ , $406$ $678$ , $678$ ohott         General CKD Stages $3-5^{\circ}$ - $974$ , $400$ $E8RD$ ohott         Lapus tephropathy         861, $60$ ESRD $678$ <   
  | hortGeneral CKD Stages $3-5^{\circ}$ - $28$ $729$ , $1730$ RKThortGeneral CKD Stages $3-5^{\circ}$ - $2402$ , $142$ RKThortGeneral CKD Stages $3-5$ $25$ $166$ , $57$ RKThortGeneral CKD Stages $3-5$ $25$ $186$ , $57$ RKThortGeneral CKD Stages $3-5$ $36$ $349$ , $36$ RKThortGeneral CKD Stages $3-5$ $36$ $3449$ , $36$ RKThortGeneral CKD Stages $3-5^{\circ}$ $ 9782$ , $323$ RKThortLupus nephritis $78$ $901$ , $162$ GFR < $15$ , $50^{\circ}$ hortLypus nephritis $78$ $901$ , $162$ GFR < $15$ , $50^{\circ}$ hortLypus nephropathy $861$ , $60$ $280$ , $145$ RKThortLypus nephropathy $87$ $1040$ , $241$ RKThortLypus nephropathy $87$ $1040$ , $241$ RKThortLypus nephropathy $ 131$ , $22$ RKThortLypus nephropathy $ 1040$ , $241$ RKThortLypus nephropathy $ 1040$ , $241$ RKT  | hort         General CKD Stages 3-5"         -         28 779, 1730         RKT           hort         General CKD Stages 3-4         28         2402, 142         RKT           hort         General CKD Stages 3-4         25         2402, 142         RKT           hort         General CKD Stages 3-4         35         166, 57         9         RKT           ohot         General CKD Stages 3-5         349, 386         RKT         RKT           ohot         General CKD Stages 3-5         349, 386         RKT         Post           ohot         General CKD Stages 3-5         349, 386         RKT         Post           hort         General CKD Stages 3-5         353, 190         RKT         Post           hort         General CKD Stages 3-5         353, 148         RKT         Post           hort         General CKD Stages 3-5         353, 148         RKT         Post           hort         General CKD Stages 3-5         353, 148         RKT         Post           hort         General CKD Stages 3-5         5         344, 80         ESRD           hort         General CKD Stages 3-5         5         553, 148         FKT           hort         Lapus nephropathy         33   
  | bhort         General CKD Stages 3-5°         -         28 779, 1730         RKT           bhort         General CKD Stages 3-4         28         2402, 142         RKT           bhort         General CKD Stages 3-5         -         16 656, 959         RKT           bhort         General CKD Stages 3-5         349, 386         RKT         RKT           ohort         General CKD Stages 3-5         35         186, 67         RKT           ohort         General CKD Stages 3-5         35         349, 386         RKT           ohort         General CKD Stages 3-5         35         349, 386         RKT           ohort         General CKD Stages 3-5         -         9782, 323         RKT           ohort         General CKD Stages 3-5         -         978, 146         RKT           ohort         General CKD Stages 3-5         -         978, 145         GFR <15, 50%   | bort         General CKD Stages $3-5^{\circ}$ -         28 779, 1730         RRT           bort         General CKD Stages $3-4$ 28         2402, 142         RRT           bort         General CKD Stages $3-5$ 36         349, 386         RRT           bort         General CKD Stages $3-5$ 36         349, 386         RRT           bort         General CKD Stages $3-5$ 36         349, 386         RRT           bort         General CKD Stages $3-5$ 36         349, 386         RRT           bort         General CKD Stages $3-5$ 36         349, 386         RRT           bort         General CKD Stages $3-5$ -         952, 190         RRT           bort         General CKD Stages $3-5$ -         952, 323         RRT           bort         General CKD Stages $3-5$ -         952, 323         RRT           bort         General CKD Stages $3-5$ -         953, 148         676           central CKD Stages $3-5$ 2         344, 80         ESRD         40% GF           bort         General CKD Stages $3-5$ 861, 60         ESRD, 40% GF           bort         Lipus nephropathy         87         34   | JohottGeneral CKD Stages $3-5^c$ - $28.779, 1730$ RKTJohottGeneral CKD Stages $3-4$ $28$ $2402, 142$ RKTJohottGeneral CKD Stages $3-45$ $25$ $166.57$ RKTColontGeneral CKD Stages $3-5$ $25$ $186.77$ RKTCohottGeneral CKD Stages $3-5$ $36$ $349, 386$ RKTCohottGeneral CKD Stages $3-5$ $36$ $3449, 386$ RKTCohottGeneral CKD Stages $3-5^c$ $ 9782, 323$ RKTDabetic nephropathy $33$ $861, 60$ ESRD $496, GFRLipus nephritis78901, 162GFR < 15, 50%CohottIgA nephropathy 131, 22RKTJohottIgA nephropathy 1040, 241RKTJohottIgA nephropathy 1040, 241RKTJohottIgA nephropathy  205, -2RKTJohottIgA nephropathy  205, -2RKTJohottIgA nephropathy   205, -2RKTJohottIgA neph$  |
| ntre cohort General CKD Stages 3–4 28 2402, 142 RRT 1<br>ntre cohort General CKD Stages 3–5 <sup>°</sup> – 16 656, 959 RRT 1, 3, <b>5</b>  | ntre cohort General CKD Stages 3–4 28 2402, 142 RRT 1<br>ntre cohort General CKD Stages 3–5 <sup>c</sup> – 16 656, 959 RRT 1, 3, <b>5</b><br>centre cohort General CKD Stages 4 and 5 <sup>d</sup> 25 1866, 77 RRT 1  | ntre cohort General CKD Stages 3-4 28 2402, 142 RRT 1<br>ntre cohort General CKD Stages 3-5 <sup>6</sup> - 16 656, 959 RRT 1, 3, 5<br>centre cohort General CKD Stages 4 and 5 <sup>d</sup> 25 1866, 77 RRT 1<br>ntre cohort General CKD Stages 3 and 4 32 158, 40 Death, RKT 2   | ntre cohort         General CKD Stages 3-4         28         2402, 142         RKT         1           ntre cohort         General CKD Stages 3-5 <sup>c</sup> -         16.656, 959         RKT         1, 3, 5           entre cohort         General CKD Stages 3-5 <sup>c</sup> -         16.656, 959         RKT         1, 3, 5           entre cohort         General CKD Stages 3-4d 5 <sup>d</sup> 25         1866, 77         RKT         1           ntre cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           ante cohort         General CKD Stages 3 and 4         32         138, 40         Death, RKT         2   | ntre cohort         General CKD Stages 3-4         28         2402, 142         RRT         1           ntre cohort         General CKD Stages 3-5 <sup>5</sup> -         16 656, 959         RRT         1, 3, 5           ntre cohort         General CKD Stages 3-5 <sup>5</sup> -         16 656, 959         RRT         1, 3, 5           ntre cohort         General CKD Stages 3-5 <sup>5</sup> -         16 656, 959         RRT         1, 3, 5           intre cohort         General CKD Stages 3 and 4         32         158, 40         Death, RRT         2           intre cohort         General CKD Stages 3-5         36         3449, 386         RRT         1, 3, 5           centre cohort         General CKD Stages 3-5         36         342, 380         RRT         1, 3, 5  | ntre cohort         General CKD Stages 3-4         28         2402, 142         RRT         1           ntre cohort         General CKD Stages 3-5 <sup>5</sup> -         16 656, 959         RRT         1, 3, 5           .entre cohort         General CKD Stages 3-5 <sup>5</sup> -         16 656, 959         RRT         1, 3, 5           .entre cohort         General CKD Stages 3-5 <sup>5</sup> -         16 656, 959         RRT         1, 3, 5           .entre cohort         General CKD Stages 3-5         36         3449, 386         RRT         1, 3, 5           .entre cohort         General CKD Stages 3-5         36         3449, 386         RRT         1, 3, 5           .entre cohort         General CKD Stages 3-5         36         3449, 386         RRT         1, 3, 5           .entre cohort         General CKD Stages 3-5         32         322, 190         RRT         1, 3, 5  
  | after cohort         General CKD Stages 3-4         28         2402, 142         RRT         1           after cohort         General CKD Stages 3-5 <sup>°</sup> -         16.656, 959         RRT         1, 3, 5           entre cohort         General CKD Stages 3-5 <sup>°</sup> -         16.656, 959         RRT         1, 3, 5           attre cohort         General CKD Stages 3-4d         22         1866, 77         RRT         1         1, 3, 5           attre cohort         General CKD Stages 3-5         36         3449, 386         RRT         1, 3, 5           entre cohort         General CKD Stages 3-5         36         3449, 386         RRT         1, 3, 5           entre cohort         General CKD Stages 3-5         36         3449, 386         RRT         1, 3, 5           attre cohort         General CKD Stages 3-5         36         3449, 386         RRT         1, 3, 5           attre cohort         General CKD Stages 3-5 <sup>°</sup> -         9782, 333         RRT         5   
   
   | Itre cohort         General CKD Stages 3-4         28         2402,142         RKT         1           tree cohort         General CKD Stages 3-5 <sup>c</sup> -         16.656,959         RKT         1,3,5           ante cohort         General CKD Stages 3-5 <sup>c</sup> -         16.656,959         RKT         1,3,5           inte cohort         General CKD Stages 3-4d         32         158,40         Death, RKT         2           inte cohort         General CKD Stages 3-5         36         3449,386         RKT         1,3,5           ante cohort         General CKD Stages 3-5         36         3449,386         RKT         1,3,5           ante cohort         General CKD Stages 3-5         36         3449,386         RKT         2         3,5           itre cohort         General CKD Stages 3-5         2         382,190         RKT         5           otter cohort         General CKD Stages 3-5 <sup>a</sup> -         6541,369         RKT         5           ctre cohort         General CKD Stages 3-5 <sup>a</sup> -         6541,369         RKT         5  
   
   
   | re cohort         General CKD Stages 3-4         28         2402, 142         RKT         1           re cohort         General CKD Stages 3-5 <sup>c</sup> -         16 656, 959         RKT         1, 3, 5           tre cohort         General CKD Stages 3-5 <sup>c</sup> -         16 656, 959         RKT         1, 3, 5           tre cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           tre cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           tre cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           tre cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           tre cohort         General CKD Stages 3-5         36         349, 386         RKT         5           tre cohort         General CKD Stages 3-5 <sup>d</sup> -         6541, 369         RKT         5           re cohort         General CKD Stages 3-5 <sup>d</sup> -         6541, 369         RKT         5           re cohort         General CKD Stages 3-5 <sup>d</sup> -         6541, 369         RKT         5           re cohort         General CKD Stages 3-5 <sup>d</sup>   
   
  | re cohort         General CKD Stages 3-4         28         2402, 142         RRT         1           re cohort         General CKD Stages 3-5 <sup>c</sup> -         16 656, 959         RKT         1, 3, 5           tre cohort         General CKD Stages 3-5 <sup>c</sup> -         16 656, 959         RKT         1, 3, 5           tre cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           tre cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           tre cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           tre cohort         General CKD Stages 3-5         22         382, 190         RKT         2         -           tre cohort         General CKD Stages 3-5 <sup>c</sup> -         9782, 323         RKT         5         -           tre cohort         General CKD Stages 3-5 <sup>c</sup> -         6541, 369         RKT         5         -           tre cohort         General CKD Stages 3-5 <sup>c</sup> -         6541, 369         RKT         5         -           tre cohort         General CKD Stages 3-5 <sup>c</sup> -         6541, 369         RKT         5         -  | c colort         General CKD Stages 3-4         28         2402, 142         Rtf         1           c colort         General CKD Stages 3-5 <sup>c</sup> -         16 656, 959         Rtf         1, 3, 5           tre colort         General CKD Stages 3-5 <sup>c</sup> -         16 656, 959         Rtf         1, 3, 5           tre colort         General CKD Stages 3-5         36         349, 386         Rtf         1, 3, 5           tre colort         General CKD Stages 3-5         36         349, 386         Rtf         1, 3, 5           tre colort         General CKD Stages 3-5         36         349, 386         Rtf         1, 3, 5           tre colort         General CKD Stages 3-5         22         382, 190         Rtf         1, 3, 5           tre colort         General CKD Stages 3-5         -         9782, 323         Rtf         5           e colort         General CKD Stages 3-5 <sup>c</sup> -         538, 190         Rtf         5           e colort         General CKD Stages 3-5 <sup>c</sup> -         5382, 190         Rtf         5           e colort         General CKD Stages 3-5 <sup>c</sup> -         538, 190         Rtf         5           e colort         General CKD Stages 3-5 <sup>c</sup> -   
  | cohort         General CKD Stages 3-4         28         2402,142         RKT         1           cohort         General CKD Stages 3-5 <sup>5</sup> -         16,656,959         RKT         1,3,5           ecohort         General CKD Stages 3-5 <sup>5</sup> -         16,656,959         RKT         1,3,5           ecohort         General CKD Stages 3 and 4         22         138,40         Death, RKT         2           ecohort         General CKD Stages 3 and 4         23         138,40         Death, RKT         2           ecohort         General CKD Stages 3-5         36         349,386         RKT         1,3,5           ecohort         General CKD Stages 3-5         2         232,190         RKT         2        
  ecohort         General CKD Stages 3-5 <sup>5</sup> -         978,333         RKT         5           ecohort         General CKD Stages 3-5 <sup>5</sup> -         978,333         RKT         5           ecohort         General CKD Stages 3-5 <sup>5</sup> -         974,369         RKT         5           ferenal CKD Stages 3-5 <sup>5</sup> -         974,369         RKT         5         5           ferenal CKD Stages 3-5 <sup>5</sup> -         -         974,369         RKT  
   | cohort         General CKD Stages 3-4         28         2402, 142         RKT         1           cohort         General CKD Stages 3-5'         -         16 656, 959         RKT         1, 3, 5           cohort         General CKD Stages 3-4         25         186, 77         RKT         1, 3, 5           cohort         General CKD Stages 3-4         32         188, 40         Death, RKT         2           cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5           e cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5           e cohort         General CKD Stages 3-5         2         2         382, 190         RKT         1, 3, 5           cohort         General CKD Stages 3-5         3         344, 80         RKT         5           cohort         General CKD Stages 3-5         -         0,733         RKT         5           cohort         General CKD Stages 3-5         -         0,733         RKT         5           cohort         General CKD Stages 3-5         -         0,744, 80         -         5           cohort         General CKD Stages 3-5         -         0,744, 80         - </td <td>cohort         General CKD Stages 3-4         28         240.2, 142         RKT         1           cohort         General CKD Stages 3-5'         -         16.656,959         RKT         1, 3, 5           cohort         General CKD Stages 3-5'         -         16.656,959         RKT         1, 3, 5           cohort         General CKD Stages 3-4d         32         1386,67         RKT         1, 3, 5           e cohort         General CKD Stages 3-5         36         3449,386         RKT         2           e cohort         General CKD Stages 3-5         35         349,386         RKT         2           e cohort         General CKD Stages 3-5'         -         978,333         RKT         2         2           c cohort         General CKD Stages 3-5'         -         978,333         RKT         5         5           c cohort         General CKD Stages 3-5'         -         6541,369         RKT         5         5           c cohort         General CKD Stages 3-5'         -         6541,369         RKT         5         5           c cohort         General CKD Stages 3-5'         -         6541,369         RKT         5         5           c cohort         General</td> <td>cohort         General CKD Stages 3-4         28         240.142         RRT         1           cohort         General CKD Stages 3-5'         -         16.656,959         RRT         1,3,5           cohort         General CKD Stages 3-5'         -         16.656,959         RRT         1,3,5           cohort         General CKD Stages 3 and 4'         2         138,40         Dauh, RKT         2           cohort         General CKD Stages 3 and 4'         -         932,190         RKT         1,3,5           cohort         General CKD Stages 3 and 4'         -         932,333         RKT         2           cohort         General CKD Stages 3 and 4'         -         932,333         RKT         2         1,3,5           cohort         General CKD Stages 3 and 4''         -         932,369         RKT         2         2           cohort         General CKD Stages 3 and 4''         -         932,369         RKT         5         5           cohort         General CKD Stages 3-5''         -         6541,369         RKT         5         5           cohort         General CKD Stages 3-5''         -         6541,369         RKT         5         5           cohort         <td< td=""><td>cohort         General CKD Stages 3-4         28         240.142         RRT         1           cohort         General CKD Stages 3-5'         -         16.656,959         RRT         1,3,5          
cohort         General CKD Stages 3-4'         25         16.656,959         RRT         1,3,5           cohort         General CKD Stages 3 and 4'         2         158,40         Danh, RKT         2           cohort         General CKD Stages 3 and 4'         -         978,333         RKT         2           cohort         General CKD Stages 3 and 4'         -         978,333         RKT         2           cohort         General CKD Stages 3 and 4'         -         978,333         RKT         2           cohort         General CKD Stages 3 and 4''         -         978,356         RKT         1,3,5           cohort         General CKD Stages 3 and 4''         -         978,369         RKT         2           cohort         General CKD Stages 3 and 4''         -         978,369         RKT         5           cohort         General CKD Stages 3-5''         -         6541,369         RKT         5           cohort         Lupus nephritis         78         344,80         599,145</td><td>cohort         General CKD Stages 3-4         28         240,142         RRT         1           cohort         General CKD Stages 3-5         -         16656,595         RRT         1,3,5           cohort         General CKD Stages 3-5         -         16656,595         RRT         1,3,5           cohort         General CKD Stages 3-5         -         16656,595         RRT         1,3,5           cohort         General CKD Stages 3-5         -         3449,386         RRT         1,3,5           cohort         General CKD Stages 3-5         -         3449,386         RRT         1,3,5           cohort         General CKD Stages 3-5         -         9449,386         RRT         1,3,5           cohort         General CKD Stages 3-5         -         9449,386         RRT         1,3,5           cohort         General CKD Stages 3-5         -         541,369         RRT         1,3,5           cohort         General CKD Stages 3-5         -         541,369         RRT         5           cohort         General CKD Stages 3-5         -         541,369         RRT         5           cohort         General CKD Stages 3-5         -         541,369         RRT         5     <td>obort         General CKD Stages 3-4         28         2402,142         RKT         1           cohort         General CKD Stages 3-5         -         16.656,595         RKT         1,3,5           cohort         General CKD Stages 3-5         -         16.656,595         RKT         1,3,5           cohort         General CKD Stages 3-5         32         138,40         Danh, RKT         2           cohort         General CKD Stages 3-5         36         3449,386         RKT         1,3,5           cohort         General CKD Stages 3-5         36         3449,386         RKT         2           cohort         General CKD Stages 3-6         -         953,1369         RKT         2         1,3,5           cohort         General CKD Stages 3 and 4°         -         9782,333         RKT         2         2           cohort         General CKD Stages 3-5°         -         6541,369         RKT         5         2           cohort         General CKD Stages 3-6°         -         978,156         RKT         5         2           cohort         General CKD Stages 3-5°         -         6541,369         RKT         5         2           cohort         General CKD Stages 3-5</td><td>ohort         General CKD Stages 3-4         28         2402, 142         RKT         1           ohort         General CKD Stages 3-5         -         16.656, 959         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4         32         198.6, 77         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4         32         198, 40         Death, RKT         2           cohort         General CKD Stages 3 and 4         32         198, 40         Death, RKT         2           cohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         1, 3, 5           cohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 -5<sup>st</sup>         -         978, 44, 80         ESRD         5           ohort         Lupus nephritis         78         9</td><td>ohort         General CKD Stages 3-4         28         2402, 142         RKT         1           ohort         General CKD Stages 3-5<sup>6</sup>         -         16 656, 959         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4         2         158, 40         Death, RKT         2           ohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           ohort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 323         RKT         1, 3, 5           ocolort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 333         8         1, 3, 5           ochort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 336         RKT         1, 3, 5           ochort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 306         RKT         5           ohort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 336         RKT         5           ohort         Lapusupupupty         344, 80         ESR</td><td></td><td></td><td></td><td>bort         General CKD Stages <math>3-4</math>         28         <math>2402, 142</math>         RKT         1           bort         General CKD Stages <math>3-5^{\circ}</math>         -         16 656, 959         RKT         1, 3, 5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         16 656, 959         RKT         1, 3, 5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         158, 40         Death, RKT         2           bort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         RKT         1, 3, 5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         RKT         5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         RKT         5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         RKT         5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         974, 80         ESRD         -           bort         Lupus nephritis         78         344, 80         ESRD         -         -           bort         Lupus nephritis         78         509, 145         RKT, 50% GFR <math>1, -         -         -           bort         Lupus nephritis         7         &lt;</math></td><td></td></td></td<></td>   
   | cohort         General CKD Stages 3-4         28         240.2, 142         RKT         1           cohort         General CKD Stages 3-5'         -         16.656,959         RKT         1, 3, 5           cohort         General CKD Stages 3-5'         -         16.656,959         RKT         1, 3, 5           cohort         General CKD Stages 3-4d         32         1386,67         RKT         1, 3, 5           e cohort         General CKD Stages 3-5         36         3449,386         RKT         2           e cohort         General CKD Stages 3-5         35         349,386         RKT         2           e cohort         General CKD Stages 3-5'         -         978,333         RKT         2         2           c cohort         General CKD Stages 3-5'         -         978,333         RKT         5         5           c cohort         General CKD Stages 3-5'         -         6541,369         RKT         5         5           c cohort         General CKD Stages 3-5'         -         6541,369         RKT         5         5           c cohort         General CKD Stages 3-5'         -         6541,369         RKT         5         5           c cohort         General   
  | cohort         General CKD Stages 3-4         28         240.142         RRT         1           cohort         General CKD Stages 3-5'         -         16.656,959         RRT         1,3,5           cohort         General CKD Stages 3-5'         -         16.656,959         RRT         1,3,5           cohort         General CKD Stages 3 and 4'         2         138,40         Dauh, RKT         2           cohort         General CKD Stages 3 and 4'         -         932,190         RKT         1,3,5           cohort         General CKD Stages 3 and 4'         -         932,333         RKT         2           cohort         General CKD Stages 3 and 4'         -         932,333         RKT         2         1,3,5           cohort         General CKD Stages 3 and 4''         -         932,369         RKT         2         2           cohort         General CKD Stages 3 and 4''         -         932,369         RKT         5         5           cohort         General CKD Stages 3-5''         -         6541,369         RKT         5         5           cohort         General CKD Stages 3-5''         -         6541,369         RKT         5         5           cohort <td< td=""><td>cohort         General CKD Stages 3-4         28         240.142         RRT         1           cohort         General CKD Stages 3-5'         -         16.656,959         RRT         1,3,5           cohort         General CKD Stages 3-4'         25         16.656,959         RRT         1,3,5           cohort         General CKD Stages 3 and 4'         2         158,40         Danh, RKT         2           cohort         General CKD Stages 3 and 4'         -         978,333         RKT         2           cohort         General CKD Stages 3 and 4'         -         978,333         RKT         2           cohort         General CKD Stages 3 and 4'         -         978,333         RKT         2           cohort         General CKD Stages 3 and 4''         -         978,356         RKT         1,3,5           cohort         General CKD Stages 3 and 4''         -         978,369         RKT         2           cohort         General CKD Stages 3 and 4''         -         978,369         RKT         5           cohort         General CKD Stages 3-5''         -         6541,369         RKT         5           cohort         Lupus nephritis         78         344,80         599,145</td><td>cohort         General CKD Stages 3-4         28         240,142         RRT         1           cohort         General CKD Stages 3-5         -         16656,595         RRT         1,3,5           cohort         General CKD Stages 3-5         -         16656,595         RRT         1,3,5           cohort         General CKD Stages 3-5         -         16656,595         RRT         1,3,5           cohort         General CKD Stages 3-5         -         3449,386         RRT         1,3,5           cohort         General CKD Stages 3-5         -         3449,386         RRT         1,3,5           cohort         General CKD Stages 3-5         -         9449,386         RRT         1,3,5           cohort         General CKD Stages 3-5         -         9449,386         RRT         1,3,5           cohort         General CKD Stages 3-5         -         541,369         RRT         1,3,5           cohort         General CKD Stages 3-5         -         541,369         RRT         5           cohort         General CKD Stages 3-5         -         541,369         RRT         5           cohort         General CKD Stages 3-5         -         541,369         RRT         5     <td>obort         General CKD Stages 3-4         28         2402,142         RKT         1           cohort         General CKD Stages 3-5         -         16.656,595         RKT        
1,3,5           cohort         General CKD Stages 3-5         -         16.656,595         RKT         1,3,5           cohort         General CKD Stages 3-5         32         138,40         Danh, RKT         2           cohort         General CKD Stages 3-5         36         3449,386         RKT         1,3,5           cohort         General CKD Stages 3-5         36         3449,386         RKT         2           cohort         General CKD Stages 3-6         -         953,1369         RKT         2         1,3,5           cohort         General CKD Stages 3 and 4°         -         9782,333         RKT         2         2           cohort         General CKD Stages 3-5°         -         6541,369         RKT         5         2           cohort         General CKD Stages 3-6°         -         978,156         RKT         5         2           cohort         General CKD Stages 3-5°         -         6541,369         RKT         5         2           cohort         General CKD Stages 3-5</td><td>ohort         General CKD Stages 3-4         28         2402, 142         RKT         1           ohort         General CKD Stages 3-5         -         16.656, 959         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4         32         198.6, 77         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4         32         198, 40         Death, RKT         2           cohort         General CKD Stages 3 and 4         32         198, 40         Death, RKT         2           cohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         1, 3, 5           cohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 -5<sup>st</sup>         -         978, 44, 80         ESRD         5           ohort         Lupus nephritis         78         9</td><td>ohort         General CKD Stages 3-4         28         2402, 142         RKT         1           ohort         General CKD Stages 3-5<sup>6</sup>         -         16 656, 959         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4         2         158, 40         Death, RKT         2           ohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           ohort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 323         RKT         1, 3, 5           ocolort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 333         8         1, 3, 5           ochort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 336         RKT         1, 3, 5           ochort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 306         RKT         5           ohort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 336         RKT         5           ohort         Lapusupupupty         344, 80         ESR</td><td></td><td></td><td></td><td>bort         General CKD Stages <math>3-4</math>         28         <math>2402, 142</math>         RKT         1           bort         General CKD Stages <math>3-5^{\circ}</math>         -         16 656, 959         RKT         1, 3, 5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         16 656, 959         RKT         1, 3, 5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         158, 40         Death, RKT         2           bort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         RKT         1, 3, 5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         RKT         5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         RKT         5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         RKT         5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         974, 80         ESRD         -           bort         Lupus nephritis         78         344, 80         ESRD         -         -           bort         Lupus nephritis         78         509, 145         RKT, 50% GFR <math>1, -         -         -           bort         Lupus nephritis         7         &lt;</math></td><td></td></td></td<> | cohort         General CKD Stages 3-4         28         240.142         RRT         1           cohort         General CKD Stages 3-5'         -         16.656,959         RRT         1,3,5           cohort         General CKD Stages 3-4'         25         16.656,959         RRT         1,3,5           cohort         General CKD Stages 3 and 4'         2         158,40         Danh, RKT         2           cohort         General CKD Stages 3 and 4'         -         978,333         RKT         2           cohort         General CKD Stages 3 and 4'         -         978,333         RKT         2           cohort         General CKD Stages 3 and 4'         -         978,333         RKT         2           cohort         General CKD Stages 3 and 4''         -         978,356         RKT         1,3,5           cohort         General CKD Stages 3 and 4''         -         978,369         RKT         2           cohort         General CKD Stages 3 and 4''         -         978,369         RKT         5           cohort         General CKD Stages 3-5''         -         6541,369         RKT         5           cohort         Lupus nephritis         78         344,80         599,145  
  | cohort         General CKD Stages 3-4         28         240,142         RRT         1           cohort         General CKD Stages 3-5         -         16656,595         RRT         1,3,5           cohort         General CKD Stages 3-5         -         16656,595         RRT         1,3,5           cohort         General CKD Stages 3-5         -         16656,595         RRT         1,3,5           cohort         General CKD Stages 3-5         -         3449,386         RRT         1,3,5           cohort         General CKD Stages 3-5         -         3449,386         RRT         1,3,5           cohort         General CKD Stages 3-5         -         9449,386         RRT         1,3,5           cohort         General CKD Stages 3-5         -         9449,386         RRT         1,3,5           cohort         General CKD Stages 3-5         -         541,369         RRT         1,3,5           cohort         General CKD Stages 3-5         -         541,369         RRT         5           cohort         General CKD Stages 3-5         -         541,369         RRT         5           cohort         General CKD Stages 3-5         -         541,369         RRT         5 <td>obort         General CKD Stages 3-4         28         2402,142         RKT         1           cohort         General CKD Stages 3-5         -         16.656,595         RKT         1,3,5           cohort         General CKD Stages 3-5         -         16.656,595         RKT         1,3,5           cohort         General CKD Stages 3-5         32         138,40         Danh, RKT         2           cohort         General CKD Stages 3-5         36         3449,386         RKT         1,3,5           cohort         General CKD Stages 3-5         36         3449,386         RKT         2           cohort         General CKD Stages 3-6         -         953,1369         RKT         2         1,3,5           cohort         General CKD Stages 3 and 4°         -         9782,333         RKT         2         2           cohort         General CKD Stages 3-5°         -         6541,369         RKT         5         2           cohort         General CKD Stages 3-6°         -         978,156         RKT         5         2           cohort         General CKD Stages 3-5°         -         6541,369         RKT         5         2           cohort         General CKD Stages 3-5</td> <td>ohort         General CKD Stages 3-4         28         2402, 142         RKT         1           ohort         General CKD Stages 3-5         -         16.656, 959         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4         32         198.6, 77         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4         32         198, 40         Death, RKT         2           cohort         General CKD Stages 3 and 4         32         198, 40         Death, RKT         2           cohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         1, 3, 5           cohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4<sup>st</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 -5<sup>st</sup>         -         978, 44, 80         ESRD         5           ohort         Lupus nephritis         78         9</td> <td>ohort         General CKD Stages 3-4         28         2402, 142         RKT         1           ohort         General CKD Stages 3-5<sup>6</sup>         -         16 656, 959         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4         2         158, 40         Death, RKT         2           ohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           ohort         General CKD Stages 3 and 4<sup>4</sup>     
   -         978, 323         RKT         1, 3, 5           ocolort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 333         8         1, 3, 5           ochort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 336         RKT         1, 3, 5           ochort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 306         RKT         5           ohort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4<sup>4</sup>         -         978, 336         RKT         5           ohort         Lapusupupupty         344, 80         ESR</td> <td></td> <td></td> <td></td> <td>bort         General CKD Stages <math>3-4</math>         28         <math>2402, 142</math>         RKT         1           bort         General CKD Stages <math>3-5^{\circ}</math>         -         16 656, 959         RKT         1, 3, 5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         16 656, 959         RKT         1, 3, 5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         158, 40         Death, RKT         2           bort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         RKT         1, 3, 5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         RKT         5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         RKT         5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         972, 323         RKT         5           bort         General CKD Stages <math>3-5^{\circ}</math>         -         974, 80         ESRD         -           bort         Lupus nephritis         78         344, 80         ESRD         -         -           bort         Lupus nephritis         78         509, 145         RKT, 50% GFR <math>1, -         -         -           bort         Lupus nephritis         7         &lt;</math></td> <td></td> | obort         General CKD Stages 3-4         28         2402,142         RKT         1           cohort         General CKD Stages 3-5         -         16.656,595         RKT         1,3,5           cohort         General CKD Stages 3-5         -         16.656,595         RKT         1,3,5           cohort         General CKD Stages 3-5         32         138,40         Danh, RKT         2           cohort         General CKD Stages 3-5         36         3449,386         RKT         1,3,5           cohort         General CKD Stages 3-5         36         3449,386         RKT         2           cohort         General CKD Stages 3-6         -         953,1369         RKT         2         1,3,5           cohort         General CKD Stages 3 and 4°         -         9782,333         RKT         2         2           cohort         General CKD Stages 3-5°         -         6541,369         RKT         5         2           cohort         General CKD Stages 3-6°         -         978,156         RKT         5         2           cohort         General CKD Stages 3-5°         -         6541,369         RKT         5         2           cohort         General CKD Stages 3-5   
   | ohort         General CKD Stages 3-4         28         2402, 142         RKT         1           ohort         General CKD Stages 3-5         -         16.656, 959         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4         32         198.6, 77         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4         32         198, 40         Death, RKT         2           cohort         General CKD Stages 3 and 4         32         198, 40         Death, RKT         2           cohort         General CKD Stages 3 and 4 <sup>st</sup> -         978, 336         RKT         1, 3, 5           cohort         General CKD Stages 3 and 4 <sup>st</sup> -         978, 336         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4 <sup>st</sup> -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4 <sup>st</sup> -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4 <sup>st</sup> -         978, 336         RKT         5           ohort         General CKD Stages 3 -5 <sup>st</sup> -         978, 44, 80         ESRD         5           ohort         Lupus nephritis         78         9   | ohort         General CKD Stages 3-4         28         2402, 142         RKT         1           ohort         General CKD Stages 3-5 <sup>6</sup> -         16 656, 959         RKT         1, 3, 5           ohort         General CKD Stages 3 and 4         2         158, 40         Death, RKT         2           ohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           ohort         General CKD Stages 3 and 4 <sup>4</sup> -         978, 323         RKT         1, 3, 5           ocolort         General CKD Stages 3 and 4 <sup>4</sup> -         978, 333         8         1, 3, 5           ochort         General CKD Stages 3 and 4 <sup>4</sup> -         978, 336         RKT         1, 3, 5           ochort         General CKD Stages 3 and 4 <sup>4</sup> -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4 <sup>4</sup> -         978, 306         RKT         5           ohort         General CKD Stages 3 and 4 <sup>4</sup> -         978, 336         RKT         5           ohort         General CKD Stages 3 and 4 <sup>4</sup> -         978, 336         RKT         5           ohort         Lapusupupupty         344, 80         ESR             
   |  |  
   |   | bort         General CKD Stages $3-4$ 28 $2402, 142$ RKT         1           bort         General CKD Stages $3-5^{\circ}$ -         16 656, 959         RKT         1, 3, 5           bort         General CKD Stages $3-5^{\circ}$ -         16 656, 959         RKT         1, 3, 5           bort         General CKD Stages $3-5^{\circ}$ -         158, 40         Death, RKT         2           bort         General CKD Stages $3-5^{\circ}$ -         972, 323         RKT         1, 3, 5           bort         General CKD Stages $3-5^{\circ}$ -         972, 323         RKT         5           bort         General CKD Stages $3-5^{\circ}$ -         972, 323         RKT         5           bort         General CKD Stages $3-5^{\circ}$ -         972, 323         RKT         5           bort         General CKD Stages $3-5^{\circ}$ -         974, 80         ESRD         -           bort         Lupus nephritis         78         344, 80         ESRD         -         -           bort         Lupus nephritis         78         509, 145         RKT, 50% GFR $1, -         -         -           bort         Lupus nephritis         7         <$  |   |
| ntre cohort General CKD Stages 3–5 <sup>c</sup> – 16 656, 959 RRT 1, 3, 5  | atre cohort General CKD Stages 3–5 <sup>c</sup> – 16 656, 959 RKT 1, 3, <b>5</b><br>entre cohort General CKD Stages 4 and 5 <sup>d</sup> 25 1866, 77 RKT 1  | tre cohort General CKD Stages 3–5 <sup>c</sup> – 16 656, 959 RRT 1, 3, 5<br>entre cohort General CKD Stages 4 and 5 <sup>d</sup> 25 1866, 77 RRT 1<br>intre cohort General CKD Stages 3 and 4 32 158, 40 Death, RRT 2   | itre cohort General CKD Stages 3–5 <sup>c</sup> – 16 656, 959 RKT 1, 3, 5<br>entre cohort General CKD Stages 4 and 5 <sup>d</sup> 25 1866, 77 RKT 1<br>inte cohort General CKD Stages 3 and 4 32 158, 40 Death, RKT 2<br>entre cohort General CKD Stages 3–5 36 3449, 386 RKT 1, 3, 5  | tte cohort General CKD Stages 3–5° – 16 656, 959 RKT 1, 3, 5<br>entre cohort General CKD Stages 4 and 5° 25 1866, 77 RKT 1<br>ntre cohort General CKD Stages 3 and 4 32 158, 40 Death, RKT 2<br>entre cohort General CKD Stages 3–5 36 3449, 386 RKT 1, 3, 5<br>entre cohort General CKD Stages 3–5 22 382, 190 RKT –  | itre cohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1, 3, 5           entre cohort         General CKD Stages 4 and 5"         25         1866, 77         RKT         1           atte cohort         General CKD Stages 4 and 5"         25         1866, 77         RKT         1           atte cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           entre cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           entre cohort         General CKD Stages 3-5         32         322, 190         RKT         -           ntre cohort         General CKD Stages 3-5         22         382, 323         RKT         -         -  
  | itre cohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1, 3, 5           antre cohort         General CKD Stages 4 and 5"         25         1866, 77         RKT         1           atre cohort         General CKD Stages 4 and 5"         25         1866, 77         RKT         1           atre cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           antre cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           entre cohort         General CKD Stages 3-5         36         3429, 336         RKT         1, 3, 5           attre cohort         General CKD Stages 3-5         22         382, 190         RKT         -           attre cohort         General CKD Stages 3-5"         -         978, 333         RKT         5   
   
   | Itre cohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1, 3, 5           nitre cohort         General CKD Stages 4 and 5"         25         1866, 77         RKT         1           nitre cohort         General CKD Stages 4 and 5"         25         1866, 77         RKT         1           nitre cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           nitre cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           nitre cohort         General CKD Stages 3-5         36         349, 366         RKT         1, 3, 5           nitre cohort         General CKD Stages 3-5         22         382, 190         RKT         5           tire cohort         General CKD Stages 3-5"         -         6541, 369         RKT         5           General CKD GFR 20-70         43         344, 80         ESRD         -         5   
   
   
   | Te cohort         General CKD Stages 3-5"         -         16 655, 959         RKT         1,3,5           tre cohort         General CKD Stages 4 and 5"         25         1866, 77         RKT         1           re cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           tre cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5           titre cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5           titre cohort         General CKD Stages 3-5         36         344, 30         RKT         5           titre cohort         General CKD Stages 3 and 4"         -         9782, 323         RKT         5           tre cohort         General CKD Stages 3-5"         -         6441, 369         RKT         5           tre cohort         General CKD Stages 3-5"         -         6441, 369         RKT         5           tre cohort         General CKD Stages 3-5"         -         6441, 369         RKT         5           tre cohort         General CKD GFR 20-70         43         344, 80         ESRD         -   
   
  | re cohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1,3,5           tree cohort         General CKD Stages 4 and 5"         25         1866, 77         RKT         1           re cohort         General CKD Stages 4 and 5"         25         1866, 77         RKT         1           re cohort         General CKD Stages 3-5         36         3449, 386         RKT         2           itre cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5           itre cohort         General CKD Stages 3-5         36         3449, 386         RKT         2           re cohort         General CKD Stages 3-5"         -         978, 323         RKT         5           re cohort         General CKD Stages 3-5"         -         6541, 369         RKT         5           re cohort         General CKD Stages 3-5"         -         6541, 369         RKT         5           re cohort         General CKD GFR 20-70         43         344, 80         ESRD         -           Diabetic nephropathy         33         861, 60         ESRD         -         -           Diabetic nephropathy         33         599, 145         RK7, 50% GFR 1   | e cohort         General CKD Stages 3–5'         -         16 656, 959         RKT         1,3,5           tre cohort         General CKD Stages 4 and 5'         25         1866, 77         RKT         1           'e cohort         General CKD Stages 4 and 5'         25         1866, 77         RKT         1           'e cohort         General CKD Stages 3–5         36         3449, 386         RKT         1, 3, 5           tre cohort         General CKD Stages 3–5         36         3449, 386         RKT         1, 3, 5           tre cohort         General CKD Stages 3–5         22         382, 190         RKT         2           e cohort         General CKD Stages 3–5'         -         9782, 323         RKT         5           e cohort         General CKD Stages 3–5'         -         6541, 369         RKT         5           e cohort         General CKD Stages 3–5'         -         6541, 369         RKT         5           e cohort         General CKD Stages 3–5'         -         6541, 369         RKT         5           e cohort         General CKD Stages 3–5'         -         6541, 369         RKT         5           e cohort         General CKD Stages 3–5'         -         6541, 369 <td>cohort         General CKD Stages 3–5<sup>c</sup>         -         16 656, 959         RKT         1,3,5           re cohort         General CKD Stages 4 and 5<sup>d</sup>         25         1866,77         RKT         1           cohort         General CKD Stages 4 and 5<sup>d</sup>         25         1866,77         RKT         1           cohort         General CKD Stages 3–5         36         349,386         RKT         1,3,5           re cohort         General CKD Stages 3–5         36         349,386         RKT         1,3,5           re cohort         General CKD Stages 3–5         36         949,386         RKT         1,3,5           re cohort         General CKD Stages 3–5         22         382,190         RKT         1,3,5           re cohort         General CKD Stages 3–5<sup>d</sup>         -         9782,323         RKT         5           cohort         General CKD Stages 3–5<sup>d</sup>         -         973,369         RKT         5           cohort         General CKD Stages 3–5<sup>d</sup>         -         973,369         RKT         5           cohort         General CKD Stages 3–5<sup>d</sup>         -         973,369         RKT         5           cohort         General CKD Stages 3–5<sup>d</sup>         -         974,80         5</td> <td>cohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1,3,5           ecohort         General CKD Stages 3 and 4         25         1866, 77         RKT         1           cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           cohort         General CKD Stages 3-5         36         349, 386         RKT         1,3,5           ecohort         General CKD Stages 3-5         36         349,386         RKT         1,3,5           ecohort         General CKD Stages 3-5         36         349,386         RKT         1,3,5           ecohort         General CKD Stages 3-5         22         382,190         RKT         2         2           cohort         General CKD Stages 3-5*         -         9782,323         RKT         5         5           cohort         General CKD Stages 3-5*         -         974,360         RKT         5         5           cohort         General CKD Stages 3-5*         -         973,360         RKT         5         5           cohort         General CKD Stages 3-5*         -         974,360         RKT         5         5           General CKD Stages 3-5*         &lt;</td> <td>cohort         General CKD Stages 3-5°         -         16 656, 959         RKT         1, 3, 5           e obort         General CKD Stages 3 and 4'         25         1866, 77         RKT         1           cobort         General CKD Stages 3 and 4'         32         158, 40         Death, RKT         2           cobort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           e cobort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5  
        e cobort         General CKD Stages 3-5         22         382, 190         RKT         5           cohort         General CKD Stages 3-5*         -         9782, 323         RKT         5           cohort         General CKD Stages 3-5*         -         9782, 323         RKT         5           cohort         General CKD Stages 3-5*         -         9782, 323         RKT         5           cohort         General CKD Stages 3-5*         -         9782, 323         RKT         5           cohort         General CKD GFR 20-70         43         344, 80         ESRD         5           cohort         Lupus nephritis         78         599, 145         -         &lt;</td> <td>cohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1, 3, 5           cohort         General CKD Stages 3 and 5"         25         186, 77         RKT         1           cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 369         RKT         1, 3, 5           cohort         General CKD Stages 3-5         22         382, 190         RKT         5           cohort         General CKD Stages 3-5"         -         978, 2,323         RKT         5           cohort         General CKD Stages 3-5"         -         978, 323         RKT         5           cohort         General CKD Stages 3-5"         -         978, 323         RKT         5           cohort         General CKD Stages 3-5"         -         978, 366         RKT         5           cohort         Lapus nephropathy         334, 80         ESRD         -</td> <td>cohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1, 3, 5           cohort         General CKD Stages 3 and 5"         25         1866, 77         RKT         1           cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 366         RKT         1, 3, 5           cohort         General CKD Stages 3-5         22         382, 190         RKT         5           cohort         General CKD Stages 3-5*         -         9782, 323         RKT         5           cohort         General CKD Stages 3-5*         -         978, 323         RKT         5           cohort         General CKD Stages 3 and 4*         -         978, 323         RKT         5           cohort         General CKD Stages 3-5*         -         6541, 369         RKT         5           cohort         Lapus nephropathy         344, 80         ESRD         5</td> <td>cohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1, 3, 5           cohort         General CKD Stages 3 and 5"         25         1866, 77         RKT         1           cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 366         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 366         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 369         RKT         2           cohort         General CKD Stages 3-5"         -         978,2,323         RKT         5           cohort         General CKD Stages 3-5"         -         978,336         RKT         5           cohort         General CKD Stages 3-5"         -         978,333         RKT         5           cohort         General CKD Stages 3-5"         -         978,366         5         5           cohort         Lapus nephropathy         33         861,60         ESRD         5</td> <td>obort         General CKD Stages 3-5"         -         16 656, 959         RKT         1, 3, 5           cohort         General CKD Stages 3 and 4         22         186, 77         RKT         1           cohort         General CKD Stages 3 and 4         22         186, 77         RKT         1           cohort         General CKD Stages 3 and 4         22         189, 40         Death, RKT         2           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         22         382, 190         RKT         2           cohort         General CKD Stages 3-5*         -         978,2,323         RKT         5           cohort         General CKD Stages 3-5*         -         978,333         RKT         5           cohort         General CKD Stages 3-5*         -         978,333         RKT         5           cohort         General CKD Stages 3-5*         -         978,333         RKT         5           cohort         General CKD Stages 3-5*         -         978,336         RKT         5           cohort         General CKD Stages 3-5*         -         978,136         5         5</td> <td>ohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1, 3, 5           cohort         General CKD Stages 4 and 5"         25         186, 77         RKT         1           ohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         1         3, 5           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           ohort         General CKD Stages 3-5         36         349, 368         RKT         1, 3, 5           ohort         General CKD Stages 3-5         -         9782, 323         RKT         1, 3, 5           ohort         General CKD Stages 3-5         -         6541, 369         RKT         5           dont         General CKD Stages 3-5         -         6541, 369         RKT         5           ohort         General CKD Stages 3-5         -         6541, 369         RKT         5           ohort         Lapus upphyty         33         861, 60         ESRD         -         5           Diabetic nephropathy         8         344, 80         ESRD</td> <td>abort         General CKD Stages 3-5<sup>4</sup>         -         16 656, 959         RKT         1, 3, 5           cobott         General CKD Stages 4 and 5<sup>4</sup>         25         186, 77         RKT         1           abort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           cohort         General CKD Stages 3-5         36         349, 356         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 356         RKT         2           obort         General CKD Stages 3-5         36         349, 356         RKT         2           obort         General CKD Stages 3-5<sup>4</sup>         -         978, 333         RKT         2         5           obort         General CKD Stages 3-5<sup>4</sup>         -         978, 333         RKT         5         5           cohort         General CKD Stages 3-5<sup>4</sup>         -         974, 80         ESRD         -         5           obort         General CKD Stages 3-5<sup>4</sup>         -         978, 333         RKT         5           obort         Lapus nephritis         78         344, 80         ESRD         -         5           Diabetic nephropathy         87         00,</td> <td></td> <td></td> <td></td> <td>bort         General CKD Stages <math>3-5^c</math>         -         16 656, 959         RKT         1, 3, 5           bort         General CKD Stages <math>3-5^c</math>         2         1866, 77         RKT         1         2           bort         General CKD Stages <math>3-5</math>         36         349, 386         RKT         1, 3, 5           bort         General CKD Stages <math>3-5^c</math>         2         158, 40         Death, RKT         2           bort         General CKD Stages <math>3-5^c</math>         -         9782, 323         RKT         2           bort         General CKD Stages <math>3-5^c</math>         -         9782, 323         RKT         2           ceneral CKD Stages <math>3-5^c</math>         -         9782, 323         RKT         2         2           bort         General CKD Stages <math>3-5^c</math>         -         6541, 369         RKT         5           bort         Lupus nephritis         33         861, 60         ESRD         -         -           Diabetic nephropathy         87         1040, 241         Time to ESRD         -         -           bort         IgA nephropathy         87         1040, 241         -         -         -           bort         IgA nephropathy         87         1040, 241</td> <td></td> | cohort         General CKD Stages 3–5 <sup>c</sup> -         16 656, 959         RKT         1,3,5           re cohort         General CKD Stages 4 and 5 <sup>d</sup> 25         1866,77         RKT         1           cohort         General CKD Stages 4 and 5 <sup>d</sup> 25         1866,77         RKT         1           cohort         General CKD Stages 3–5         36         349,386         RKT         1,3,5           re cohort         General CKD Stages 3–5         36         349,386         RKT         1,3,5           re cohort         General CKD Stages 3–5         36         949,386         RKT         1,3,5           re cohort         General CKD Stages 3–5         22         382,190         RKT         1,3,5 
         re cohort         General CKD Stages 3–5 <sup>d</sup> -         9782,323         RKT         5           cohort         General CKD Stages 3–5 <sup>d</sup> -         973,369         RKT         5           cohort         General CKD Stages 3–5 <sup>d</sup> -         973,369         RKT         5           cohort         General CKD Stages 3–5 <sup>d</sup> -         973,369         RKT         5           cohort         General CKD Stages 3–5 <sup>d</sup> -         974,80         5   
   | cohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1,3,5           ecohort         General CKD Stages 3 and 4         25         1866, 77         RKT         1           cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           cohort         General CKD Stages 3-5         36         349, 386         RKT         1,3,5           ecohort         General CKD Stages 3-5         36         349,386         RKT         1,3,5           ecohort         General CKD Stages 3-5         36         349,386         RKT         1,3,5           ecohort         General CKD Stages 3-5         22         382,190         RKT         2         2           cohort         General CKD Stages 3-5*         -         9782,323         RKT         5         5           cohort         General CKD Stages 3-5*         -         974,360         RKT         5         5           cohort         General CKD Stages 3-5*         -         973,360         RKT         5         5           cohort         General CKD Stages 3-5*         -         974,360         RKT         5         5           General CKD Stages 3-5*         <  
   
   | cohort         General CKD Stages 3-5°         -         16 656, 959         RKT         1, 3, 5           e obort         General CKD Stages 3 and 4'         25         1866, 77         RKT         1           cobort         General CKD Stages 3 and 4'         32         158, 40         Death, RKT         2           cobort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           e cobort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           e cobort         General CKD Stages 3-5         22         382, 190         RKT         5           cohort         General CKD Stages 3-5*         -         9782, 323         RKT         5           cohort         General CKD Stages 3-5*         -         9782, 323         RKT         5           cohort         General CKD Stages 3-5*         -         9782, 323         RKT         5           cohort         General CKD Stages 3-5*         -         9782, 323         RKT         5           cohort         General CKD GFR 20-70         43         344, 80         ESRD         5           cohort         Lupus nephritis         78         599, 145         -         <   
  | cohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1, 3, 5           cohort         General CKD Stages 3 and 5"         25         186, 77         RKT         1           cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 369         RKT         1, 3, 5           cohort         General CKD Stages 3-5         22         382, 190         RKT         5           cohort         General CKD Stages 3-5"         -         978, 2,323         RKT         5           cohort         General CKD Stages 3-5"         -         978, 323         RKT         5           cohort         General CKD Stages 3-5"         -         978, 323         RKT         5           cohort         General CKD Stages 3-5"         -         978, 366         RKT         5           cohort         Lapus nephropathy         334, 80         ESRD         -   
   | cohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1, 3, 5           cohort         General CKD Stages 3 and 5"         25         1866, 77         RKT         1           cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 366         RKT         1, 3, 5           cohort         General CKD Stages 3-5         22         382, 190         RKT         5           cohort         General CKD Stages 3-5*         -         9782, 323         RKT         5           cohort         General CKD Stages 3-5*         -         978, 323         RKT         5           cohort         General CKD Stages 3 and 4*         -         978, 323         RKT         5           cohort         General CKD Stages 3-5*         -         6541, 369         RKT         5           cohort         Lapus nephropathy         344, 80         ESRD         5   
  | cohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1, 3, 5           cohort         General CKD Stages 3 and 5"         25         1866, 77         RKT         1           cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 366         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 366         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 369         RKT         2           cohort         General CKD Stages 3-5"         -         978,2,323         RKT         5           cohort         General CKD Stages 3-5"         -         978,336         RKT         5           cohort         General CKD Stages 3-5"         -         978,333         RKT         5           cohort         General CKD Stages 3-5"         -         978,366         5         5           cohort         Lapus nephropathy         33         861,60         ESRD         5  
  | obort         General CKD Stages 3-5"         -         16 656, 959         RKT         1, 3, 5           cohort         General CKD Stages 3 and 4         22         186, 77         RKT         1           cohort         General CKD Stages 3 and 4         22         186, 77         RKT         1           cohort         General CKD Stages 3 and 4         22         189, 40         Death, RKT         2           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         22         382, 190         RKT         2           cohort         General CKD Stages 3-5*         -         978,2,323         RKT         5           cohort         General CKD Stages 3-5*         -         978,333         RKT         5           cohort         General CKD Stages 3-5*         -         978,333         RKT         5           cohort         General CKD Stages 3-5*         -         978,333         RKT         5           cohort         General CKD Stages 3-5*         -         978,336         RKT         5           cohort         General CKD Stages 3-5*         -         978,136         5         5  
   | ohort         General CKD Stages 3-5"         -         16 656, 959         RKT         1, 3, 5           cohort         General CKD Stages 4 and 5"         25         186, 77         RKT         1           ohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         1         3, 5           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5           ohort         General CKD Stages 3-5         36         349, 368         RKT         1, 3, 5           ohort         General CKD Stages 3-5         -         9782, 323         RKT         1, 3, 5           ohort         General CKD Stages 3-5         -         6541, 369         RKT         5           dont         General CKD Stages 3-5         -         6541, 369         RKT         5           ohort         General CKD Stages 3-5         -         6541, 369         RKT         5           ohort         Lapus upphyty         33         861, 60         ESRD         -         5           Diabetic nephropathy         8         344, 80         ESRD   | abort         General CKD Stages 3-5 <sup>4</sup> -         16 656, 959         RKT         1, 3, 5           cobott         General CKD Stages 4 and 5 <sup>4</sup> 25         186, 77         RKT         1           abort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2           cohort         General CKD Stages 3-5         36         349, 356         RKT         1, 3, 5           cohort         General CKD Stages 3-5         36         349, 356         RKT         2           obort         General CKD Stages 3-5         36         349, 356         RKT         2           obort         General CKD Stages 3-5 <sup>4</sup> -         978, 333         RKT         2         5           obort         General CKD Stages 3-5 <sup>4</sup> -         978, 333         RKT         5         5           cohort         General CKD Stages 3-5 <sup>4</sup> -         974, 80         ESRD         -         5           obort         General CKD Stages 3-5 <sup>4</sup> -         978, 333         RKT         5           obort         Lapus nephritis         78         344, 80         ESRD         -         5           Diabetic nephropathy         87         00,  
   |  |  
   |   | bort         General CKD Stages $3-5^c$ -         16 656, 959         RKT         1, 3, 5           bort         General CKD Stages $3-5^c$ 2         1866, 77         RKT         1         2           bort         General CKD Stages $3-5$ 36         349, 386         RKT         1, 3, 5           bort         General CKD Stages $3-5^c$ 2         158, 40         Death, RKT         2           bort         General CKD Stages $3-5^c$ -         9782, 323         RKT         2           bort         General CKD Stages $3-5^c$ -         9782, 323         RKT         2           ceneral CKD Stages $3-5^c$ -         9782, 323         RKT         2         2           bort         General CKD Stages $3-5^c$ -         6541, 369         RKT         5           bort         Lupus nephritis         33         861, 60         ESRD         -         -           Diabetic nephropathy         87         1040, 241         Time to ESRD         -         -           bort         IgA nephropathy         87         1040, 241         -         -         -           bort         IgA nephropathy         87         1040, 241   |   |
|  | entre cohort General CKD Stages 4 and 5 <sup>d</sup> 25 1866, 77 RRT 1 4  | entre cohort General CKD Stages 4 and 5 <sup>d</sup> 25 1866, 77 RRT 1 4<br>ntre cohort General CKD Stages 3 and 4 32 158, 40 Death, RKT 2 4  | entre cohort         General CKD Stages 4 and 5 <sup>d</sup> 25         1866, 77         RRT         1         4           ntre cohort         General CKD Stages 3 and 4         32         158, 40         Death, RRT         2         4           attre cohort         General CKD Stages 3 and 4         32         158, 40         Death, RRT         2         4           entre cohort         General CKD Stages 3-5         36         3449, 386         RRT         1, 3, 5         16  | entre cohort General CKD Stages 4 and 5 <sup>d</sup> 25 1866, 77 RRT 1 1 4<br>htte cohort General CKD Stages 4 and 4 32 188, 40 Death, RKT 2 4<br>entre cohort General CKD Stages 3-5 36 3449, 386 RKT 1, 3, 5 16<br>entre cohort General CKD Stages 3-5 22 382, 190 RKT - 4   | entre cohort         General CKD Stages 4 and 5 <sup>d</sup> 25         1866, 77         RRT         1         4           ntre cohort         General CKD Stages 3 and 4         32         188, 40         Death, RKT         2         4           entre cohort         General CKD Stages 3 and 4         32         188, 40         Death, RKT         2         4           entre cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           entre cohort         General CKD Stages 3-5         382, 190         RKT         -         4           entre cohort         General CKD Stages 3-5         22         382, 333         RKT         -         4  
  | entre cohort         General CKD Stages 4 and 5 <sup>d</sup> 25         1866, 77         RRT         1         4           tree cohort         General CKD Stages 3 and 4         32         158, 40         Death, RRT         2         4           antre cohort         General CKD Stages 3-5         36         3449, 386         RRT         1, 3, 5         16           entre cohort         General CKD Stages 3-5         36         3449, 386         RRT         1, 3, 5         16           entre cohort         General CKD Stages 3-5         36         342, 190         RRT         1, 3, 5         16           the cohort         General CKD Stages 3-5         36         342, 130         RRT         5         54           the cohort         General CKD Stages 3-5 <sup>d</sup> -         6541, 369         RRT         5         41  
   
   | mite cohort         General CKD Stages 4 and 5 <sup>d</sup> 25         1866, 77         RKT         1         4           tree cohort         General CKD Stages 3 and 4         32         1186, 40         Death, RKT         2         4           antre cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           antre cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           antre cohort         General CKD Stages 3-5         36         3449, 386         RKT         -         4           tre cohort         General CKD Stages 3-5         36         344, 90         RKT         5         54           tre cohort         General CKD Stages 3-5 <sup>a</sup> -         6541, 369         RKT         5         41           Ceneral CKD Stages 3-5 <sup>a</sup> -         534, 80         ESRD         -         7   
   
   
   | Itre cohort         General CKD Stages 4 and 5 <sup>4</sup> 25         1866, 77         RKT         1         4           re cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2         4           atre cohort         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           attre cohort         General CKD Stages 3-5         36         349, 386         RKT         2         4           attre cohort         General CKD Stages 3-5         36         349, 386         RKT         2         4           attre cohort         General CKD Stages 3-5         22         382, 190         RKT         5         4           attre cohort         General CKD Stages 3-5         -         651, 369         RKT         5         5         4           attre cohort         General CKD Stages 3-5 <sup>4</sup> -         651, 369         RKT         5         5         4           attre cohort         General CKD Stages 3-5 <sup>4</sup> -         651, 369         RKT         5         5         4           attre cohort         General CKD Stages 3-5 <sup>4</sup> -         651, 369         RKT         5         7         7   
   
  | Itre cohort         General CKD Stages 4 and 5 <sup>4</sup> 25         1866, 77         RKT         1         4           re cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2         4           tre cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           tre cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           tre cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           tre cohort         General CKD Stages 3-5*         22         382, 190         RKT         5         44           re cohort         General CKD Stages 3-5*         -         6541, 369         RKT         5         41           re cohort         General CKD Stages 3-5*         -         6541, 369         RKT         5         41           re cohort         General CKD Stages 3-5*         -         6541, 369         RKT         5         41           re cohort         General CKD Stages 3-5*         -         6541, 369         RKT         5         41           tre cohort         General CKD Stages 3-5*   | tre cohort         General CKD Stages 4 and 5 <sup>4</sup> 25         1866, 77         RKT         1         4           e cohort         General CKD Stages 3 and 4         32         158, 40         Death, RKT         2         4           tre cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           tre cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           tre cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           e cohort         General CKD Stages 3-5*         -         9782, 323         RKT         -         4           e cohort         General CKD Stages 3-5*         -         6541, 369         RKT         5         441           e cohort         General CKD Stages 3-5*         -         6541, 369         RKT         5         441           e cohort         General CKD Stages 3-5*         -         6541, 369         RKT         5         441           e cohort         General CKD Stages 3-5*         -         6541, 369         RKT, 50% GFR 1         -         7           ftre cohort         Loneral CKD Stages 3-5*   
  | re cohort         General CKD Stages 4 and 5 <sup>d</sup> 25         186,77         RKT         1         4           cobort         General CKD Stages 3 and 4         32         188,40         Death, RKT         2         4           ecohort         General CKD Stages 3-5         36         3449,386         RKT         1,3,5         16           re cohort         General CKD Stages 3-5         36         3449,386         RKT         2         4           re cohort         General CKD Stages 3-5         32         382,190         RKT         2         4           re cohort         General CKD Stages 3-5 <sup>d</sup> -         978,233         RKT         5         54           cohort         General CKD Stages 3-5
<sup>d</sup> -         974,369         RKT         5         7           cohort         General CKD Stages 3-5 <sup>d</sup> -         974,80         ESRD         -         64           cohort         General CKD Stages 3-5 <sup>d</sup> -         974,80         ESRD         -         7           Diabetic nephropathy         33         861,60         ESRD,40% GFR 1         -         -         4           fer cohort         Lupus nephritits         7         59,145 <t< td=""><td>ecohort         General CKD Stages 4 and 5<sup>d</sup>         25         188, 67         RKT         1         4           cobort         General CKD Stages 4 and 5<sup>d</sup>         22         188, 40         Death, RKT         2         4           ecohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ecohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         22         382, 190         RKT         5         54           cohort         General CKD Stages 3-5<sup>d</sup>         -         978,2,323         RKT         5         41           cohort         General CKD Stages 3-5<sup>d</sup>         -         978,133         RKT         5         41           cohort         General CKD Stages 3-5<sup>d</sup>         -         974,1369         RKT         5         41           cohort         General CKD Stages 3-5<sup>d</sup>         -         974,1369         RKT         5         54           Cohort         General CKD Stages 3-5<sup>d</sup>         -         974,1369         RKT         5         54           Cohort         General CKD Stages 3-5<sup>d</sup>         -         6541,369<!--</td--><td>cohort         General CKD Stages 4 and 5<sup>d</sup>         25         1866, 77         RKT         1         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           e cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           e cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         22         382, 190         RKT         5         54           cohort         General CKD Stages 3-5<sup>d</sup>         -         978, 333         RKT         5         54           cohort         General CKD Stages 3-5<sup>d</sup>         -         6541, 369         RKT         5         54           cohort         General CKD Stages 3-5<sup>d</sup>         -         6541, 369         RKT         5         54           Cohort         General CKD Stages 3-5<sup>d</sup>         -         6541, 369         RKT         5         64           Cohort         General CKD Stages 3-5<sup>d</sup>         -         6541, 369         RKT         5         44           Diabetic nephropathy         33         861, 60         ESRD, 40% GFR 1<td>: cohort       General CKD Stages 4 and 5<sup>d</sup>       25       1866, 77       RKT       1       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 323       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 323       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 323       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       411         Cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         Cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         Cohort       Jubabetic nephropathy       3</td><td>: cohort       General CKD Stages 4 and 5<sup>d</sup>       25       186, 77       RKT       1       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       1, 3, 5       16         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5<sup>d</sup>       -       978, 323       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       978, 323       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       978, 323       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         Cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         Cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT, 50% GFR 1, -       -       6         cohort       IgA nephropathy</td><td>: cohort       General CKD Stages 4 and 5<sup>d</sup>       25       1866, 77       RKT       1       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 333       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 333       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 333       RKT       5       54         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         cohort       Lipu nephropathy       38</td><td>cohort         General CKD Stages 4 and 5<sup>d</sup>         25         1866, 77         RKT         1         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         344, 300         RKT         5         44           cohort         General CKD Stages 3-5<sup>d</sup>         -         9782, 323         RKT         5         44           cohort         General CKD Stages 3-5<sup>d</sup>         -         9782, 323         RKT         5         41           cohort         General CKD Stages 3-5<sup>d</sup>         -         9782, 323         RKT         5         41           cohort         General CKD Stages 3-5<sup>d</sup>         -         978, 344, 80         ESRD         -         7           Cohort         Ign eephropathy         38         861, 60         ESRD, 40% GFR 1, -         -         -         2           cohort         Ign nephropathy         88         901, 162<!--</td--><td>cohort         General CKD Stages 4 and 5<sup>d</sup>         25         1866, 77         RKT         1         4           obort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           obort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         44           ohort         General CKD Stages 3-5*         -         9782, 333         RKT         5         5         44           ohort         General CKD Stages 3-5*         -         9782, 333         RKT         5         5         44           cohort         General CKD Stages 3-5*         -         978, 349         ESRD         -         7           dohort         General CKD Stages 3-5*         -         6541, 369         RKT         5         41           cohort         Lapus nephritis         33         861, 60         ESRD, 40% GFR 1         -         2         2           ohort         IgA nephropathy         8</td><td>cohort         General CKD Stages 4 and 5<sup>4</sup>         25         1866, 77         RKT         1         4           obort         General CKD Stages 3 and 4         32         138, 40         Death, RKT         2         4           obort         General CKD Stages 3 and 4         32         138, 40         Death, RKT         2         4           obort         General CKD Stages 3 and 4         32         1382, 100         RKT         2         4           obort         General CKD Stages 3 and 4<sup>4</sup>         -         9782, 323         RKT         5         441           ohot         General CKD Stages 3 and 4<sup>4</sup>         -         9782, 323         RKT         5         441           Cohot         General CKD Stages 3 and 4<sup>4</sup>         -         9782, 323         RKT         5         54           Diabetic nephropathy         33         344, 80         ESRD         7         7         7           Diabetic nephropathy         33         861, 60        
ESRD, 40% GFR 1, 5         -         4         2           Diabetic nephropathy         8         590, 162         ESRD, 40% GFR 1, 5         -         2         2           Diabetic nephropathy         8         616, 60         ESR</td><td>ohot         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         2         4           ohot         General CKD Stages 3-5         22         382, 190         RKT         5         5         54           ohot         General CKD Stages 3-5*         -         -         578, 2, 323         RKT         5         54           ohot         General CKD Stages 3-5*         -         -         554         41           General CKD Stages 3-5*         -         -         534, 48         58         54           ohot         Lupus nephritis         33         861, 60         ESRD, 40% GFR J         -         -         7           ohot         Lupus nephritis         78         599, 145         RKT 50% GFR J         -         -         21           ohot         Iquo set 1         RA nephropathy         87         &lt;</td><td>ohot         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         -         -         4           ohot         General CKD Stages 3-5*         -         9782, 323         RKT         -         -         4           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         54           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         54           ohot         Lupus nephrtius         33         861, 60         ESRD, 40% GFR J         -         6           ohot         Lupus nephrtius         7         344, 80         ESRD         -         2         2           hort         IqA nephropathy         8         599, 145         RKT 50% GFR J         -         2         2           ohot         IqA nephropathy         8</td><td>cohort         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           bhort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohort         General CKD Stages 3-5         36         3449, 386         RKT         -         -         4           ohort         General CKD Stages 3-5         -         9782, 323         RKT         -         -         4           ohort         General CKD Stages 3-5         -         953, 145         RKT         5         5         5           ohort         General CKD Stages 3-5         -         953, 145         RKT         5         5         5           ohort         General CKD Stages 3-5         -         6541, 36         ESRD         -         7           General CKD Stages 3-5         -         6541, 48         -         978, 20-70         4         1           ohort         General CKD Stages 3-5         -         6541, 48         -         2         2           ohort         Iqu perpropathy         &lt;</td><td>ohot         General CKD Stages 4 and 5<sup>4</sup>         25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohot         General CKD Stages 3-5*         -         9782, 323         RKT         5         5         4           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         4           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         5           font         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         4           font         Lapus nephritis         7         344, 80         ESRD, 40% GFR J         -         2         2           bhot         Lapus nephritis         7         344, 80         ESRD, 40% GFR J         -         2         2           bhot</td><td>cohort         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           bhort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohort         General CKD Stages 3-5         22         382, 190         RKT         2         4           ohort         General CKD Stages 3-5         2         349, 386         RKT         5         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         5           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         5           ohort         General CKD Stages 3 and 4         2         349, 306         ESRD         2         7           for the phytopathy         3         344, 80         ESRD         ESRD         2         2           ohort         IgA nephytopathy         6         99, 145</td></td></td></td></t<> | ecohort         General CKD Stages 4 and 5 <sup>d</sup> 25         188, 67         RKT         1         4           cobort         General CKD Stages 4 and 5 <sup>d</sup> 22         188, 40         Death, RKT         2         4           ecohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ecohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         22         382, 190         RKT         5         54           cohort         General CKD Stages 3-5 <sup>d</sup> -         978,2,323         RKT         5         41           cohort         General CKD Stages 3-5 <sup>d</sup> -         978,133         RKT         5         41           cohort         General CKD Stages 3-5 <sup>d</sup> -         974,1369         RKT         5         41           cohort         General CKD Stages 3-5 <sup>d</sup> -         974,1369         RKT         5         54           Cohort         General CKD Stages 3-5 <sup>d</sup> -         974,1369         RKT         5         54           Cohort         General CKD Stages 3-5 <sup>d</sup> -         6541,369 </td <td>cohort         General CKD Stages 4 and 5<sup>d</sup>         25         1866, 77         RKT         1         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           e cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           e cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         22         382, 190         RKT         5         54           cohort         General CKD Stages 3-5<sup>d</sup>         -         978, 333         RKT         5         54           cohort         General CKD Stages 3-5<sup>d</sup>         -         6541, 369         RKT         5         54           cohort         General CKD Stages 3-5<sup>d</sup>         -         6541, 369         RKT         5         54           Cohort         General CKD Stages 3-5<sup>d</sup>         -         6541, 369         RKT         5         64           Cohort         General CKD Stages 3-5<sup>d</sup>         -         6541, 369         RKT         5         44           Diabetic nephropathy         33         861, 60         ESRD, 40% GFR 1<td>: cohort       General CKD Stages 4 and 5<sup>d</sup>       25       1866, 77       RKT       1       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 323       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 323       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 323       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       411         Cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         Cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         Cohort       Jubabetic nephropathy       3</td><td>: cohort       General CKD Stages 4 and 5<sup>d</sup>       25       186, 77       RKT       1       4         cohort       General CKD Stages
3-5       36       3449, 386       RKT       1, 3, 5       16         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5<sup>d</sup>       -       978, 323       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       978, 323       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       978, 323       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         Cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         Cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT, 50% GFR 1, -       -       6         cohort       IgA nephropathy</td><td>: cohort       General CKD Stages 4 and 5<sup>d</sup>       25       1866, 77       RKT       1       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 333       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 333       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 333       RKT       5       54         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         cohort       Lipu nephropathy       38</td><td>cohort         General CKD Stages 4 and 5<sup>d</sup>         25         1866, 77         RKT         1         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         344, 300         RKT         5         44           cohort         General CKD Stages 3-5<sup>d</sup>         -         9782, 323         RKT         5         44           cohort         General CKD Stages 3-5<sup>d</sup>         -         9782, 323         RKT         5         41           cohort         General CKD Stages 3-5<sup>d</sup>         -         9782, 323         RKT         5         41           cohort         General CKD Stages 3-5<sup>d</sup>         -         978, 344, 80         ESRD         -         7           Cohort         Ign eephropathy         38         861, 60         ESRD, 40% GFR 1, -         -         -         2           cohort         Ign nephropathy         88         901, 162<!--</td--><td>cohort         General CKD Stages 4 and 5<sup>d</sup>         25         1866, 77         RKT         1         4           obort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           obort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         44           ohort         General CKD Stages 3-5*         -         9782, 333         RKT         5         5         44           ohort         General CKD Stages 3-5*         -         9782, 333         RKT         5         5         44           cohort         General CKD Stages 3-5*         -         978, 349         ESRD         -         7           dohort         General CKD Stages 3-5*         -         6541, 369         RKT         5         41           cohort         Lapus nephritis         33         861, 60         ESRD, 40% GFR 1         -         2         2           ohort         IgA nephropathy         8</td><td>cohort         General CKD Stages 4 and 5<sup>4</sup>         25         1866, 77         RKT         1         4           obort         General CKD Stages 3 and 4         32         138, 40         Death, RKT         2         4           obort         General CKD Stages 3 and 4         32         138, 40         Death, RKT         2         4           obort         General CKD Stages 3 and 4         32         1382, 100         RKT         2         4           obort         General CKD Stages 3 and 4<sup>4</sup>         -         9782, 323         RKT         5         441           ohot         General CKD Stages 3 and 4<sup>4</sup>         -         9782, 323         RKT         5         441           Cohot         General CKD Stages 3 and 4<sup>4</sup>         -         9782, 323         RKT         5         54           Diabetic nephropathy         33         344, 80         ESRD         7         7         7           Diabetic nephropathy         33         861, 60         ESRD, 40% GFR 1, 5         -         4         2           Diabetic nephropathy         8         590, 162         ESRD, 40% GFR 1, 5         -         2         2           Diabetic nephropathy         8         616, 60         ESR</td><td>ohot         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         2         4           ohot         General CKD Stages 3-5         22         382, 190         RKT         5         5         54           ohot         General CKD Stages 3-5*         -         -         578, 2, 323         RKT         5         54           ohot         General CKD Stages 3-5*         -         -         554         41           General CKD Stages 3-5*         -         -         534, 48         58         54           ohot         Lupus nephritis         33         861, 60         ESRD, 40% GFR J         -         -         7           ohot         Lupus nephritis         78         599, 145         RKT 50% GFR J         -         -         21           ohot         Iquo set 1         RA nephropathy         87         &lt;</td><td>ohot         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         -         -         4           ohot         General CKD Stages 3-5*         -         9782, 323         RKT         -         -         4           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         54           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         54           ohot         Lupus nephrtius         33         861, 60         ESRD, 40% GFR J         -         6           ohot         Lupus nephrtius         7         344, 80         ESRD         -         2         2           hort         IqA nephropathy         8         599, 145         RKT 50% GFR J         -         2         2           ohot         IqA nephropathy         8</td><td>cohort         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           bhort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohort         General CKD Stages 3-5         36         3449, 386         RKT         -         -         4           ohort         General CKD Stages 3-5         -         9782, 323         RKT         -         -         4           ohort         General CKD Stages 3-5         -         953, 145         RKT         5         5         5           ohort         General CKD Stages 3-5         -         953, 145         RKT         5         5         5           ohort         General CKD Stages 3-5         -         6541, 36         ESRD         -         7           General CKD Stages 3-5         -         6541, 48         -         978, 20-70         4         1           ohort         General CKD Stages 3-5         -         6541, 48         -         2         2           ohort         Iqu perpropathy         &lt;</td><td>ohot         General CKD Stages 4 and 5<sup>4</sup>         25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohot         General CKD Stages 3-5*         -         9782, 323        
RKT         5         5         4           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         4           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         5           font         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         4           font         Lapus nephritis         7         344, 80         ESRD, 40% GFR J         -         2         2           bhot         Lapus nephritis         7         344, 80         ESRD, 40% GFR J         -         2         2           bhot</td><td>cohort         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           bhort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohort         General CKD Stages 3-5         22         382, 190         RKT         2         4           ohort         General CKD Stages 3-5         2         349, 386         RKT         5         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         5           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         5           ohort         General CKD Stages 3 and 4         2         349, 306         ESRD         2         7           for the phytopathy         3         344, 80         ESRD         ESRD         2         2           ohort         IgA nephytopathy         6         99, 145</td></td></td> | cohort         General CKD Stages 4 and 5 <sup>d</sup> 25         1866, 77         RKT         1         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           e cohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           e cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         22         382, 190         RKT         5         54           cohort         General CKD Stages 3-5 <sup>d</sup> -         978, 333         RKT         5         54           cohort         General CKD Stages 3-5 <sup>d</sup> -         6541, 369         RKT         5         54           cohort         General CKD Stages 3-5 <sup>d</sup> -         6541, 369         RKT         5         54           Cohort         General CKD Stages 3-5 <sup>d</sup> -         6541, 369         RKT         5         64           Cohort         General CKD Stages 3-5 <sup>d</sup> -         6541, 369         RKT         5         44           Diabetic nephropathy         33         861, 60         ESRD, 40% GFR 1 <td>: cohort       General CKD Stages 4 and 5<sup>d</sup>       25       1866, 77       RKT       1       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 323       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 323       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 323       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       411         Cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         Cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         Cohort       Jubabetic nephropathy       3</td> <td>: cohort       General CKD Stages 4 and 5<sup>d</sup>       25       186, 77       RKT       1       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       1, 3, 5       16         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5<sup>d</sup>       -       978, 323       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       978, 323       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       978, 323       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         Cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         Cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT, 50% GFR 1, -       -       6         cohort       IgA nephropathy</td> <td>: cohort       General CKD Stages 4 and 5<sup>d</sup>       25       1866, 77       RKT       1       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 333       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 333       RKT       5       441         cohort       General CKD Stages 3-5<sup>d</sup>       -       9782, 333       RKT       5       54         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         cohort       General CKD Stages 3-5<sup>d</sup>       -       6541, 369       RKT       5       41         cohort       Lipu nephropathy       38</td> <td>cohort         General CKD Stages 4 and 5<sup>d</sup>         25         1866, 77         RKT         1         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         344, 300         RKT         5         44           cohort         General CKD Stages 3-5<sup>d</sup>         -         9782, 323         RKT         5         44           cohort         General CKD Stages 3-5<sup>d</sup>         -         9782, 323         RKT         5         41           cohort         General CKD Stages 3-5<sup>d</sup>         -         9782, 323         RKT         5         41           cohort         General CKD Stages 3-5<sup>d</sup>         -         978, 344, 80         ESRD         -         7           Cohort         Ign eephropathy         38         861, 60         ESRD, 40% GFR 1, -         -         -         2           cohort         Ign nephropathy         88         901, 162<!--</td--><td>cohort         General CKD Stages 4 and 5<sup>d</sup>         25         1866, 77         RKT         1         4           obort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           obort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         44           ohort         General CKD Stages 3-5*         -         9782, 333         RKT         5         5         44           ohort         General CKD Stages 3-5*         -         9782, 333         RKT         5         5         44           cohort         General CKD Stages 3-5*         -         978, 349         ESRD         -         7           dohort         General CKD Stages 3-5*         -         6541, 369         RKT         5         41           cohort         Lapus nephritis         33         861, 60         ESRD, 40% GFR 1         -         2         2           ohort         IgA nephropathy         8</td><td>cohort         General CKD Stages 4 and 5<sup>4</sup>         25         1866, 77         RKT         1         4           obort         General CKD Stages 3 and 4         32         138, 40         Death, RKT         2         4           obort         General CKD Stages 3 and 4         32         138, 40         Death, RKT         2         4           obort         General CKD Stages 3 and 4         32         1382, 100         RKT         2         4           obort         General CKD Stages 3 and 4<sup>4</sup>         -         9782, 323         RKT         5         441           ohot         General CKD Stages 3 and 4<sup>4</sup>         -         9782, 323         RKT         5         441           Cohot         General CKD Stages 3 and 4<sup>4</sup>         -         9782, 323         RKT         5         54           Diabetic nephropathy         33         344, 80         ESRD         7         7         7           Diabetic
nephropathy         33         861, 60         ESRD, 40% GFR 1, 5         -         4         2           Diabetic nephropathy         8         590, 162         ESRD, 40% GFR 1, 5         -         2         2           Diabetic nephropathy         8         616, 60         ESR</td><td>ohot         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         2         4           ohot         General CKD Stages 3-5         22         382, 190         RKT         5         5         54           ohot         General CKD Stages 3-5*         -         -         578, 2, 323         RKT         5         54           ohot         General CKD Stages 3-5*         -         -         554         41           General CKD Stages 3-5*         -         -         534, 48         58         54           ohot         Lupus nephritis         33         861, 60         ESRD, 40% GFR J         -         -         7           ohot         Lupus nephritis         78         599, 145         RKT 50% GFR J         -         -         21           ohot         Iquo set 1         RA nephropathy         87         &lt;</td><td>ohot         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         -         -         4           ohot         General CKD Stages 3-5*         -         9782, 323         RKT         -         -         4           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         54           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         54           ohot         Lupus nephrtius         33         861, 60         ESRD, 40% GFR J         -         6           ohot         Lupus nephrtius         7         344, 80         ESRD         -         2         2           hort         IqA nephropathy         8         599, 145         RKT 50% GFR J         -         2         2           ohot         IqA nephropathy         8</td><td>cohort         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           bhort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohort         General CKD Stages 3-5         36         3449, 386         RKT         -         -         4           ohort         General CKD Stages 3-5         -         9782, 323         RKT         -         -         4           ohort         General CKD Stages 3-5         -         953, 145         RKT         5         5         5           ohort         General CKD Stages 3-5         -         953, 145         RKT         5         5         5           ohort         General CKD Stages 3-5         -         6541, 36         ESRD         -         7           General CKD Stages 3-5         -         6541, 48         -         978, 20-70         4         1           ohort         General CKD Stages 3-5         -         6541, 48         -         2         2           ohort         Iqu perpropathy         &lt;</td><td>ohot         General CKD Stages 4 and 5<sup>4</sup>         25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohot         General CKD Stages 3-5*         -         9782, 323         RKT         5         5         4           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         4           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         5           font         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         4           font         Lapus nephritis         7         344, 80         ESRD, 40% GFR J         -         2         2           bhot         Lapus nephritis         7         344, 80         ESRD, 40% GFR J         -         2         2           bhot</td><td>cohort         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           bhort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohort         General CKD Stages 3-5         22         382, 190         RKT         2         4           ohort         General CKD Stages 3-5         2         349, 386         RKT         5         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         5           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         5           ohort         General CKD Stages 3 and 4         2         349, 306         ESRD         2         7           for the phytopathy         3         344, 80         ESRD         ESRD         2         2           ohort         IgA nephytopathy         6         99, 145</td></td> | : cohort       General CKD Stages 4 and 5 <sup>d</sup> 25       1866, 77       RKT       1       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5 <sup>d</sup> -       9782, 323       RKT       5       441         cohort       General CKD Stages 3-5 <sup>d</sup> -       9782, 323       RKT       5       441         cohort       General CKD Stages 3-5 <sup>d</sup> -       9782, 323       RKT       5       441         cohort       General CKD Stages 3-5 <sup>d</sup> -       6541, 369       RKT       5       411         Cohort       General CKD Stages 3-5 <sup>d</sup> -       6541, 369       RKT       5       41         Cohort       General CKD Stages 3-5 <sup>d</sup> -       6541, 369       RKT       5       41         Cohort       Jubabetic nephropathy       3   
  | : cohort       General CKD Stages 4 and 5 <sup>d</sup> 25       186, 77       RKT       1       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       1, 3, 5       16         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5 <sup>d</sup> -       978, 323       RKT       5       41         cohort       General CKD Stages 3-5 <sup>d</sup> -       978, 323       RKT       5       41         cohort       General CKD Stages 3-5 <sup>d</sup> -       978, 323       RKT       5       41         cohort       General CKD Stages 3-5 <sup>d</sup> -       6541, 369       RKT       5       41         Cohort       General CKD Stages 3-5 <sup>d</sup> -       6541, 369       RKT       5       41         Cohort       General CKD Stages 3-5 <sup>d</sup> -       6541, 369       RKT, 50% GFR 1, -       -       6         cohort       IgA nephropathy  
   | : cohort       General CKD Stages 4 and 5 <sup>d</sup> 25       1866, 77       RKT       1       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5       36       3449, 386       RKT       2       4         cohort       General CKD Stages 3-5 <sup>d</sup> -       9782, 333       RKT       5       441         cohort       General CKD Stages 3-5 <sup>d</sup> -       9782, 333       RKT       5       441         cohort       General CKD Stages 3-5 <sup>d</sup> -       9782, 333       RKT       5       54         cohort       General CKD Stages 3-5 <sup>d</sup> -       6541, 369       RKT       5       41         cohort       General CKD Stages 3-5 <sup>d</sup> -       6541, 369       RKT       5       41         cohort       General CKD Stages 3-5 <sup>d</sup> -       6541, 369       RKT       5       41         cohort       Lipu nephropathy       38   
   | cohort         General CKD Stages 4 and 5 <sup>d</sup> 25         1866, 77         RKT         1         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         344, 300         RKT         5         44           cohort         General CKD Stages 3-5 <sup>d</sup> -         9782, 323         RKT         5         44           cohort         General CKD Stages 3-5 <sup>d</sup> -         9782, 323         RKT         5         41           cohort         General CKD Stages 3-5 <sup>d</sup> -         9782, 323         RKT         5         41           cohort         General CKD Stages 3-5 <sup>d</sup> -         978, 344, 80         ESRD         -         7           Cohort         Ign eephropathy         38         861, 60         ESRD, 40% GFR 1, -         -         -         2           cohort         Ign nephropathy         88         901, 162 </td <td>cohort         General CKD Stages 4 and 5<sup>d</sup>         25         1866, 77         RKT         1         4           obort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           obort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         44           ohort         General CKD Stages 3-5*         -         9782, 333         RKT         5         5         44           ohort         General CKD Stages 3-5*         -         9782, 333         RKT         5         5         44           cohort         General CKD Stages 3-5*         -         978, 349         ESRD         -         7           dohort         General CKD Stages 3-5*         -         6541, 369         RKT         5         41           cohort         Lapus nephritis         33         861, 60         ESRD, 40% GFR 1         -         2         2           ohort         IgA nephropathy         8</td> <td>cohort         General CKD Stages 4 and 5<sup>4</sup>         25         1866, 77         RKT         1         4           obort         General CKD Stages 3 and 4         32         138, 40         Death, RKT         2         4           obort         General CKD Stages 3 and 4         32         138, 40         Death, RKT         2         4           obort         General CKD Stages 3 and 4         32         1382, 100         RKT         2         4           obort         General CKD Stages 3 and 4<sup>4</sup>         -         9782, 323         RKT         5         441           ohot         General CKD Stages 3 and 4<sup>4</sup>         -         9782, 323         RKT         5         441           Cohot         General CKD Stages 3 and 4<sup>4</sup>         -         9782, 323         RKT         5         54           Diabetic nephropathy         33         344, 80         ESRD         7         7         7           Diabetic nephropathy         33         861, 60         ESRD, 40% GFR 1, 5         -         4         2           Diabetic nephropathy         8         590, 162         ESRD, 40% GFR 1, 5         -         2         2           Diabetic nephropathy         8         616, 60         ESR</td> <td>ohot         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         2         4           ohot         General CKD Stages 3-5         22         382, 190         RKT         5         5         54           ohot         General CKD Stages 3-5*         -         -         578, 2, 323         RKT         5         54           ohot         General CKD Stages 3-5*         -         -         554         41           General CKD Stages 3-5*         -         -         534, 48         58         54           ohot         Lupus nephritis         33         861, 60         ESRD, 40% GFR J         -         -         7           ohot         Lupus nephritis         78         599, 145         RKT 50% GFR J         -         -         21           ohot         Iquo set 1         RA nephropathy         87         &lt;</td> <td>ohot         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         - 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        -         4           ohort         General CKD Stages 3-5         -         9782, 323         RKT         -         -         4           ohort         General CKD Stages 3-5         -         953, 145         RKT         5         5         5           ohort         General CKD Stages 3-5         -         953, 145         RKT         5         5         5           ohort         General CKD Stages 3-5         -         6541, 36         ESRD         -         7           General CKD Stages 3-5         -         6541, 48         -         978, 20-70         4         1           ohort         General CKD Stages 3-5         -         6541, 48         -         2         2           ohort         Iqu perpropathy         &lt;</td> <td>ohot         General CKD Stages 4 and 5<sup>4</sup>         25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohot         General CKD Stages 3-5*         -         9782, 323         RKT         5         5         4      
    ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         4           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         5           font         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         4           font         Lapus nephritis         7         344, 80         ESRD, 40% GFR J         -         2         2           bhot         Lapus nephritis         7         344, 80         ESRD, 40% GFR J         -         2         2           bhot</td> <td>cohort         General CKD Stages 4 and <math>S^4</math>         25         1866, 77         RKT         1         4           bhort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohort         General CKD Stages 3-5         22         382, 190         RKT         2         4           ohort         General CKD Stages 3-5         2         349, 386         RKT         5         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         5           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         5           ohort         General CKD Stages 3 and 4         2         349, 306         ESRD         2         7           for the phytopathy         3         344, 80         ESRD         ESRD         2         2           ohort         IgA nephytopathy         6         99, 145</td> | cohort         General CKD Stages 4 and 5 <sup>d</sup> 25         1866, 77         RKT         1         4           obort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           obort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           cohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         44           ohort         General CKD Stages 3-5*         -         9782, 333         RKT         5         5         44           ohort         General CKD Stages 3-5*         -         9782, 333         RKT         5         5         44           cohort         General CKD Stages 3-5*         -         978, 349         ESRD         -         7           dohort         General CKD Stages 3-5*         -         6541, 369         RKT         5         41           cohort         Lapus nephritis         33         861, 60         ESRD, 40% GFR 1         -         2         2           ohort         IgA nephropathy         8   | cohort         General CKD Stages 4 and 5 <sup>4</sup> 25         1866, 77         RKT         1         4           obort         General CKD Stages 3 and 4         32         138, 40         Death, RKT         2         4           obort         General CKD Stages 3 and 4         32         138, 40         Death, RKT         2         4           obort         General CKD Stages 3 and 4         32         1382, 100         RKT         2         4           obort         General CKD Stages 3 and 4 <sup>4</sup> -         9782, 323         RKT         5         441           ohot         General CKD Stages 3 and 4 <sup>4</sup> -         9782, 323         RKT         5         441           Cohot         General CKD Stages 3 and 4 <sup>4</sup> -         9782, 323         RKT         5         54           Diabetic nephropathy         33         344, 80         ESRD         7         7         7           Diabetic nephropathy         33         861, 60         ESRD, 40% GFR 1, 5         -         4         2           Diabetic nephropathy         8         590, 162         ESRD, 40% GFR 1, 5         -         2         2           Diabetic nephropathy         8         616, 60         ESR                                 
  | ohot         General CKD Stages 4 and $S^4$ 25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         2         4           ohot         General CKD Stages 3-5         22         382, 190         RKT         5         5         54           ohot         General CKD Stages 3-5*         -         -         578, 2, 323         RKT         5         54           ohot         General CKD Stages 3-5*         -         -         554         41           General CKD Stages 3-5*         -         -         534, 48         58         54           ohot         Lupus nephritis         33         861, 60         ESRD, 40% GFR J         -         -         7           ohot         Lupus nephritis         78         599, 145         RKT 50% GFR J         -         -         21           ohot         Iquo set 1         RA nephropathy         87         <   | ohot         General CKD Stages 4 and $S^4$ 25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         349, 386         RKT         -         -         4           ohot         General CKD Stages 3-5*  
      -         9782, 323         RKT         -         -         4           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         54           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         54           ohot         Lupus nephrtius         33         861, 60         ESRD, 40% GFR J         -         6           ohot         Lupus nephrtius         7         344, 80         ESRD         -         2         2           hort         IqA nephropathy         8         599, 145         RKT 50% GFR J         -         2         2           ohot         IqA nephropathy         8  | cohort         General CKD Stages 4 and $S^4$ 25         1866, 77         RKT         1         4           bhort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohort         General CKD Stages 3-5         36         3449, 386         RKT         -         -         4           ohort         General CKD Stages 3-5         -         9782, 323         RKT         -         -         4           ohort         General CKD Stages 3-5         -         953, 145         RKT         5         5         5           ohort         General CKD Stages 3-5         -         953, 145         RKT         5         5         5           ohort         General CKD Stages 3-5         -         6541, 36         ESRD         -         7           General CKD Stages 3-5         -         6541, 48         -         978, 20-70         4         1           ohort         General CKD Stages 3-5         -         6541, 48         -         2         2           ohort         Iqu perpropathy         <  | ohot         General CKD Stages 4 and 5 <sup>4</sup> 25         1866, 77         RKT         1         4           ohot         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohot         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohot         General CKD Stages 3-5*         -         9782, 323         RKT         5         5         4           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         4           ohot         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         5           font         General CKD Stages 3-5*         -         6541, 369         RKT         5         5         4           font         Lapus nephritis         7         344, 80         ESRD, 40% GFR J         -         2         2           bhot         Lapus nephritis         7         344, 80         ESRD, 40% GFR J         -         2         2           bhot   | cohort         General CKD Stages 4 and $S^4$ 25         1866, 77         RKT         1         4           bhort         General CKD Stages 3-5         36         3449, 386         RKT         1, 3, 5         16           ohort         General CKD Stages 3-5         36         3449, 386         RKT         2         4           ohort         General CKD Stages 3-5         22         382, 190         RKT         2         4           ohort         General CKD Stages 3-5         2         349, 386         RKT         5         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         4           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         5           ohort         General CKD Stages 3-5         2         382, 190         RKT         5         5         5           ohort         General CKD Stages 3 and 4         2         349, 306         ESRD         2         7           for the phytopathy         3         344, 80         ESRD         ESRD         2         2           ohort         IgA nephytopathy         6         99, 145  |

<sup>a</sup>Both studies by Johnson *et al.* [36, 37] overlap in patient population and include the same predictors. The study by Schroeder *et al.* [24] updates this same model [36] (the KPNW) by including additional predictors and excluding some original predictors. <sup>b</sup>The formula as provided in the supplement of Schroeder *et al.*'s article [24] does not provide the knot locations for spline terms. These are available from the authors upon request. <sup>c</sup>The study by Xie [27] and Maziarz [29] includes the same patient population. Part of this population is included in Maziarz *et al.* [31]. All three studies include the same four models but re-estimate β-coefficients for different subsets. The population is of underserved/uninsured patients. <sup>4</sup>Population of veterans  $\geq$  565 years old. <sup>e</sup>Overlap in patient population. The study by Goto *et al.* [51] has an extended follow-up of 3 years in the same cohort as the study by Wakai *et al.* [55]. "–" not reported. (e)GFR, (estimated) glomerular filtration rate in mL/min/1.73 m<sup>2</sup>; EPV, events per variable/candidate predictor; D, development; IV, internal validation; CART, classification and regression tree; ANN, artificial neural networks; RCT, randomized control trial; SCr, serum creatinine. 28 779 patients. A small sample size was a problem in 17/35 studies, as they had <10 EPV, thus running the substantial risk of overfitting their model [14]. To assess to what extent these models are overfit, external validation is of key importance. Before the validity of these models is tested, they should not be used in practice.

For specific renal diseases, the baseline was almost always the first biopsy (and disease confirmation), providing a clear moment in time for when to use the prognostic model or score. Models developed in general CKD, however, rarely defined the moment in time when their prediction tool should be used, as most of these studies enrolled prevalent CKD patients with a wide range of disease severity. Only two models were developed on incident patients, who were included at the first referral to a nephrologist [26, 34]. There was some variation in outcome definitions, but for most studies, renal failure was defined as the need for RRT (dialysis start or kidney transplantation). Five studies used estimated glomerular filtration rate (eGFR) or creatinine as a proxy for kidney failure. Two development studies used RRT start or death as a composite outcome measure. A total of four studies did not report their definition of ESRD. The time frame over which the models predict kidney failure ranged from 6 months to 20 years and nine studies failed to define a prediction time frame, presumably using the maximum study follow-up. The specific predictors included per development study are presented in Figure 3. There is a large amount of overlap in final predictors with almost all studies including age, sex, eGFR (or serum creatinine), proteinuria and histological features for IgA nephropathy tools.

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Cheng, 2017	х				$X_4$	Х	Х	Х					Х				X <sub>2</sub>
Schroeder, 2017	Х	Х		Х	X	Х		Х		х		Х				Х	_
Hsu, 2016	Х	Х	Х	Х	$X_4$	Х		Х		х		Х					
Tangri, 2016 AJKD	Х	Х								Х		Х	Х	Х	Х		Х
Xie, 2016	Х	Х	Х							Х		Х					
Marks, 2015	Х	Х			Х							Х					
Maziarz, 2015	Х	Х	Х							Х		Х					
Levin, 2014	Х	Х								Х		Х		Х		Х	X <sub>3</sub>
Maziarz, 2014	Х	Х	Х							Х		Х					
Drawz, 2013	Х			Х				Х		Х			Х				Х
Smith, 2013								Х		Х		Х					X <sub>2</sub>
Tangri, 2011 4v model	Х	Х								Х		Х					
Tangri, 2011 8v model	Х	Х								Х		Х	Х	Х	Х		Х
Landray, 2010		Х									Х	Х		Х			
Johnson, 2008	Х	Х				Х	Х	Х		Х							
Johnson, 2007	Х	Х				Х	Х	Х		Х							
Dimitrov, 2003											Х	Х		Х	Х		
Specified Renal Disease																	
Bidadkosh, 2017	Х	Х			Х						Х	Х				Х	X <sub>2</sub>
Tang, 2017								Х	X <sub>6</sub>	Х							
Barbour, 2016				Х					X <sub>4</sub>	Х		Х					
Li, 2016										Х		Х					X <sub>2</sub>
Pesce, 2016	Х	Х					Х		Х		Х	Х					
Diciolla, 2015	X	Х					Х		X		Х	Х					
Hoshino, 2015	X								X	X		X					
Tanaka, 2013									X <sub>3</sub>	X		Х				.,	
Xie, 2012				Х			.,			Х		.,	Х			Х	
Berthoux, 2011		.,	.,		V		Х	V	X			X	.,			.,	
Desai, 2011	X	Х	Х		X <sub>2</sub>			X <sub>5</sub>		х	.,	Х	Х			Х	X <sub>4</sub>
Day, 2010	V	V		V					X		X	v	v				v
Goto, 2009	X	X		X					X		X	X	Х				Х
Kent, 2007	X	Х		Х							X	X				v	
Keane, 2006	V			V							X	X	Х			Х	
iviagistroni, 2006	X	V		X					v		X	X	V				v
Wakai, 2006	Х	X		Х					×		X	X	Х				Х
Frimat, 1997	V	Х								v	Х	X					v
Beukhof 1986	X									X		Х					X2

**FIGURE 3**: Predictors included in development studies (N = 35). The inclusion of a predictor is shown as 'X'. The subscript under X (e.g. 'X<sub>2</sub>') indicates the number of predictors included from that category.

Concerning the reporting of performance measures, discrimination measures were reported far more often than calibration measures. Discrimination in the form of a C-statistic was reported in 28/35 studies. The C-statistic ranged from 0.72 to 0.96 and was generally high, indicating good to excellent discrimination in most studies. Calibration was presented far less frequently, with only 11 studies presenting a calibration plot, bar chart or test. In order to calculate an individual's risk, the model con-

In order to calculate an individual's risk, the model constant and hazard ratios (HRs)/regression coefficients per predictor are needed. Many studies only presented HRs per predictor without the constant (intercept or baseline hazard value), and some gave no data on the model equation at all. The full formula for the developed model was presented in only 6/35 studies. Just three studies provided a web calculator for easy use, of which two web calculators are no longer working. A total of 13 studies provided a simplified scoring system. In total, 25 final models were validated in some form, either internally and/or externally. Cross-validation, bootstrapping and random split sample were the most used forms of internal validation.

#### Characteristics of external validation studies

A total of 17 studies externally validated one or more of the developed prediction tools. The characteristics of these models and validations can be found in Table 2. Most validation studies were performed by the same group of researchers who developed the models and were often presented in the same publication as the development. Compared with the development performance, the C-statistic was lower in 68% of the validations. Two studies updated the validated model by recalibrating the baseline hazard and two studies added predictors to the existing model. In total, five risk scores predicting prognosis in IgA nephropathy patients and seven prognostic tools for general CKD patients were externally validated. Only the Absolute Renal Risk (ARR) score, Goto score and Kidney Failure Risk Equation (KFRE) (three, four and eight variables) were validated multiple times. The largest validation study of the KFRE was performed by Tangri et al. [18] and summarized the validation of the KFRE in > 30 countries, including more than half a million patients.

#### **Risk of bias**

Risk of bias was assessed in all 42 included studies, using signalling questions from the PROBAST specified for detecting methodological flaws in both development and validation prediction studies. Overall, the risk of bias was high, as can be seen in Figure 4A and B. Forty-one of 42 studies received a high risk of bias in at least one of the five domains; the only study with an overall low risk of bias was by Schroeder *et al.* [24]. The majority of studies had a high risk of bias in the domain sample size and missing data. This was often due to the use of complete case analysis, which is generally an inappropriate method of handling missing data. A small sample size was a frequent problem limiting model usage, as a small sample often results in an overfit model and thereby biased results. In the domain statistical analysis, 83% of studies had a high risk of bias. The most common reason was incomplete reporting of performance measures, as few studies reported sufficient calibration results. Also, many studies did not correct their model for overfitting through internal validation. The usability of the model was assessed in a separate domain. If in the publication the full model formula, a calculator or a risk score with absolute risk table was available, then the tool was considered usable. Less than half the studies (48%) presented enough detail for the use of their prediction tool in practice. The usable models that specified a prediction time frame are presented in Figure 5, categorized by the type of patient population and outcome. This figure may be employed as a selection guide when wanting to calculate an individuals' prognosis, taking into account that many of the models have significant shortcomings and may not be ready for clinical use.

#### DISCUSSION

This systematic review provides an overview of all development and validation studies of predictive models for progression of CKD to kidney failure. Since the last reviews on this topic, the number of publications has more than doubled [3]. Most included studies report high model performance measures, implying that calculating an individual's risk of renal failure with high accuracy is attainable. This is further emphasized by the similar predictors included in various models. There were, however, substantial shortcomings in many publications. As in many medical prediction studies, aetiological and prediction goals were often confused, limiting interpretability and applicability [7, 58]. First, more than half the tools provided insufficient details to calculate an individual's prognosis of kidney failure, rendering it useless for its intended purpose. Second, the clinical relevance of many models is limited due to the selection of the derivation population. Third, a high risk of bias was observed across studies, mainly due to the high risk of overfitting, inadequate handling of missing data and incomplete reporting of performance measures. Fourth, sufficient validation was largely lacking, increasing research waste and limiting the reliability of models. And finally, not a single impact study on the effect of clinical uptake has been performed. It is therefore not surprising that clinical uptake of models remains sporadic and guidelines on which model to use are lacking.

Providing absolute evidence for the single 'best' prognostic tool to use is complicated by differences between studies, mainly concerning varying study populations, use of different prediction baselines, use of varying time frames and multiple outcome definitions. A selection guide including all usable models is presented that may assist clinicians and patients in choosing the tool appropriate to their setting (Figure 5). There are many factors to take into account when selecting the most appropriate model, depending on the user's wishes and specific clinical setting. Users should be wary of overfitting in models developed on a small sample size and we would advise against the use of these models unless validated in a sufficiently large sample. Based on our results, we would advise the use of a tool with an overall low risk of bias that has shown good performance in external validation in a similar population to the

Study         Model validated         Independent         Validation         Country         Population         G           General CKD         KPNW model (phnson)         No         External         USA         General CKD Stages 3 and 4         46           Lemnartz et al. [24]         KFRE 4v (Tangri)         No         External         USA         General CKD Stages 3 and 4         46           Lemnartz et al. [18]         KFRE 4v (Tangri)         No         External         USA         General CKD Stages 3 and 4         46           Tangri et al. [18]         KFRE 4v and 8v (Tangri)         No         External         USA         General CKD Stages 3-5         46           Marks et al. [18]         KFRE 3v and 4v (Tangri)         No         External         USA         CKD, GFR 20-65'         -           Levin et al. [20]         KFRE 3v and 4v (Tangri)         No         External         USA         CKD, GFR 20-65'         -           Levin et al. [20]         KFRE 3v and 4v (Tangri)         No         External         USA         CKD, GFR 20-65'         -         -           Levin et al. [20]         KFRE 3v and 4v (Tangri)         Yes         External         USA         CKD, GFR 20-65'         -         -           Levin et al. [20]         KFRE 3	ValidationCountrytypeExternalUSAExternalUSAExternalS0 countriesExternalScotlandExternalScotlandExternalCanadaExternalUSAExternalCanadaExternalUSAExternalCanadaExternalUSAExternalCanadaExternalCanadaExternalCanadaExternalCanada	Population General CKD Stages 3 and 4 General CKD Stages 3 and 4 General CKD Stages 2-4 General CKD Stages 3-5 General CKD Stages 3-5 General CKD Stages 3-5 General CKD Stage 4 and 5 <sup>b</sup> General CKD Stage 4 and 5 <sup>b</sup>	GFR N tot mean No. 6 48 16 55 46 565, 5 46 721 3 46 721 3 47 18 68 28 2402, 28 2402, 28 2402, 28 819, 3	al, Outc of events Outc 3, 360 RRT 52 RRT 57, 23 829 RRT - RRT 7, 222 RRT 142 RRT 142 RRT 33 GFR	ome ⊲15, RRT	Time frame (years) 3 3 2, 5 5 5 5 1 1	Model updated Baseline hazard recali- brated to Colorado Baseline hazard, addition ultrasound parameters Baseline hazard recali- brated to Europe No No Coefficients re-estimated, biomarkers added	C-statistic 0.95 4v, update: 0.91, 0.91 4v, 8v: 0.88, 0.88 0.88 0.83 0.96 3v, 4v: 0.94, 0.95 8v, update: 0.86 0.80 0.80 0.96 0.95	Calibration Plot Plot Plot, test Plot, test	Updated model Presented Formula and web calculator - HRs
General CKDKPNW model (Johnson)NoExternalUSAGeneral CKD Stages 3 and 446Lennartz et al. [24]KFRE 4v (Tangri)NoExternalUSAGeneral CKD Stages 3 and 446Tangri et al. [18]KFRE 4v (Tangri)NoExternalCGrmanyGeneral CKD Stages 3 -547Tangri et al. [18]KFRE 4v (Tangri)NoExternalUSAGeneral CKD Stages 3 -547Marks et al. [26]KFRE 4v (Tangri)NoExternalUSAGeneral CKD Stages 3 -547Levin et al. [30]KFRE 3v and 4v (Tangri)NoExternalUSAGeneral CKD Stages 3 -547Levin et al. [30]KFRE 8v (Tangri)NoGeneral CKD Stages 3 -54747Drawz et al. [32]VA risk score (Drawz)NoGeneral CKD Stages 3 -42625Drawz et al. [32]VA risk score (Drawz)NoGeneral CKD Stages 3 -426Drawz et al. [32]VA risk score (Drawz)NoGeneral CKD Stages 3 -537Drawz et al. [32]VA risk score (Drawz)NoGeneral CKD Stages 3 -537Drawz et al. [32]VA risk score (Drawz)NoGeneral CKD Stages 3 -537Drawz et al. [32]KFRE 8v (Tangri)NoYesExternalUSAGeneral CKD Stages 3 -533Drawz et al. [32]KFRE 3v, 4v, and 8vYesExternalUSAGeneral CKD Stages 3 -533Tangri et al. [34]KFRE 3v, 4v, and 8vYesExternalUVGeneral CKD Stages 3 -5<	External USA External USA External Germany External USA Temporal Scotand External Scotand External USA External USA External USA External USA External Canada External Canada	General CKD Stages 3 and 4 General CKD Stages 2-4 General CKD Stages 2-4 General CKD Stages 3-5 General CKD Stages 3-5 General CKD Stages 3-5 General CKD Stage 4 and 5 <sup>b</sup> General CKD Stage 4 and 5 <sup>b</sup>	48 1655 46 565,5 46 7213 46 7213 - 1094, 47 1868 47 1868 28 2402, 28 2402, 28 819,3	3, 360 RKT 52 RKT 57, 23 829 RKT - RKT 7, 222 RKT 142 RKT 142 RKT 33 GFR	<15, RRT	1 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Baseline hazard recali- brated to Colorado Baseline hazard, addition ultrasound parameters Baseline hazard recali- brated to Europe No No No So	0.95 4v, update: 0.91, 0.91 4v, 8v: 0.88, 0.88 0.83 0.96 3v, 4v: 0.94, 0.95 8v, update: 0.86 0.87	Plot Plot Plot Plot, test Plot	No Formula Formula and web calculator - -
Schoolder et al. [19]       KFRE 4v (Tangri)       No       External       USA       General CKD Stages 3-ad 4       46         Tangri et al. [19]       KFRE 4v (Tangri)       No       External       Germany       General CKD Stages 3-5       46         Tangri et al. [18]       KFRE 4v (Tangri)       No       External       USA       General CKD Stages 3-5       46         Grams et al. [16]       KFRE 3v and 4v (Tangri)       Yes       External       USA       CKD, GFR 20-65*       -         Marks et al. [28]       Model 7 (Margri)       Yes       External       USA       Ceneral CKD Stages 3-5       47         Levin et al. [30]       KFRE 3v and 4v (Tangri)       Yes       External       USA       General CKD Stages 3-5       47         Dravez et al. [30]       KFRE 8v (Tangri)       Yes       External       USA       General CKD Stages 3-5       47         Dravez et al. [30]       KFRE 8v (Tangri)       Yes       External       USA       General CKD Stages 3-5       47         Dravez et al. [30]       KFRE 8v (Tangri)       Yes       External       USA       General CKD Stages 3-5       47         Dravez et al. [31]       KFRE 8v (Tangri)       Yes       External       USA       General CKD Stages 3-5       33	External USA External Germany External S30 countries External USA Temporal Scotland External Canada Geographic USA External USA External Canada Granda External Canada	General CKU Stages 3 and 4 General CKD Stages 2-4 General CKD Stages 3-5 General CKD Stages 3-5 General CKD Stages 3-5 General CKD Stages 3b-4 General CKD Stage 4 and 5 <sup>b</sup> General CKD Stage 4 and 5 <sup>b</sup>	48 10.55 46 565,5 46 721 3 46 721 3 47 18 68 28 2402, 28 2402, 28 819,5	5, 500 KKI 52 RFT 57, 23 829 KRT - RRT 7, 222 RRT 142 RT 142 RT 133 GFR	<15, RRT	<b>പറപ്ററ</b> പറപ്റ ക	paseme nazard recati- brated to Colorado Baseline hazard, addition ultrasound parameters Baseline hazard recali- brated to Europe No No No Coefficients re-estimated, biomarkers added	0.95 4.v. update: 0.91, 0.91 4.v. 8v: 0.88, 0.83 0.83 0.96 3v, 4v: 0.94, 0.95 8v, update: 0.86, 0.87	Plot Plot - Plot, test Plot, test	No Formula and web calculator - - HRs
Lennartz et al. [19]       KFRE 4v (Tangri)       No       External       Gernany       General CKD Stages 2–4       46         Tangri et al. [18]       KFRE 4v and 8v (Tangri)       No       External       >30 countries       General CKD Stages 3–5       46         Grams et al. [28]       Model 7 (Marks)       No       Temporal       Scoland       General CKD Stages 3–5       47         Marks et al. [28]       Model 7 (Marks)       No       Temporal       Scoland       General CKD Stages 3–5       47         Levin et al. [30]       KFRE 8v (Tangri)       Yes       External       USA       CKD, GFR Su-65*       25         Levin et al. [30]       KFRE 8v (Tangri)       No       No       Tanda       General CKD Stages 3–5       47         Dravez et al. [30]       KFRE 8v (Tangri)       No       External       USA       General CKD Stages 3–5       47         Dravez et al. [30]       KFRE 8v, (Tangri)       Yes       External       USA       General CKD Stages 3–5       47         Petters et al. [31]       KFRE 8v, (Tangri)       Yes       External       USA       General CKD Stages 3–5       33         Petters et al. [31]       KFRE 3v, 4v, and 8v       Yes       External       USA       General CKD Stages 3–5       33	External Germany External So countries External USA Temporal Scotland External Scotland External Canada Geographic USA External USA External Canada External Canada	General CKD Stages 2-4 General CKD Stages 3-5 CKD, GFR 20-65 <sup>4</sup> General CKD Stages 3-5 General CKD Stages 3b-4 General CKD Stage 4 and 5 <sup>b</sup> General CKD Stage 4 and 5 <sup>b</sup>	46 565, 5 46 7213 - 1094, 47 18 68 28 2402, 28 2402, 28 819, 3	52 RRT 57,23 829 RRT - RRT 7,222 RRT 142 RRT 142 RRT 33 GFR	<15, RRT	ں کر کی کی م ۱۰ کر کر کی	Baseline hazard, addition ultrasound parameters Baseline hazard recali- brated to Europe No No Coefficients re-estimated, biomarkers added	4v, update: 0.91, 0.91 4v, 8v: 0.88, 0.88 0.88 0.96 3v, 4v: 0.94, 0.95 8v, update: 0.86 0.87	Plot Plot - Plot, test -	Formula Formula and web calculator - - HRs
Tangri et al.       Itsl       KFRE 4v and 8v (Tangri)       No       External       >30 countries       General CKD Stages 3-5       46         Grams et al.       Itel       KFRE 4v (Tangri)       Yes       External       USA       CKD, GFR 20-65*       -         Marks et al.       [28]       Model 7 (Margri)       Yes       External       USA       CKD, GFR 20-65*       -         Levin et al.       [30]       KFRE 3v and 4v (Tangri)       Yes       External       Scotland       General CKD Stages 3-5       47         Levin et al.       [30]       KFRE 8v (Tangri)       No       External       USA       General CKD Stages 3-5       47         Drawz et al.       [32]       VA nisk score (Drawz)       No       Geographic       USA       General CKD Stages 3-5       33         Peeters et al.       [32]       VA nisk score (Drawz)       No       Geographic       USA       General CKD Stages 3-5       33         Peeters et al.       [34]       KFRE 3v, 4v, and 8v       Yes       External       USA       General CKD Stages 3-5       33         Tangri et al.       [34]       KFRE 3v, 4v, and 8v       Yes       External       USA       General CKD Stages 3-5       33         Tangri et al. <t< td=""><td>External &gt;30 countries External USA Temporal USA External Scotland External Scotland External USA External USA External Canada External Canada</td><td>General CKD Stages 3-5 CKD, GFR 20-65<sup>4</sup> General CKD Stages 3-5 General CKD Stages 3b-4 General CKD Stage 4 and 5<sup>5</sup> General CKD Stage 4 and 5<sup>6</sup></td><td>46 721 3 - 1094, 47 18 68 28 2402, 28 2402, 25 819, 5</td><td>57,23 829 RRT - RRT 7,222 RRT 142 RRT 143 RRT 143 RRT 143 RRT 143 RRT 143 RRT 144 RRTT 144 RRTT 144 RRTT 144 RRTT 144 RRTT 144 RRTT 144 RRTT 144 RRTT</td><td><li>LI5, RRT</li></td><td>ر کی کی 1, ک 1 5 5 5 5</td><td>Baseline hazard recali- brated to Europe No No Oofficients re-estimated, biomarkers added</td><td>4y, 8y: 0.88, 0.88 0.83 0.96 3y, 4y: 0.94, 0.95 3y, update: 0.86, 0.87</td><td>Plot - Plot, test -</td><td>Formula and web calculator - HRs</td></t<>	External >30 countries External USA Temporal USA External Scotland External Scotland External USA External USA External Canada External Canada	General CKD Stages 3-5 CKD, GFR 20-65 <sup>4</sup> General CKD Stages 3-5 General CKD Stages 3b-4 General CKD Stage 4 and 5 <sup>5</sup> General CKD Stage 4 and 5 <sup>6</sup>	46 721 3 - 1094, 47 18 68 28 2402, 28 2402, 25 819, 5	57,23 829 RRT - RRT 7,222 RRT 142 RRT 143 RRT 143 RRT 143 RRT 143 RRT 143 RRT 144 RRTT 144 RRTT 144 RRTT 144 RRTT 144 RRTT 144 RRTT 144 RRTT 144 RRTT	<li>LI5, RRT</li>	ر کی کی 1, ک 1 5 5 5 5	Baseline hazard recali- brated to Europe No No Oofficients re-estimated, biomarkers added	4y, 8y: 0.88, 0.88 0.83 0.96 3y, 4y: 0.94, 0.95 3y, update: 0.86, 0.87	Plot - Plot, test -	Formula and web calculator - HRs
<ul> <li>Grams <i>et al.</i> [16]</li> <li>KFRE 4v (Tangri)</li> <li>Marks <i>et al.</i> [28]</li> <li>Model 7 (Marxi)</li> <li>Yes</li> <li>External</li> <li>USA</li> <li>CKD, GFR 20-6<sup>5</sup></li> <li>KFRE 3v and 4v (Tangri)</li> <li>Yes</li> <li>External</li> <li>Scotland</li> <li>General CKD Stages 3-5</li> <li>47</li> <li>Levin <i>et al.</i> [30]</li> <li>KFRE 8v (Tangri)</li> <li>No</li> <li>External</li> <li>Scotland</li> <li>General CKD Stages 3-5</li> <li>47</li> <li>Drawz <i>et al.</i> [32]</li> <li>VA nisk score (Drawz)</li> <li>No</li> <li>Geographic</li> <li>USA</li> <li>General CKD Stages 3-5</li> <li>47</li> <li>Stages 3-5</li> <li>48</li> <li>Tangri <i>et al.</i> [32]</li> <li>VA nisk score (Drawz)</li> <li>No</li> <li>Geographic</li> <li>USA</li> <li>General CKD Stages 4 and 5<sup>5</sup></li> <li>Zermal</li> <li>The Neth-</li> <li>General CKD Stages 4 and 5<sup>5</sup></li> <li>Section of <i>et al.</i> [34]</li> <li>KFRE 3v, 4v, and 8v</li> <li>Yes</li> <li>External</li> <li>USA</li> <li>General CKD Stages 3-5</li> <li>Tangri <i>et al.</i> [34]</li> <li>KFRE 3v, 4v, and 8v</li> <li>Yes</li> <li>External</li> <li>USA</li> <li>General CKD Stages 3-5</li> <li>Tangri <i>et al.</i> [34]</li> <li>KFRE 3v, 4v, and 8v</li> <li>Yes</li> <li>External</li> <li>Canada</li> <li>General CKD Stages 3-5</li> <li>Tangri <i>et al.</i> [34]</li> <li>KFRE 3v, 4v, and 8v</li> <li>Yes</li> <li>External</li> <li>Canada</li> <li>General CKD Stages 3-5</li> <li>Tandray <i>et al.</i> [55]</li> <li>Specified trend disease</li> <li>Knoop <i>et al.</i> [21]</li> <li>ARR score (Berthoux)</li> <li>No</li> <li>External</li> <li>France</li> <li>Secondary IgA nephropathy</li> <li>Secondary IgA nephropathy</li> </ul>	External USA Temporal USA External Scotland External Scotland Geographic USA External USA External The Neth- erlands Evternal Canada	CKD, GFR 20–65 <sup>4</sup> General CKD Stages 3–5 General CKD Stages 3–5 General CKD Stage 3 b–4 General CKD Stage 4 and 5 <sup>b</sup> General CKD Stage 4 and 5 <sup>b</sup>	- 1094, 47 18 68 47 18 68 28 2402, 28 2402, 25 819, 3	- RRT 7, 222 RRT 1,222 RRT 1,42 RRT 1,4	<15, RRT	1, <b>5</b> 5 1	brated to Europe No No No Coefficients re-estimated, biomarkers added	0.88 0.83 0.96 3v, 4v: 0.94, 0.95 8v, update: 0.86, 0.87	- Plot, test Plot	and web calculator - - HRs
Grams et al. [16]       KFRE 4v (Tangri)       Yes       External       USA       CKD, GFR 20-65 <sup>4</sup> -         Marks et al. [28]       Model 7 (Marks)       No       Temporal       Scotland       General CKD Stages 3-5       47         Levin et al. [30]       KFRE 3v and 4v (Tangri)       Yes       External       Scotland       General CKD Stages 3-5       47         Drawz et al. [32]       VA risk score (Drawz)       No       Geographic       USA       General CKD Stages 3-5       23         Peeters et al. [17]       KFRE 8v (Tangri)       Yes       External       USA       General CKD Stages 3-5       23         Peeters et al. [17]       KFRE 3v, 4v, and 8v       Yes       External       USA       General CKD Stages 3-5       33         Tangri et al. [34]       KFRE 3v, 4v, and 8v       No       Geographic       USA       General CKD Stages 3-5       33         Tangri et al. [34]       KFRE 3v, 4v, and 8v       No       External       USA       General CKD Stages 3-5       33         Tangri et al. [34]       KFRE 3v, 4v, and 8v       No       External       USA       General CKD Stages 3-5       33         Tangri et al. [35]       CRB score (Landray)       No       External       UK       General CKD Stages 3-5       <	External USA Temporal USA External Scotland External Canada Geographic USA External USA External The Neth- erlands Evernal Canada	CKD, GFR 20-65 <sup>4</sup> General CKD Stages 3-5 General CKD Stages 3-5 General CKD Stages 3b-4 General CKD Stage 4 and 5 <sup>5</sup> General CKD Stage 4 and 5 <sup>6</sup>	- 1094, 47 18 68 47 18 68 28 2402, 28 2402, 25 25 25 25 25 25 819, 5	- RRT 7, 222 RRT 7, 222 RRT 142 RRT 142 RRT 143 GFR	<15, RRT	1, <b>5</b> 5 1	No No No Coefficients re-estimated, biomarkers added	0.83 0.96 3v, 4v: 0.94, 0.95 8v, update: 0.86, 0.87	- Plot, test Plot -	 - HRs
Marks et al. [28]       Model 7 (Marks)       No       Temporal       Scotland       General CKD Stages 3-5       47         Levin et al. [30]       KFRE 3v and 4v (Tangri)       Yes       External       Scotland       General CKD Stages 3-5       47         Levin et al. [30]       KFRE 3v and 4v (Tangri)       Yes       External       Scotland       General CKD Stages 3-5       47         Drawz et al. [32]       VA nisk score (Drawz)       No       Geographic       USA       General CKD Stages 3-5       33         Peeters et al. [17]       KFRE 3v, 4v, and 8v       Yes       External       USA       General CKD Stages 4 and 5 <sup>b</sup> 25         Peeters et al. [34]       KFRE 3v, 4v, and 8v       No       Tangri et al. [34]       USA       General CKD Stages 3-5       33         Tangri et al. [34]       KFRE 3v, 4v, and 8v       No       External       USA       General CKD Stages 3-5       33         Tangri et al. [35]       CRB score (Landray)       No       External       UK       General CKD Stages 3-5       33         Iandray et al. [51]       AR score (Landray)       No       External       UK       General CKD Stages 3-5       33         Specified trend disease       Knoop et al. [21]       AR score (Landray)       No       Moway </td <td>Temporal Scotland External Scotland External Canada Geographic USA External USA External The Neth- erlands Evternal Canada</td> <td>General CKD Stages 3–5 General CKD Stages 3–5 General CKD Stages 3b–4 General CKD Stage 4 and 5<sup>b</sup> General CKD Stage 4 and 5<sup>b</sup></td> <td>47         18 68           47         18 68           28         2402,           28         2402,           25         819,</td> <td>7, 222 RRT 7, 222 RRT 142 RRT 133 GFR 33 GFR</td> <td>&lt;15, RRT</td> <td>551</td> <td>No No Coefficients re-estimated, biomarkers added</td> <td>0.96 3v, 4v: 0.94, 0.95 8v, update: 0.86, 0.87</td> <td>Plot, test Plot -</td> <td>- - HRs</td>	Temporal Scotland External Scotland External Canada Geographic USA External USA External The Neth- erlands Evternal Canada	General CKD Stages 3–5 General CKD Stages 3–5 General CKD Stages 3b–4 General CKD Stage 4 and 5 <sup>b</sup> General CKD Stage 4 and 5 <sup>b</sup>	47         18 68           47         18 68           28         2402,           28         2402,           25         819,	7, 222 RRT 7, 222 RRT 142 RRT 133 GFR 33 GFR	<15, RRT	551	No No Coefficients re-estimated, biomarkers added	0.96 3v, 4v: 0.94, 0.95 8v, update: 0.86, 0.87	Plot, test Plot -	- - HRs
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Mohey et al. [22] ARR score (Berthoux) No External France Secondary IgA nephropathy 82	External Norway	IgA nephropathy	- 1134,	320 Deatl	h, RRT	5, 10, 15	Coefficients re-estimated,	0.79 update:	I	Formula
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	External France	Secondary IgA nephropathy	82 74, 19	) GFR	<15, death	10, 20	No	I	I	I
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Xie et al. [47]         Goto score         Yes         External         China         IgA nephropathy         88	External China	IgA nephropathy	88 619,6	57 ESRI	0	2, 5, 10	No	0.82	I	1
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ARR score (Berthoux) Yes External China IgA nephropathy 88	External China	IgA nephropathy	88 619,6	57 ESRI	0	2, 5, 10	No	0.73	I	I
Berthoux et al. [48] ARR score (Berthoux) No Temporal France IgA nephropathy -	Temporal France	IgA nephropathy	- 250, 3	38 Deatl	h, RRT	10, 20	No	I	I	I
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							classification simplified			
Magistroni et al. [54] Magistroni score No External Italy IgA nephropathy –	External Italy	IgA nephropathy	- 73, 8	RRT		10	No	I	I	I

ź. đ, Ľ, j da <sup>a</sup>Hypertensive CKD population. <sup>b</sup>Population of veterans  $\geq 65$  years old. v, varing model performance and other model specifics are reported in bold in the table.



**FIGURE 4:** (**A**) Risk of bias and usability of prediction models (N=42). Assessed using the PROBAST. The five risk of bias domains were evaluated as low risk (+), unclear risk (?) or high risk (-). Usability was evaluated as yes (+) or no (-). (**B**) PROBAST risk of bias summary for all studies (N=42).

population in which the use is intended and has ideally been assessed in an impact study.

For kidney failure prediction in a general CKD cohort with Stages 3–5 patients, we would recommend the four- or eightvariable KFRE, as it has been externally validated extensively for a time frame of 2 and 5 years. Although the development study potentially introduced bias by selecting predictors that were recorded up to 365 days after prediction baseline and by using univariate analysis to select predictors, the model has shown consistently good performance in CKD Stages 3–5 patients from less-biased external validation studies [18, 34]. Alternatively, for 5-year predictions, the Kaiser Permanente Northwest (KPNW) model as updated and externally validated by Schroeder *et al.* [24] also has great potential, mainly due to its methodological rigor and low risk of bias, although it is less easy to use than the KFRE. Various other general CKD models showed promising results in development but should be further externally validated to ensure consistency of performance before clinical use [26, 28, 32]. For prediction of disease progression in IgA nephropathy patients, a large number of models are available. However, these models, were generally developed on a small sample size and often had a high risk of bias. The most evidence on validity was found for the risk scores developed by Goto *et al.* [51] and the ARR (by Berthoux *et al.* [48]). The Goto score contains some risk of bias due to a complete case analysis and univariate selection of predictors, but was developed on a



**FIGURE 5**: Model selection guide for CKD patients. In this graph, only models that allow calculation of an individual's prognosis and are therefore labelled as usable are included. This entails that these models provide either a full formula, score with absolute risk table or (currently working) web calculator for a specified prediction time frame. For categories containing multiple models, the risk of bias combined with evidence of external validity was weighed in determining the model order, starting with the most valid and least biased models. Nevertheless, many of the models listed have significant shortcomings and should be used with caution.

relatively large sample size and has been externally validated twice. Although the ARR score was developed using questionable model building methods and with incomplete reporting of performance, this score has been externally validated the most times, and a recently updated version presented by Knoop *et al.* [21] shows great potential.

Clinical relevance proved to be largely lacking for many of the included models in the current review. Specifically, models for general CKD patients were often developed on prevalent patients with a wide range of disease severity and did not specify a specific time point when the model should be used. Prediction of renal failure can be extremely accurate when using a population with GFRs ranging from 10 to 60 mL/min/ 1.73 m<sup>2</sup>. However, in practice, such tools would probably be employed for a more homogeneous group of patients in which it is clinically relevant to discuss prognosis. The predictive capacifies of the model would be lower in such a population. This is exemplified in the KFRE validation performed by Peeters et al. [17], where the area under the curve of the fourvariable KFRE dramatically decreased from 0.88 in the whole population (CKD Stages 3-5) to 0.71 in the more relevant population of CKD Stage 4 patients. Another factor limiting usability and interpretability is that the number of studies did not define the prediction time frame. Finally, the definition of outcome differs between studies. The use of composite endpoints is particularly problematic, as it limits the value of the model for clinicians, as each separate endpoint requires different interventions. In conclusion, an ideal model is developed for one clearly defined clinically meaningful and objective endpoint in a population for which prediction is clinically relevant. Few models included in this review met these recommendations and this lack of clinical relevance could be a large contributor to the slow uptake seen in practice.

Despite the limited uptake and discussed shortcomings of existing tools, risk prediction models for kidney failure have a great potential for improving patients' decision making, treatment and overall health. In future studies there is the need for improvement of the quality of reporting and methodology used. As the majority of models included had a high risk of bias, these models should not be implemented unless their validity is proven in unbiased external validation studies. Hopefully efforts such as the TRIPOD guidelines will correct these inadequacies and result in more robust, usable and unbiased prognostic tools [9]. To limit research waste and improve clinical uptake, it is of crucial importance that development studies provide enough model information (formula/score with absolute risk table) to enable their use. For specific renal diseases and homogeneous patient populations, there certainly appears to be room for improvement in model development. For populations in which multiple models are available, we advise that future research should focus on the updating, validation and implementation of these existing prognostic tools. Previous studies have shown that the combination of well-established clinical risk factors and kidney disease markers can accurately predict renal failure in a general CKD population. Therefore one might advise focusing resources on updating models for more clinically relevant populations in an unbiased fashion. In this step, external validation of multiple models in the same population is of key importance. Additionally, translation of mathematical model formulas to simple tools such as web calculators and enabling automated uptake is of great importance for integration into daily clinical routine. Ultimately, impact studies will be necessary to determine whether the implementation of such tools truly improves patient outcomes. Ideally, such impact studies would be randomized controlled trials and would assess the effect of implementing a prediction model in clinical practice. Different outcomes might be considered as endpoints in such studies, partly dependent on the time of prediction. Relevant outcomes might be timely referral to nephrologists, timely placement of vascular access, better informed patients, improved quality of life and possibly even improved survival.

The current review has a number of strengths. First, we expect to have included a complete overview of existing models. Furthermore, this is the first study on kidney failure models to perform a formal risk of bias assessment aimed specifically at prediction research. The study is limited by the inclusion of only English-language articles. Also, the differences in case mix and characteristics of included studies make it difficult to directly compare their performances. Herein we are limited by the lack of validation studies that compare multiple models in the same cohort. Finally, we limited the scope of this review to models predicting kidney failure, although other outcomes such as death or cardiovascular events may also have significant clinical value.

In conclusion, this study provides a systematic overview of existing models for predicting progression to kidney failure in CKD patients. The results may be used as a tool to select the most appropriate and robust prognostic model for various settings. Finally, we hope the current review motivates researchers in this field to decrease the generation of new models and combine efforts to explore, analyse and update existing models in clinically relevant settings to ultimately stimulate clinical uptake and improve patient outcomes.

#### SUPPLEMENTARY DATA

Supplementary data are available at ndt online.

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#### AUTHORS' CONTRIBUTIONS

All authors have made substantial contributions to the conception of the work and the acquisition and interpretation of data. C.L.R. drafted the work and Y.J., F.W.D. and M.D. critically revised the work. The final version of this manuscript was approved by all the authors and all authors agree to be accountable for all aspects of the work.

#### CONFLICT OF INTEREST STATEMENT

The authors have no competing interests to declare. All authors declare no support from any organization for the submitted work, no financial relationships with any organizations that might have an interest in the submitted work in the previous 3 years and no other relationships or activities that could appear to have influenced the submitted work.

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#### APPENDIX A1

Search strategies used on 31 December 2017.

PubMed:

('ESRD'[ti] OR 'ESKD'[ti] OR ((end stage\*[ti] OR endstage\*[ti]) AND ('renal'[ti] OR kidnev\*[ti])) OR 'Kidnev Failure, Chronic'[majr] OR 'Chronic Kidney Failure'[ti] OR 'Chronic Renal Failure'[ti] OR 'Renal Insufficiency, Chronic'[majr] OR 'chronic Renal Insufficiency'[ti] OR 'chronic kidney Insufficiency'[ti] OR 'CKD'[ti] OR 'chronic kidney disease'[ti] OR 'chronic kidney diseases'[ti] OR nephropath\*[ti]) AND ('predictive model'[ti] OR 'predictive models'[ti] OR predictive model\*[ti] OR 'prediction model'[ti] OR 'prediction models'[ti] OR prediction model\*[ti] OR 'prediction rule'[ti] OR 'prediction rules'[ti] OR 'predictive rule'[ti] OR 'predictive rules'[ti] OR 'prognostic model'[ti] OR 'prognostic models'[ti] OR prognostic model\*[ti] OR 'risk score'[ti] OR 'risk scores'[ti] OR 'score'[ti] OR 'scoring'[ti] OR 'predictive'[ti] OR 'predicting'[ti] OR 'predict' [ti] OR 'predicts' [ti] OR 'prediction'[ti] OR 'Risk Assessment'[Majr] OR 'risk assessment'[ti] OR 'risk assessments'[ti]) AND English[lang]

EMBASE:

('ESRD'.ti. OR 'ESKD'.ti. OR ((end stage\*.ti. OR endstage\*.ti.) AND ('renal'.ti. OR kidney\*.ti.)) OR exp \*chronic kidney failure/OR 'Chronic Kidney Failure'.ti. OR 'Chronic Renal Failure'.ti. OR 'chronic Renal Insufficiency'.ti. OR 'chronic kidney Insufficiency'.ti. OR 'CKD'.ti. OR 'chronic kidney disease'.ti. OR 'chronic kidney diseases'.ti. OR nephropath\*.ti.) AND ('predictive model'.ti. OR 'predictive models'.ti. OR predictive model\*.ti. OR 'prediction model'.ti. OR 'prediction models'.ti. OR prediction model\*.ti. OR 'prediction rule'.ti. OR 'prediction rules'.ti. OR 'predictive rule'.ti. OR 'predictive rules'.ti. OR 'prognostic model'.ti. OR 'prognostic models'.ti. OR prognostic model\*.ti. OR 'risk score'.ti. OR 'risk scores'.ti. OR 'score'.ti. OR 'scoring'.ti. OR 'predictive'.ti. OR 'predicting'.ti. OR 'predict'.ti. OR 'predicts'.ti. OR 'prediction'.ti. OR exp \*'Risk Assessment'/ OR 'risk assessment'.ti. OR 'risk assessments'.ti.) AND English.lg. NOT (conference OR conference abstract OR conference paper OR 'conference review').pt.

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**DRIGINAL ARTICLE** 

### Post-partum acute kidney injury: sorting placental and non-placental thrombotic microangiopathies using the trajectory of biomarkers

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#### ABSTRACT

**Background.** Among the severe complications of preeclampsia (PE), acute kidney injury (AKI) is problematic if features of thrombotic microangiopathy (TMA) are present. Although a haemolysis enzyme liver low-platelets syndrome is considerably more frequent, it is vital to rule out a flare of atypical haemolytic and uraemic syndrome (aHUS). Our objective was to improve differential diagnosis procedures in post-partum AKI.

**Methods.** A total of 105 cases of post-partum AKI, admitted to nine different regional French intensive care units from 2011 to 2015, were analysed. Analysis included initial and final diagnosis, renal features, haemostasis and TMA parameters, with particular focus on the dynamics of each component within the first days following delivery. A classification and regression tree (CART) was used to construct a diagnostic algorithm.

**Results.** AKI was attributed to severe PE (n = 40), post-partum haemorrhage (n = 33, including 13 renal cortical necrosis) and 'primary' TMA (n = 14, including 10 aHUS and 4 thrombotic thrombocytopenic purpura). Congruence between initial and final diagnosis was low (63%). The dynamics of haemoglobin, haptoglobin and liver enzymes were poorly discriminant. In contrast, the dynamic pattern of platelets was statistically different between primary TMA-related AKI and other groups. CART analysis independently highlighted the usefulness of platelet trajectory in the diagnostic algorithm. Limitations of this study include that only the most severe cases were included in this retrospective study, and the circumstantial complexity is high.