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Demographics and Seasonality of Retinal Detachment, Retinal Breaks, and Posterior Vitreous Detachment from the Intelligent Research in Sight Registry

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Purpose: To investigate the incidence, seasonal variation, and differences among age, sex, and race for rhegmatogenous retinal detachment (RRD) repair, retinal break (RB) treatment, and posterior vitreous detachment (PVD) in the Intelligent Research in Sight (IRIS) Registry.

Design: Retrospective database study.

Participants: Patients in the IRIS Registry who underwent RRD repair, RB treatment, or cataract surgery (CS) based on Current Procedural Terminology codes and PVD diagnosis based on International Classification of Diseases, Ninth and Tenth Revision, codes.

Methods: Daily incidence rates were defined as the ratio of patients who underwent RRD repair or RB treatment and patients with a diagnosis of PVD to the total number of patients followed on a given day within the IRIS Registry. The CS group was included as a comparison for seasonal variation. Rates were stratified by decade of life, sex, and race.

Main Outcome Measures: Time series trends for incidence rates of RRD, RB, and PVD.

Results: A total of 7 115 774 patients received a diagnosis of incident PVD, 237 646 patients underwent RRD repair, and 359 022 patients underwent RB treatment. Also included were 5 940 448 patients who underwent CS. The mean daily incidence for RRD repair, RB treatment, PVD diagnosis, and CS were 0.46 per 100 000 patients, 0.70 per 100 000 patients, 13.90 per 100 000 patients, and 11.80 per 100 000 patients, respectively. Men showed higher incidence of RRD repair and RB treatment than women, whereas women showed higher incidence of PVD diagnosis. Rhegmatogenous retinal detachment incidence was higher in White people compared with other races. Seasonal decreases in PVD, RB treatment, RRD repair, and CS corresponded to national holidays, with larger decreases in winter months. Kaplan-Meier estimates showed that RRD repair and RB treatment typically occurred within 60 days of PVD diagnosis.

Conclusions: Within the IRIS Registry, the highest incidence of RRD was in the 6th and 7th decade of life. There was a higher incidence of RRD repair and RB treatment in men compared with women. The seasonal variation associated with national holidays was less pronounced for RRD repair and RB treatment. *Ophthalmology Science 2022;2:100145 © 2022 by the American Academy of Ophthalmology. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).*

Supplemental material available at www.ophthalmologyscience.org

Rhegmatogenous retinal detachment (RRD) is a vision-threatening condition with an estimated incidence of 10 to 18 per 100 000 population per year in the United States.[1–3] Posterior vitreous detachment (PVD) is a normal age-related anatomic development that can lead to the formation of retinal breaks (RBs) at sites of firm vitreoretinal adhesion and subsequent retinal detachment. Retinal breaks are identified in 8% to 16% of patients with acute symptomatic PVD and may progress to RRD in 30% to 50% of patients if untreated.[4–8] Understanding the relative incidence of these conditions and the timing of RB and RRD after acute PVD may be important to determine clinical surveillance guidelines.

The estimated incidence of RRD in the United States has been derived from surveys and computer database studies conducted at a local level in Iowa and Minnesota.[1–3] Similarly, estimated rates of RB formation and PVD have been derived from single-center studies, meta-analyses, and autopsy studies.[4–7,9] Demographic findings from international studies have shown an association with age, with the highest incidence of RRD being reported in the sixth (50–59 years of age) and seventh (60–69 years of age) decades of life.[2,3,10–13] More studies report a preponderance of RRD in men compared with women (male-to-female ratio, 1.3:1–2.3:1).[12,14–18] However, it is unclear

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whether this is the result of a higher exposure to ocular trauma, health care avoidance, or an inherent sex-related risk. Differences among races with respect to RRD and RB formation have not been reported from study populations in the United States.[1–3]

Onset of PVD is known to be associated with increasing age.[9] Environmental factors have also been hypothesized to contribute, such as light exposure, temperature, and humidity.[19] Seasonal variation in RRD incidence has been studied in local populations, but with conflicting findings. Select studies show a summer peak,[20–23] no seasonality,[11,15,24] and a winter peak.[25] A larger-scale study is necessary to better determine environmental contributions to PVD progression and secondary complications such as RB formation and RRD.

At the time of writing, the American Academy of Ophthalmology Intelligent Research in Sight (IRIS) Registry is able to provide aggregate data from more than 300 million ophthalmology visits from 60 million unique patients in the United States. Our aim is to use the IRIS Registry to report on a national scale the daily incidence rates of RRD, RB, and PVD. Furthermore, we aimed to use the large IRIS Registry dataset to provide additional insight into questions regarding seasonality, age, sex, and race with respect to these conditions.[26]

Methods

This study was conducted in accordance with the tenets of the Declaration of Helsinki. Given the use of de-identified patient data, the review was exempted from the University of Washington Institutional Review Board. The methods of data collection and aggregation of the IRIS Registry database have been previously described.[26] Version 2020_07_28 of the IRIS Registry, which was last modified on October 23, 2020, was used for this study.

Patients in the IRIS Registry treated between 2014 and 2018 were included in this study. The first PVD diagnosis was based on International Classification of Diseases (ICD), Ninth and Tenth Revision, codes. Laterality information from the electronic medical record linked to the ICD, Ninth and Tenth Revision, codes for PVD diagnosis was used to confirm laterality. First instances of RRD repair, RB treatment, and cataract surgery (CS) were identified based on Current Procedural Terminology (CPT) codes (Supplemental Table 1). The incidences of RRD repair, RB treatment, PVD, and CS were calculated as an average daily incidence, dividing the number of identified patients by the total number of patients followed in the IRIS registry on a given day. The CPT code for complex retinal detachment repairs was excluded to recruit a population more consistent with primary RRD repair, rather than recurrent detachments or diabetic tractional retinal detachments. Patients were considered to have been followed and at risk if the day of incidence fell between the first and last records in the IRIS Registry and they had no history of the event in question on any date before that point.

Overall incidence rates and stratified incidence rates by decade of life, sex, and race were plotted by day per 100 000 patients. The denominator for every substrata was recalculated to ensure that the denominator represented the population at risk throughout all analyses. Given that date of birth is redacted in the IRIS Registry for patients $\geq$ 87 years of age at the time of data release, patients $>$ 86 years of age were included in the age group $\geq$ 70 years. Race was categorized as White or other races. The CS group was included as an internal comparator group, given its elective nature and its expected fluctuations during holidays, weekends, or seasons. Means and Wald 95% confidence intervals for daily incidence rates were reported. Two-sample t tests were used to compare the differences in mean daily incidence rates between men and women and between White people and those of other races for PVD, RB treatment, and RRD repair.

Kaplan-Meier curves were fit to estimate the time from PVD diagnosis to RRD repair, RB treatment, or both. All analyses were performed with R software version 3.6.1 (R Foundation for Statistical Computing, Vienna, Austria).

Results

A total of 7 115 774 patients received a diagnosis of incident PVD between the start of 2014 and end of 2018. Patients undergoing RRD repair (n = 237 646), RB treatment (n = 359 022), and CS (n = 5 940 448) during this same period were also included in the analysis (Table 1). The mean daily incidences within the IRIS Registry for RRD repair, RB treatment, PVD, and CS were 0.46 per 100 000 patients, 0.70 per 100 000 patients, 13.9 per 100 000 patients, and 11.8 per 100 000 patients, respectively (Table 2). Incidence within the IRIS Registry of RRD repair stratified by CPT code are shown in Supplemental Figure 1.

Seasonal variation in RRD repair, RB treatment, PVD, and CS demonstrating relative declines in average point incidence that corresponded to national holidays are shown in Figure 1; these fluctuations were more pronounced during winter months. The seasonal variation in the rate of RRD repair, RB treatment, and PVD were similar to seasonal variation in CS (Fig 1). The average daily incidence within the IRIS Registry of CS was lowest in the first quarter at 11.6 per 100 000 patients, 11.8 per 100 000 patients in quarters 2 and 3, and highest in quarter 4 at 12.1 per 100 000 patients. Average daily incidence within the IRIS Registry of PVD per quarter ranged from 13.4 cases per 100 000 patients in quarter 2 to 15.1 per 100 000 patients in quarter 4. Average daily incidence within the IRIS Registry of RB treatment ranged from 0.68 to 0.72, and RRD repair incidence ranged from 0.45 to 0.47 per quarter (Table 2).

Time series showing the 7-day moving average point incidence within the IRIS Registry for RRD repair, RB treatment, and PVD by age and sex demographics are shown in Figure 2. The highest incidence of RRD repair was between the groups 50 to 59 years of age and 60 to 69 years of age at 0.76 per 100 000 patients and 0.67 per 100 000 patients, respectively. Men showed a higher incidence within the IRIS Registry of RRD repair (0.67 per 100 000 patients vs. 0.32 per 100 000 patients; $P < 0.001$) and RB treatment (0.86 per 100 000 patients vs. 0.59 per 100 000 patients; $P < 0.001$) than women. In contrast, women showed a higher incidence within the IRIS Registry of PVD than men (14.4 per 100 000 patients vs. 13.2 per 100 000 patients; $P < 0.001$).

Time series showing the 7-day moving average point incidence within the IRIS Registry for RRD repair, RB treatment, and PVD diagnosis by age and race demographics are shown in Figure 3. Rhegmatogenous retinal detachment, RB, and PVD diagnosis incidences within the

Table 1. Demographic Factors and Laterality Information of the Study Population by the Diagnosis or Procedure Group

	Cataract Surgery (n = 5 940 448)	Posterior Vitreous Detachment (n = 7 115 774)	Retinal Break (n = 359 022)	Rhegmatogenous Retinal Detachment (n = 237 646)	Intelligent Research in Sight Registry Population (n = 52 227 553)
Age (yrs)					
Mean±SD	69.49 ± 8.86	67.81 ± 10.25	58.36 ± 13.83	59.46 ± 13.37	51.36 ± 21.13
>86, no. (%)	368 183 (6.20)	634 088 (8.91)	3550 (0.99)	5684 (2.39)	3 244 824 (6.21)
Missing age	1143	3241	70	52	481 689
Sex, no. (%)					
Female	3 434 341 (57.81)	4 305 477 (60.51)	175 558 (48.9)	95 398 (40.14)	29 949 787 (57.34)
Male	2 486 064 (41.85)	2 786 320 (39.16)	181 779 (50.63)	140 939 (59.31)	22 094 347 (42.3)
Race, no. (%)					
White	4 376 056 (73.67)	5 361 249 (75.34)	258 432 (71.98)	184 097 (77.47)	33 701 039 (64.53)
Black	385 556 (6.49)	331 049 (4.65)	22 556 (6.28)	11 535 (4.85)	3 780 524 (7.24)
Asian	136 810 (2.3)	188 618 (2.65)	12 966 (3.61)	5952 (2.5)	1 559 546 (2.99)
Other	60 213 (1.01)	56 053 (0.79)	4682 (1.3)	3002 (1.26)	456 534 (0.87)
Unknown	981 813 (16.53)	1 178 805 (16.57)	60 386 (16.82)	33 060 (13.91)	12 729 910 (24.37)

SD = standard deviation.
The Intelligent Research in Sight Registry population represents all patients eligible to fulfill at least 1 diagnosis or procedure code during the study period (2014–2018).

IRIS Registry were higher among White patients compared with those of other races (0.53 per 100 000 patients vs. 0.31 per 100 000 patients [$P < 0.001$]; 0.76 per 100 000 patients vs. 0.59 per 100 000 patients [$P < 0.001$]; and 15.9 per 100 000 patients vs. 10.1 per 100 000 patients [$P < 0.001$], respectively).

The proportions of patients receiving a diagnosis of PVD who underwent RB treatment and RRD repair over time are shown with Kaplan-Meier curves in Figure 4. At 90 days, 0.4% had undergone RB treatment, 0.4% had undergone RRD repair, and 0.7% had undergone either. In each of the 3 outcomes (RB treatment, RRD repair, or both), most occurred within 60 days after PVD diagnosis. The probability of requiring either RB treatment or RRD repair 60 days after PVD diagnosis was < 0.7%.

Discussion

We calculated a daily incidence rate within the IRIS Registry for RRD repair, RB treatment, and PVD diagnosis. The mean daily incidence for the duration of the study was found to be

Table 2. Mean Daily Incidence, 95% Confidence Intervals, and Demographic Factors for Rhegmatogenous Retinal Detachment Repair, Retinal Break Treatment, and Posterior Vitreous Detachment Diagnosis

	Rhegmatogenous Retinal Detachment		Retinal Break		Posterior Vitreous Detachment	
	Mean Daily Incidence	*95% Confidence Interval*	*Mean Daily Incidence*	*95% Confidence Interval*	*Mean Daily Incidence*	*95% Confidence Interval*
All participants	0.461	0.459–0.462	0.703	0.699–0.708	13.899	13.680–14.116
Quarter 1	0.448	0.445–0.451	0.683	0.674–0.692	13.542	13.070–14.014
Quarter 2	0.473	0.470–0.476	0.704	0.696–0.712	13.374	12.919–13.829
Quarter 3	0.471	0.468–0.474	0.709	0.701–0.718	13.605	13.222–13.988
Quarter 4	0.45	0.446–0.454	0.717	0.706–0.727	15.073	14.654–15.491
Age (yrs)						
<40	0.197	0.196–0.198	0.388	0.383– 0.392	1.149	1.129–1.170
40–49	0.453	0.450–0.456	0.584	0.578–0.590	4.205	4.135–4.274
50–59	0.757	0.753–0.761	1.117	1.109– 1.126	10.964	10.791– 11.137
60–69	0.672	0.669–0.675	1.139	1.132–1.146	22.073	21.732– 22.413
70+	0.31	0.309–0.312	0.378	0.375–0.380	22.64	22.291– 22.988
Sex						
Male*	0.665	0.662–0.668	0.863	0.857–0.869	13.196	12.985–13.406
Female*	0.3148	0.314–0.316	0.589	0.586–0.593	14.419	14.195– 14.644
Race						
White†	0.534	0.532–0.536	0.761	0.757–0.765	15.877	15.634–16.120
Other†	0.312	0.310–0.314	0.586	0.580–0.592	10.095	9.912–10.278

*$P < 0.001$ for the difference in mean daily incidence between men and women for each of posterior vitreous detachment, retinal break, and rhegmatogenous retinal detachment.
†$P < 0.001$ for the difference in mean daily incidence between White people and those of other races for each of posterior vitreous detachment, retinal break, and rhegmatogenous retinal detachment.

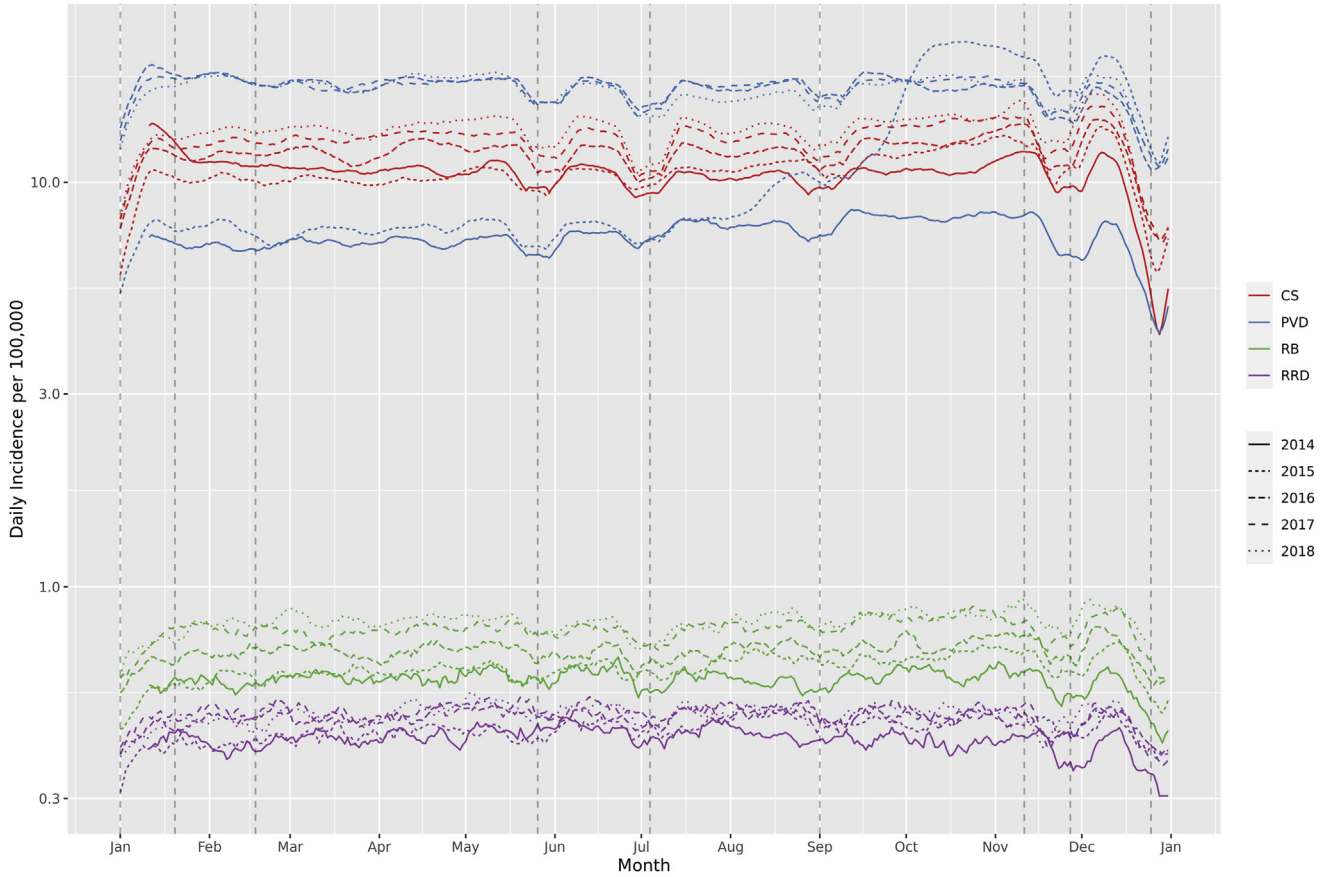

Figure 1. Stacked time series 2014 through 2018 showing 7-day moving average point incidence for cataract surgery (CS), posterior vitreous detachment (PVD) diagnosis, retinal break (RB) treatment, and rhegmatogenous retinal detachment (RRD) repair. National holidays shown in gray dashed lines in the following order: New Year's Day, Martin Luther King Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving, and Christmas.

0.46 per 100 000 patients, 0.70 per 100 000 patients, and 13.9 per 100 000 patients, respectively. Given that these figures represent an incidence of the total number of patients being followed for ophthalmologic care within the IRIS Registry, it is not directly comparable with prior population studies. However, the total number of RRD repair cases in 2018 (n = 62 902) can be used with a 2018 population estimate of nearly 327 million to approximate an annual incidence lower bound of 19.25 per 100 000 people in the United States,[27] which is higher than estimates from prior studies.[1–3] Our results show that these retinal procedures are substantially common and similar to 5% of the annual cataract surgery rate in the United States. Our methodology reveals new insights on age, sex, race, and seasonality for these conditions on a scale that has not been previously investigated.

Our findings support that age is a risk factor for RRD, RB formation, and PVD, consistent with prior studies.[2,3,10–13] The incidence within the IRIS Registry of RRD repair was found to peak between 50 and 69 years of age, with an intermediate incidence between 40 to 49 years of age and $\geq$ 70 years of age. The smallest incidence was in the group <40 years of age. As would be expected, the time series for RRD repair and RB treatment correspond closely, given that RB formation plays a necessary role in RRD.

Interestingly, the incidence of PVD within the IRIS Registry increased starting at 50 years of age, initially corresponding with RRD repair and RB treatment. However, the incidence of PVD within the IRIS Registry remains high even after 70 years of age, whereas RRD repair and RB treatment rates declined in this age group. Given that PVD onset confers a risk for RB formation and RRD, we expected the rate of PVD-related complications to correspond with the PVD time series. A potential reason for this inconsistency is that our study defined PVD based on diagnosis code, which may be observed more commonly and billed in older patients, resulting in the application of the code in the absence of associated PVD symptoms. A physiologic explanation is also possible. Early PVD onset may correspond with a vitreopathy in which eyes undergo faster vitreous syneresis and have firmer vitreoretinal adhesions, predisposing patients to RB formation and RRD. Conversely, later-onset PVD may represent a subset of eyes with a slower rate of syneresis, less associated with firm vitreoretinal adhesions.

Our findings showed a clear difference between men and women with regard to incident RRD repair, RB treatment, and PVD. Men consistently showed a higher incidence of RRD repair and RB treatment through all age groups within the IRIS Registry, with the largest differences being noted at

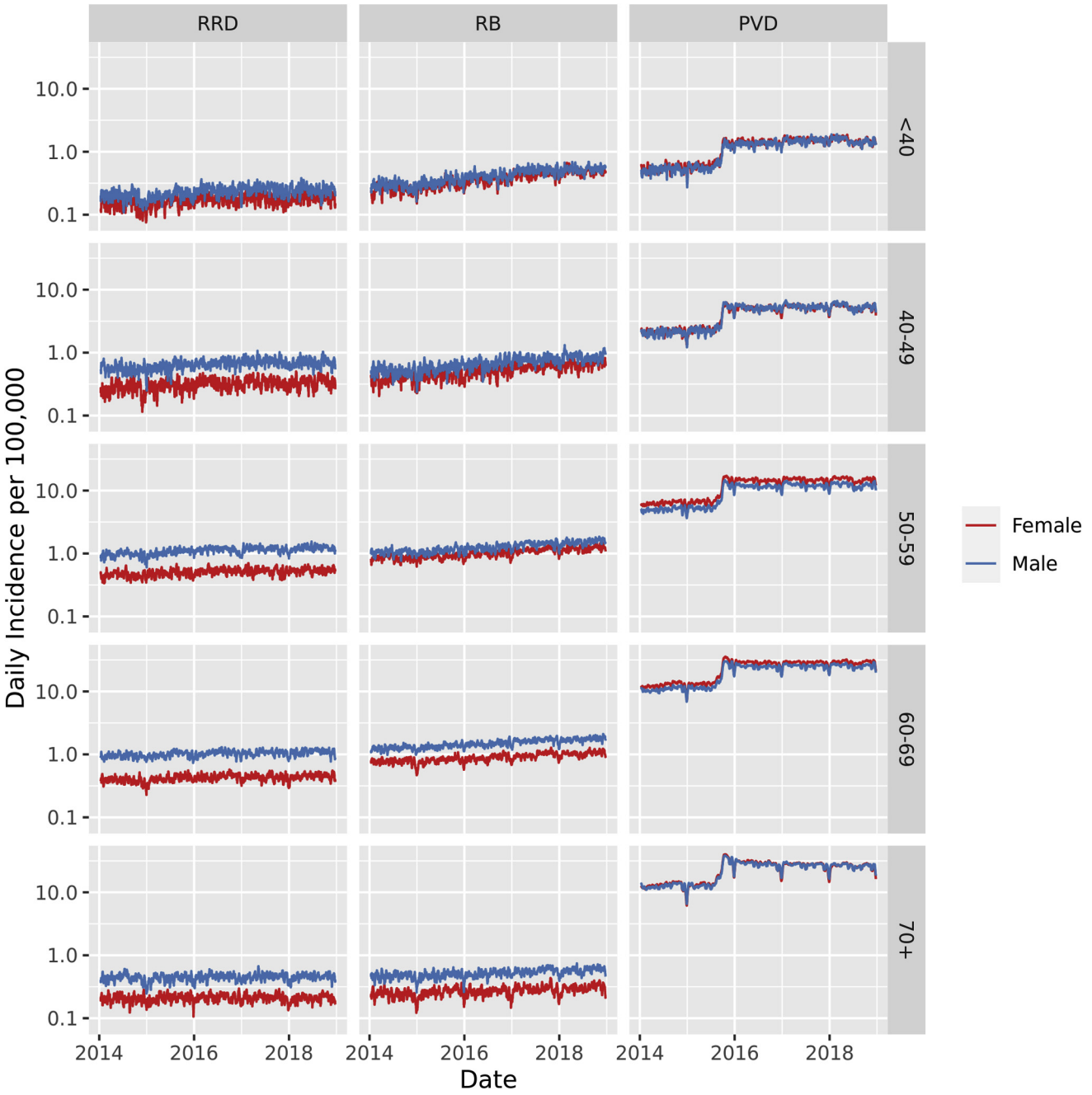

Figure 2. Time series showing 7-day moving average point incidence by sex and age for rhegmatogenous retinal detachment (RRD) repair, retinal break (RB) treatment, and posterior vitreous detachment (PVD) diagnosis.

50 to 69 years of age, during the peak decades for incident RRD repair and RB treatment. However, women showed a higher incidence of PVD within the IRIS Registry between 50 and 69 years of age, a finding that became less pronounced after 70 years of age. Prior studies similarly have shown higher rates of PVD in women,[28] although other studies have found no difference.[9,29] The higher incidence of PVD in women with a lower incidence of RRD repair and RB treatment again demonstrates that the relationship between PVD and RRD is complex and that additional factors likely contribute.

The disparity between men and women in relationship to RRD repair and RB formation has been noted in multiple prior studies.[12,14–18] The reasons for a higher incidence of these complications in men are unclear. Men are at higher risk for ocular trauma, which could contribute either acutely or remotely to RB formation and RRD.[30] Men are also thought to avoid health care contact more than women, which may delay men seeking treatment until they have experienced vision loss resulting from RRD, whereas women may undergo more prophylactic RB treatments as a consequence of earlier presentation.[31]

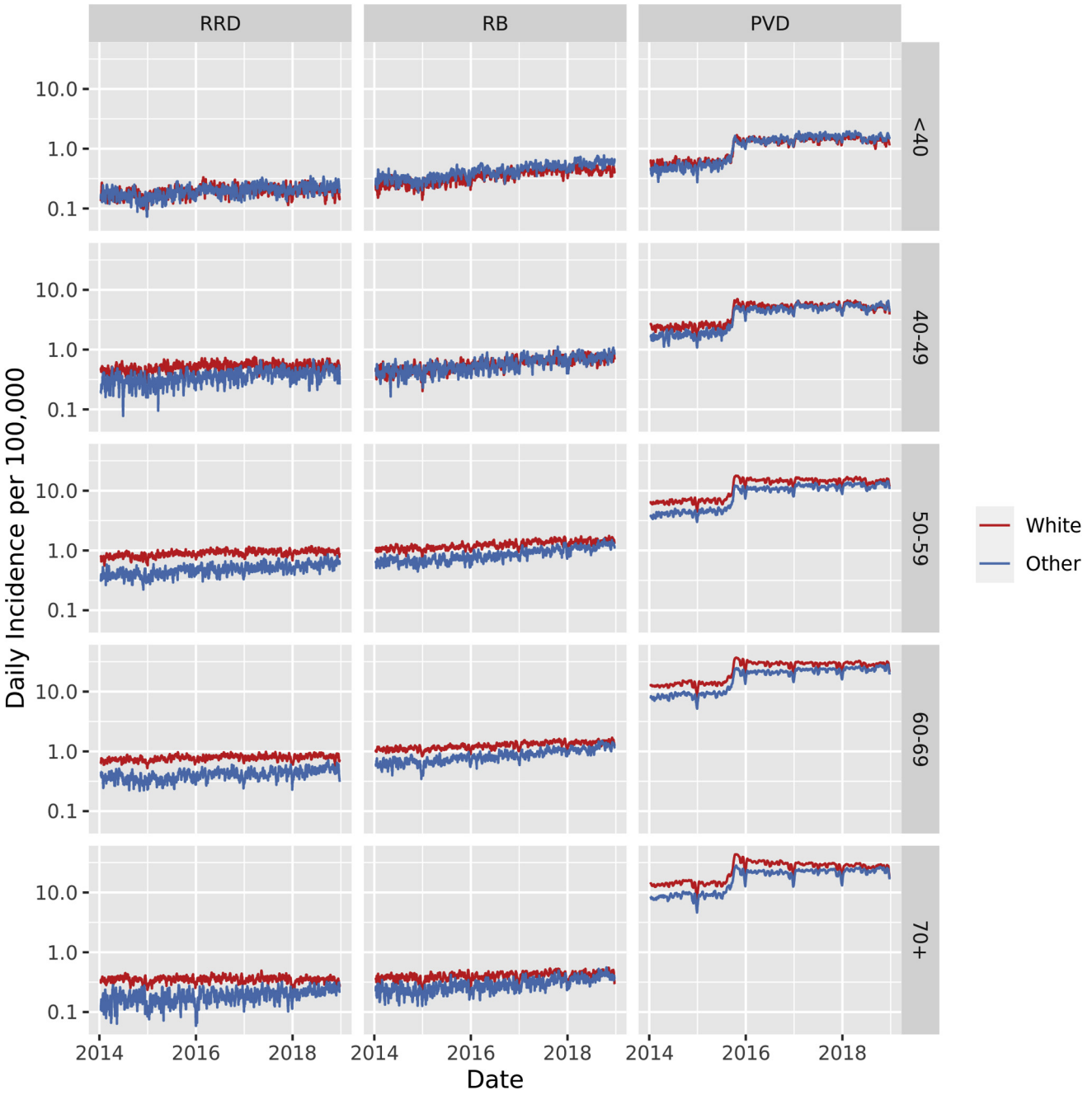

Figure 3. Time series showing 7-day moving average point incidence by race and age for rhegmatogenous retinal detachment (RRD) repair, retinal break (RB) treatment, and posterior vitreous detachment (PVD) diagnosis.

The dataset does not allow us to investigate the contribution of trauma to our findings. However, if health care avoidance were playing a role, then we would expect RB treatment and PVD rates to be lower in men compared with women. The higher rates of both RRD repair and RB treatments in men support an inherent sex-related risk for these conditions. The unexpected disparities between men and women warrant further study to better understand the relationship between PVD and the risk for RB formation and RRD.

Investigating differences in race with respect to RRD repair, RB treatment, and PVD was challenging because of incomplete demographic information. Our analysis was simplified to compare White people with those of other races and found higher rates of RRD repair in White people compared with those of other races. Retinal break treatment was found to be higher in White people compared with those of other races, especially at 50 to 59 years of age, 60 to 69 years of age, and $>$ 70 years of age. Rates of PVD were similarly higher in White people in these age groups. Prior

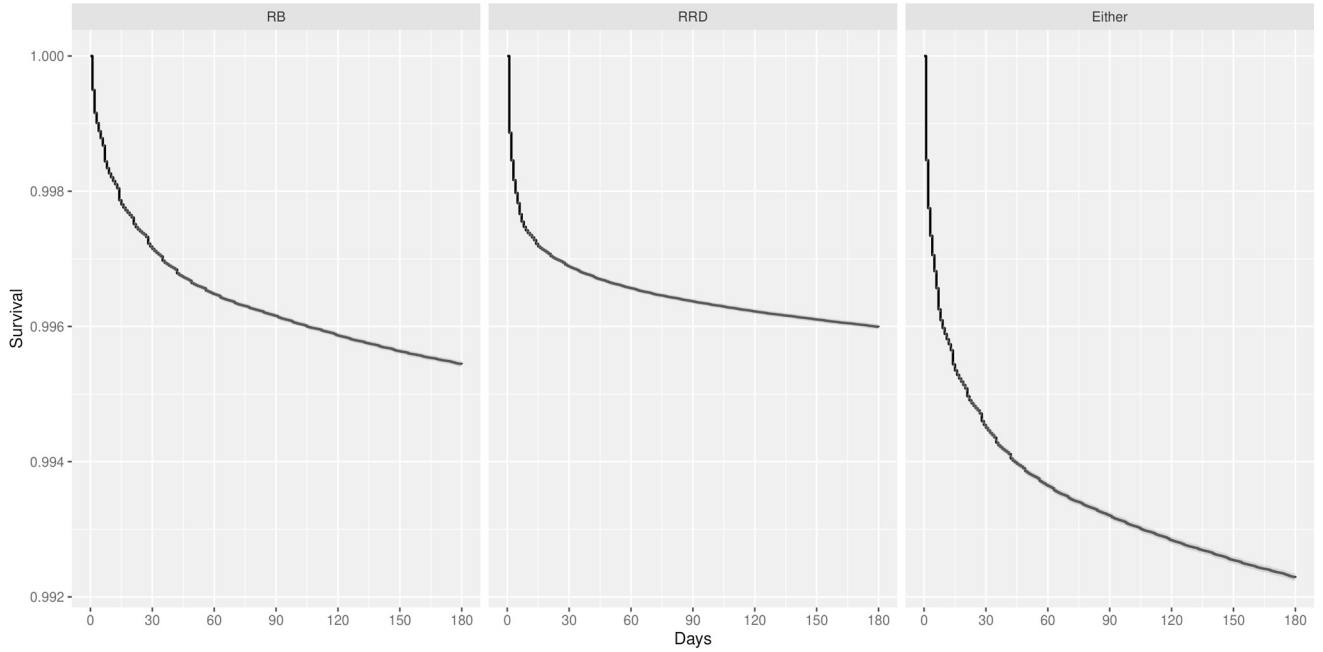

Figure 4. Kaplan-Meier curve showing time from onset of posterior vitreous detachment (PVD) to treatment of retinal break (RB), repair of rhegmatogenous retinal detachment (RRD), or either. The estimated probability of RB, RRD, or both after PVD diagnosis is depicted as the proportion of patients with PVD diagnosis who have not had the specified event over time.

study comparing the incidence of RRD among races is limited, especially in the United States, where epidemiologic studies have been conducted in predominantly White populations, yielding incidences of 10 to 18 per 100 000.[1–3] In the United Kingdom, Mowatt et al[12] reported a 3-fold lower rate of retinal detachment in Asian people compared with White people. However, international studies show both lower and similar RRD incidence rates to the United States, such as in Singapore (10.5 per 100 000), Beijing (7.98 per 100 000), and Shanghai (14.4 per 100 000).[10,11,32] Multiple prior studies have shown Black people to have a lower incidence of RRD compared with White people.[33–38] Further study is needed to understand the observed differences in race and to investigate whether additional confounders are at play, such as barriers to health care access.

To assess seasonality of RD repair, RB treatment, and PVD, we compared the incidence within the IRIS Registry of these conditions with that of CS. Cataract surgery was selected because of its elective nature, which would provide an understanding of seasonal fluctuations in ophthalmologic care dictated by nonmedical factors. Our findings showed that seasonal variations in CS corresponded highly with national holidays. Similarly, RD repair, RB treatment, and PVD were influenced by national holidays, especially in the winter months. This effect was expectedly less pronounced in RRD repair and RB treatment, because these conditions represent ophthalmic emergencies that require prompt attention. The winter months, when holidays are more frequent, corresponded to the lowest rate of all investigated procedures, suggesting that this finding represents an artifact, though a true winter decline in RD repair and RB treatment remains possible. Because of our methodology of using billing codes to assess seasonality, our findings are likely biased toward office-based care and may omit instances of care received through emergency departments, which ultimately may limit our ability to assess seasonality. Seasonal dips in office-based care may also correspond to spikes in care at tertiary referral centers that may not be captured because of potential sampling bias of the practices enrolled in the IRIS Registry. However, information on the types of eye care centers participating in the IRIS Registry is currently not available to investigate these types of questions. The association of CS with subsequent PVD has been well demonstrated in the literature, but we used CS as a control condition to delineate the holiday-related fluctuations in the frequency of nonurgent surgical care such as CS.[39]

We investigated the timing of progression to RB treatment and RRD repair after PVD diagnosis. Most RB treatments and RRD repairs occurred within 6 to 8 weeks of PVD diagnosis, which is consistent with the findings of prior studies that evaluated the timing of these events. In our analysis of IRIS Registry data, the probability of requiring either treatment of RB or repair of RRD was $< 0.7\%$ when > 60 days after PVD. This was lower than other published studies, except for 1, which found no new RBs in 105 patients on follow-up examination after PVD diagnosis.[40] The incidence of delayed RB or RRD after PVD diagnosis in other past studies ranged from 1.5% to 3.9%.[7,41] One potential reason for the relatively lower probability of RB treatment or RRD repair after PVD in our analysis was the inclusion of all patients with a new diagnosis of PVD in the IRIS Registry, which may not necessarily signal a newly symptomatic PVD, but rather, the first use of the PVD billing code. Past studies included patients with clinical symptoms consistent with an acute, symptomatic

PVD, which may explain the higher likelihood of RB treatment or RRD repair found in these studies.

Our study has additional limitations. Multiple possible CPT codes were used to define RRD repair. However, the CPT code for complex retinal detachment repair was excluded because it is also used for diabetic tractional retinal detachment repair and recurrent RRD repair. Excluding the CPT code for complex retinal detachments likely excluded a subset of patients who sought treatment late after primary RRD. However, we believe the benefit of excluding these patients was worthwhile to also exclude a likely large cohort of patients who underwent diabetic tractional retinal detachment repair, which if included would have made our study less clinically applicable to primary RRD repair. The sharp increase in PVD rates shown in Figure 1 that occurred in October 2015 also highlights a limitation of the use of diagnosis codes. This increase occurred during the transition from ICD, Ninth and Tenth Revision, codes and likely represents an artifact in billing than an actual increase in PVD incidence between 2015 and 2016. It is possible that the new ICD, Tenth Revision, code being implemented in billing was counted as new by our methodology. We chose to use CPT codes because they are a more robust approach to identifying a procedure date or surgery date.[42,43] International Classification of Diseases codes can be reimplemented on multiple clinic visits (both before and after the true procedure date), making pinpointing an exact procedure date challenging. Inconsistencies in IRIS registry participation, such as an office-based center working out of a surgery center that is not an IRIS Registry participant, may have also introduced inconsistencies to the dataset.

Although inherent limitations exist to conducting a large study based solely on billing and procedure codes, we believe our findings contribute valuable insights to the epidemiologic features of RRD, RB formation, and PVD on a scale that has not been previously examined. Future studies should be aimed at both understanding the implications of the differences observed between demographic groups and expanding datasets such as the IRIS Registry to collect more granular information that could help to improve future investigations.

Footnotes and Disclosures

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No animal subjects were included in this study.

Author Contributions:

Conception and design: Saraf, Lacy, Hunt, C.S.Lee, A.Y.Lee, Chee

Analysis and interpretation: Saraf, Lacy, Hunt, C.S.Lee, A.Y.Lee, Chee

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Overall responsibility: Saraf, Lacy, C.S.Lee, Chee

Abbreviations and Acronyms:
CPT = Current Procedural Terminology; **CS** = cataract surgery; **ICD** = International Classification of Diseases; **IRIS** = Intelligent Research in Sight; **PVD** = posterior vitreous detachment; **RB** = retinal break; **RRD** = rhegmatogenous retinal detachment.

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