

# SEERaBomb Overview

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## Introduction

SEERaBomb is for SEER and Japanese A-bomb survivor data analysts. It contributes speed to SEER analyses by reducing file sizes to contain only items of interest. To obtain the data please visit the links in `gettingData.pdf` in the package's `doc` folder wherein use cases are also given in R scripts in the `examples` and `papers` directories.

## SEER Data R Binaries

The `incidence` directory of the SEER data contains a SAS file that defines the field names, their starting positions, and their fixed widths. This file is used here to: 1) present the field choices (see `fieldNames.html` and the output of `getFields()`); and 2) given user choices, automatically determine the sequence of widths needed to extract the data of interest using the speedy R package LaF. `getFields()` has one parameter, `seerHome="~/data/SEER"`, which should be overridden if the SEER data lives elsewhere. Its data.frame output and the SEER file `seerDic.pdf` in the SEER incidence directory must be thoroughly examined to determine which fields will be useful. Once this is determined, the output and list of field choices, the default of which is

```
picks=c("casenum","reg","race","sex","agedx","yrbrth","seqnum",  
        "modx","yrdx","histo3","radiatn","ICD9","COD","surv"),
```

must then be inputted into `pickFields()`.

The output of `pickFields()` contains not only pulled rows from the input, but also inserted rows with widths computed to fill the gaps of no interest. Knowing these gap sizes enables fast file reading by LaF in `mkSEER()`. This function produces R Data binaries that can be then be accessed efficiently from an R script.

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```

library(SEERaBomb)
df=getFields()
(df=pickFields(df))

```

##	start	width	names	desc	type
## casenum	1	8	casenum	Patient ID	integer
## reg	9	10	reg	SEER registry	integer
## 3	19	1			string
## race	20	2	race	Race/ethnicity	integer
## 5	22	2			string
## sex	24	1	sex	Sex	integer
## agedx	25	3	agedx	Age at diagnosis	integer
## yrbrth	28	4	yrbrth	Year of birth	integer
## 9	32	3			string
## seqnum	35	2	seqnum	Sequence number	integer
## modx	37	2	modx	Month of diagnosis	integer
## yrdx	39	4	yrdx	Year of diagnosis	integer
## 13	43	10			string
## histo3	53	4	histo3	Histologic Type ICD-0-3	integer
## 15	57	110			string
## radiatn	167	1	radiatn	Radiation	integer
## 17	168	36			string
## ICD9	204	4	ICD9	Recode ICD-0-2 to 9	integer
## 19	208	47			string
## COD	255	5	COD	Cause of death to SEER site recode	integer
## 21	260	41			string
## surv	301	4	surv	Survival months	integer
## 23	305	54			string