Missouri Thyroid Nodule Electronic Database MU-TNED Long-Term Study of Thyroid Nodules

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Background

Thyroid nodules (TNs) are common findings with a prevalence of palpable thyroid nodules in about 5% women and 1% in men. Differentiated thyroid cancer (DTC) comprises about 90% of all thyroid cancers and the yearly incidents has increased in the US. Although there is a 99% survival in differentiated thyroid cancer there is an increasing population of patients that are now post therapy for thyroid cancer.

Purpose

Develop long-term follow up mechanism to use clinical data including thyroid nodules, patients at risk of developing thyroid cancer and patients post therapy for thyroid cancer.
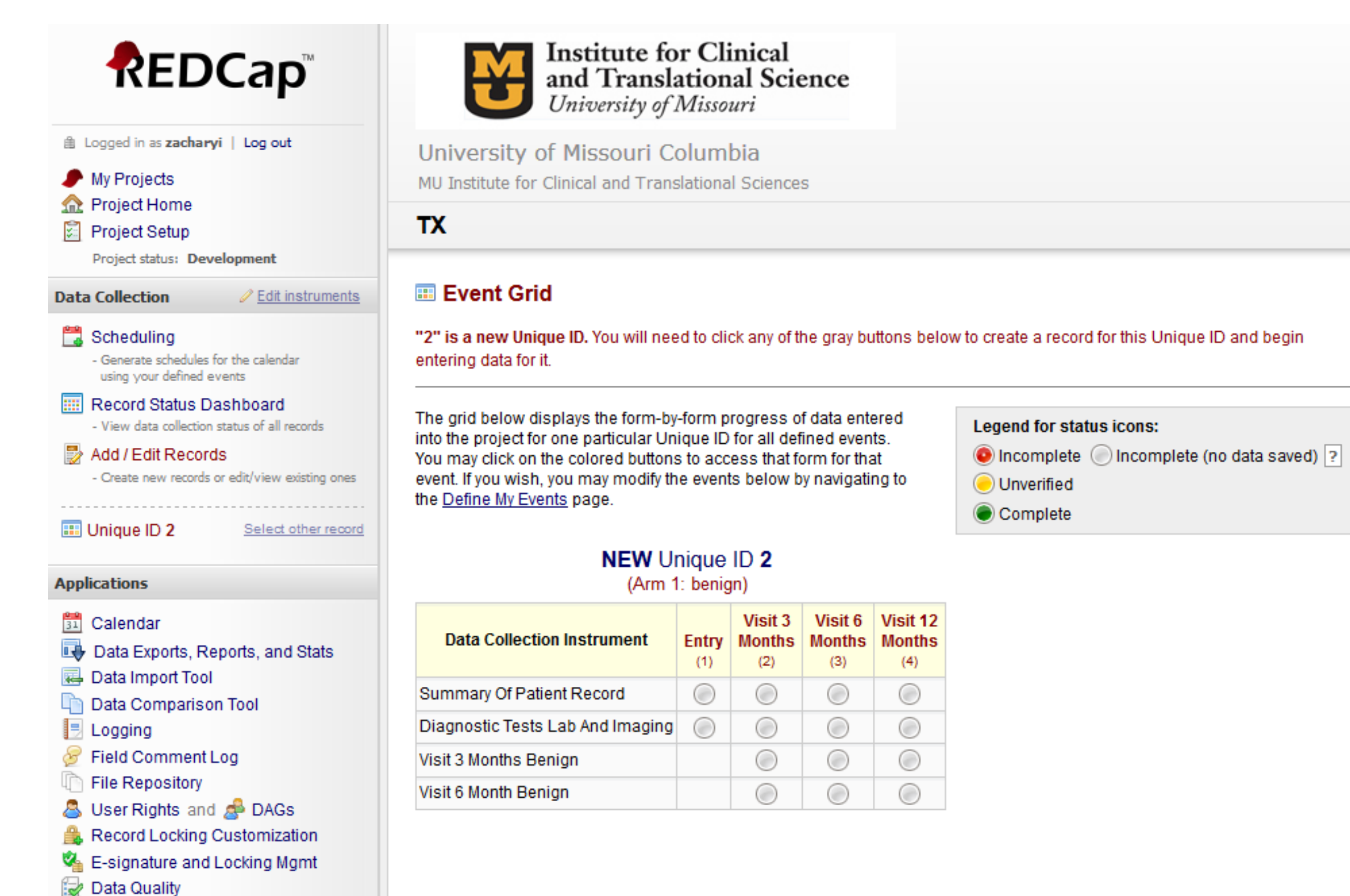
Methods

MU-TNED was designed to focus on patients with TNs to enable review of epidemiological and clinical data, quality control and quality Improvement of Fine Needle Aspiration (FNA), and long term survival of thyroid cancer patients. With increasing incidence and prevalence of thyroid cancer, experts recommend management of TNs and thyroid cancer and an increasing focus on appropriate use of fine needle aspiration of thyroid nodules. We designed the MU-TNED database with a multidisciplinary team including departments of pathology, endocrinology and health informatics.

Results

The MU-TNED web application was successfully used to import 3250 TN cases from 2008 to 2012. Increasingly, in healthcare, use of informatics supported tools enable providers to improve patient care and collaborate in translational research. MU-TNED was specifically designed to follow patients in a longitudinal manner and support multiple aspects of research.
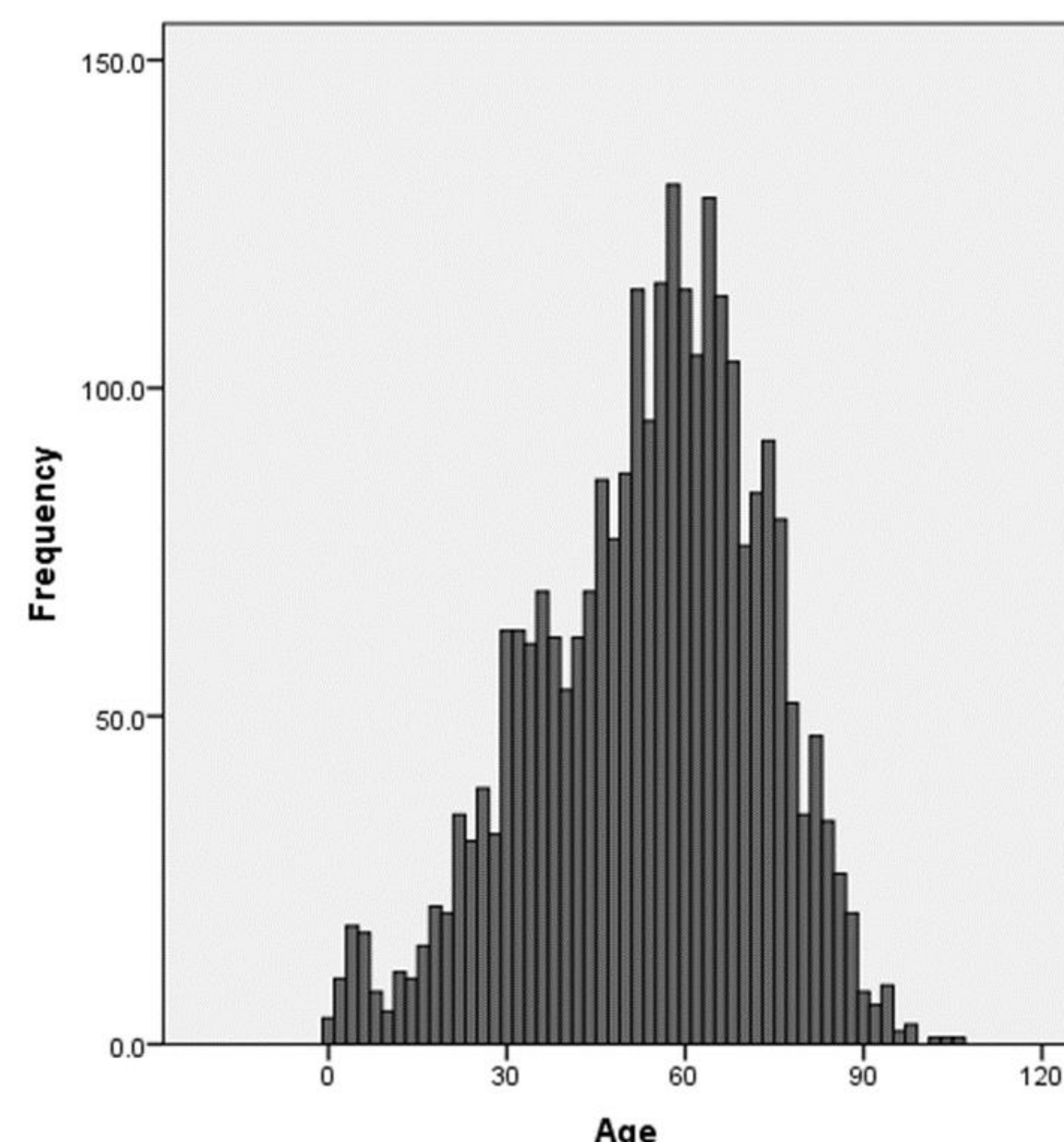
Thyroid nodules by Age 2008-2016

Figure 1. Age distribution at data export for n=3261, by thyroid nodule status
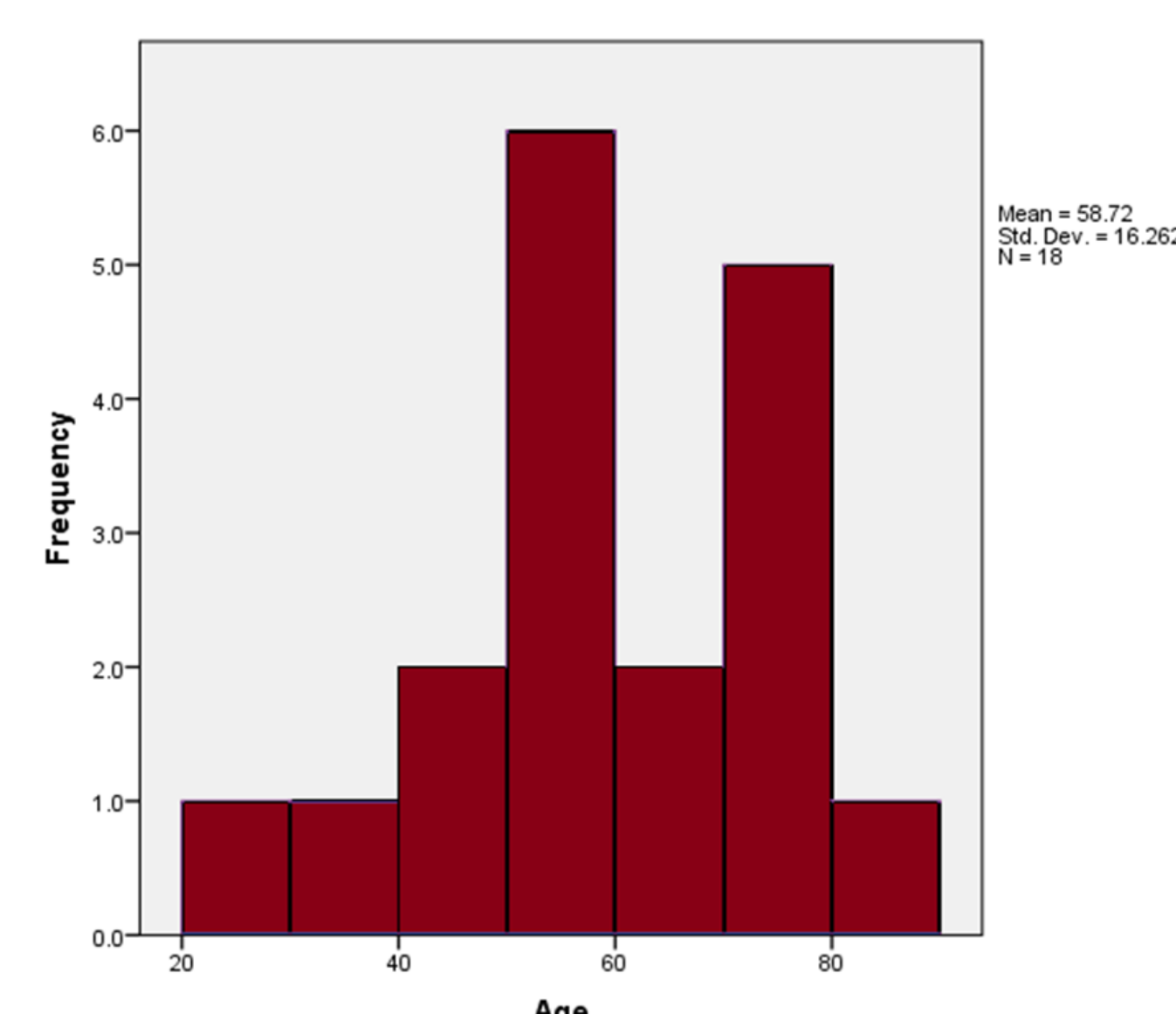
Thyroid Cancer by Age 2008-2016

Figure 2. Age distribution at data export for n=26 women, by thyroid cancer status

Figure 3. RedCap Screenshot MU –TNED

Thyroid nodules by Ethnicity 2008-2016

	ethnicity							
	1	2	3	4	5	6	9	Total
Thyroid nodules	2341	188	35	1	14	52	604	3235
cancer	16	0	0	0	0	2	8	26
Total	2357	188	35	1	14	54	612	3261

Table 1. Ethnicity distribution at data export for n=3261 patients

Discussion/ Conclusions

Long term follow up of patients and the ability to collaborate is essential because of the nature of this disease; a disease with high prevalence but low mortality, therefore collaborative data analysis may provide more answers, especially related to long term population outcomes.