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Introduction & Objectives: Prostate cancer screening is one of the most discussed problems in modern oncology. This pathology has gained all features of socially significant disease in Belarus. During the last 25 years the incidence of PCa increased 8-fold in our country. At present, PCa became the leading cancer among men in Belarus. The main objective of our study is to analyze the effectiveness of screening program comparing cancer-specific survival in screening arm with clinically diagnosed cohort in neighboring region.

Materials & Methods: 20841 men from 50 to 65 years old without major concomitant morbidities were enrolled in screening program. Bi-yearly PSA test was made in objective male population, if it was more 4 ng/ml the sextant transrectal biopsy under ultrasound guidance was performed. In case of prostate cancer diagnosis patient was treated properly, but if the biopsy did not find cancer, patient was readmitted after 2 years. From 2011 till 2017 years in screening arm were diagnosed 690 (3.3%) adenocarcinomas. The clinically diagnosed cohort consisted of men diagnosed with prostate cancer in a well-defined, neighboring geographical area and included 2827 men.

Results: Age at diagnosis, tumor extent at diagnosis, and grade at diagnosis were significantly different between the screened and clinically diagnosed cohort. The 5-year survival rates were higher in the screened cohort than in the clinically diagnosed cohort (84.7% vs. 76.6%, $p < 0,05$). Significant differences in survival were evident for stage, and grade subgroups, and also for metastatic disease at diagnosis. Comparing age groups, significant differences were achieved only 55-59 and 60-64 groups. Cox regression analyses showed 1,38 times lower relative risk of death in screening group comparing to clinically diagnosed cohort.

Conclusions: Differences in survival favoring the screened population were observed for most baseline characteristics (age, stage, and grade of disease). These differences may be explained because screening achieves early diagnosis as well as a stage and grade shift. These results led us spread screening program in other regions in our country.