

Social and economic impacts of proximal femur fracture surgical treatment on geriatric patients in the Russian Federation

Fedyaev D., Seryapina Yu., Musina N., Omelyanovsky V.

Center of Healthcare Quality Assessment and Control, The Ministry of Health of Russian Federation Moscow, Russia

OBJECTIVES

Early studies showed significant underestimation of published proximal femur fracture (PFF) incidence and 12-month mortality following PFF in Russia. Current patient routing systems for PFF and absence of national patient registries do not ensure adequate level of hospitalization and surgical treatment resulting in underestimated incidence and increased mortality. This study aims to estimate financial costs and economic effects from changing the approach to surgical treatment organization for patients with PFF over 60 years old.

METHODS

Effects were evaluated with mathematical modeling methods by calculation of life expectancy change, calculation of deaths, direct and indirect medical and non-medical costs and social assistance for patients with PFF. In simulation it was compared two approaches for treatment of patients with PFF over 60 years old: current approach (39% of hospitalization and 15,6% of surgical treatment) and target approach (100% hospitalization; 95% of surgical treatment, of which 70% within 48 hours)..

RESULTS

Change in approach will decrease one-year mortality in patients with PFF by 51%, which is equal to 55 648 saved lives. Aside, the model predicts that change of approach allows to increase life expectancy at birth by 0.3 years (Figure 1). Taking into account all effects, revealed in the modeling, financial savings are estimated at €149.3 million or 32% of current expenditures from all funding sources on treatment and social assistance for patients with PFF (Table 1).

CONCLUSIONS

Implementation of this target approach with high penetration of surgical treatment within 48 hours of patients over 60 years old with PFF shows a positive influence on dynamic of demographical indicators of population in general. Despite changes in structure of expenses and an increase of direct medical costs, new approach in surgical care will lead to a major cost reduction as well as significant improvement of treatment results for geriatric patients with PFF.

This study was performed by the Center for Healthcare Quality Assessment and Control of the Ministry of Health of the Russian Federation via funding from Johnson & Johnson, LLC, Russia

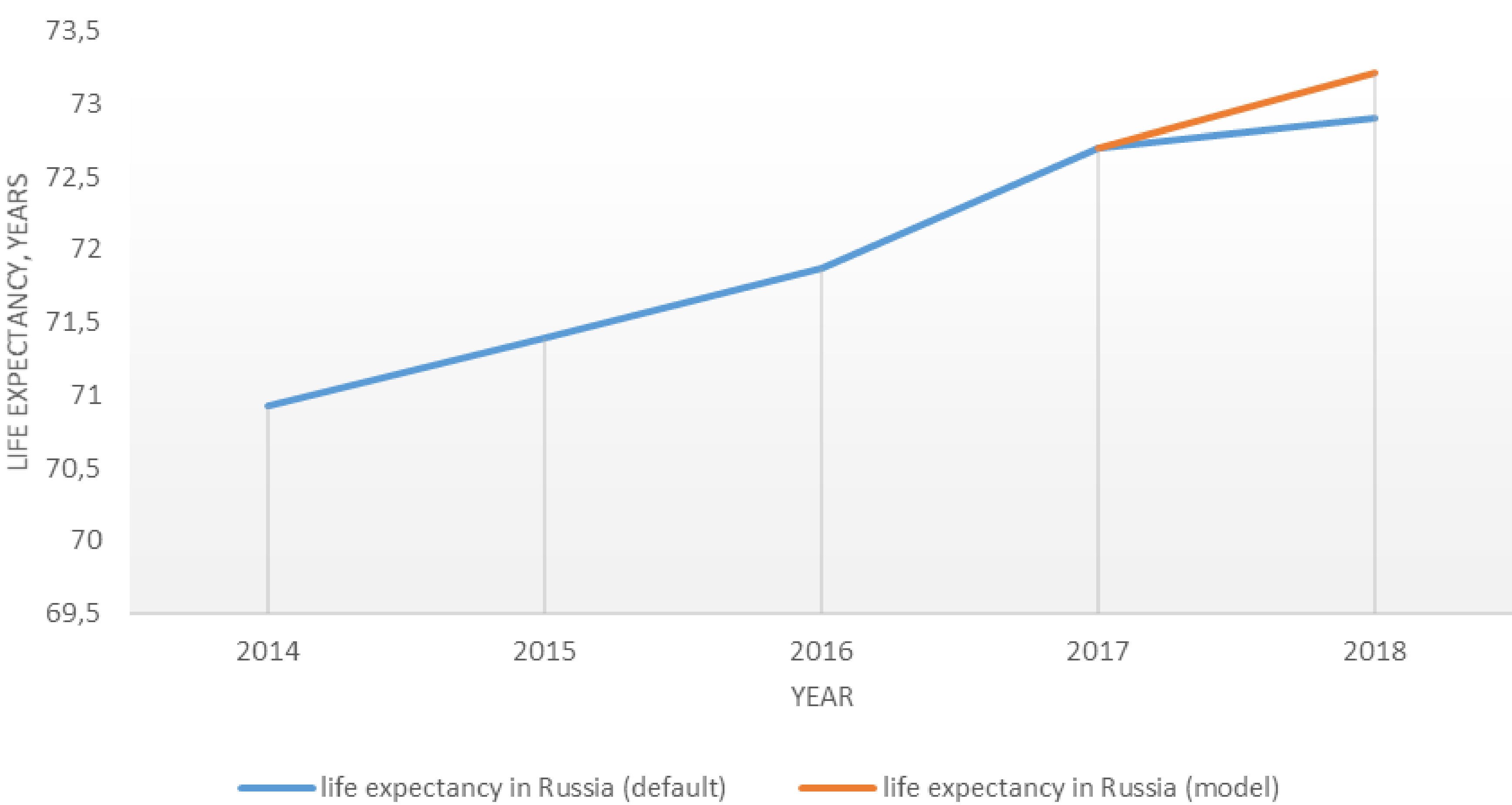


Figure 1. Life expectancy at birth in default and model scenario

Table 1. Economic effect of care organization for patients with PFF in current and model practice

Financial Sources	Costs	Current practice, million €	Model practice, million €	Losses in current practice, million €	% of the costs that can be avoided
Compulsory medical insurance	Treatment of PFF	62,67	233,08	-170,41	-272%
Compulsory medical insurance	Treatment of complications	55,77	11,73	44,04	79%
Social insurance	Expenses for technical means of rehabilitation	48,58	7,10	41,48	85%
Regional budget	Costs of social services at home (state)	39,89	7,64	32,26	81%
Regional budget	Boarding house (state)	17,58	1,70	15,87	90%
Household	Costs of social services at home (household)	43,87	18,53	25,34	58%
Household	Boarding house (household)	34,50	1,70	32,80	95%
Household	Relatives' expenses for a nurse	13,26	0,66	12,60	95%
Household	Independent care of relatives	150,94	35,62	115,32	76%
Total State		224,48	261,24	-36,76	-16%
Total household		242,57	56,51	186,06	77%
Total		467,05	317,75	149,30	32%