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FRACTURE LIAISON SERVICE

PROGRAM ASSUMPTIONS

The aim of the System is to decrease the number of fractures in Poland. The system will be organized as in the systems operating in other countries - Fracture Liaison Services (FLS).

The essence of the system is the fact that patients who sustained a fracture are the most at risk of an osteoporotic fracture (low-energy fracture). Unfortunately, only 10-15% of patients who underwent low-energy fractures are treated. The implementation of the system in Scotland made the number of patients treated after sustaining a proximal femur fracture as high as 97%, and the number of proximal femur fractures in the country decreased by 7.3%. Currently, the FLS System operates in most European countries, including 37% of hospitals in the UK as well as in the USA and Canada.

The implementation of the system by Kaiser Permanente in 2002 caused a reduction in the number of proximal femur fractures by 40% and savings of $27 million. The latest reports (MS Cooper 2012) denote an approx. 80% reduction in the risk of secondary fractures. All the reports document a good cost-effectiveness ratio.

The implementation of the System in Poland has a potential of increasing the number of patients treated for low-energy fractures by 10% to at least 60%, which will reduce the number of fractures of at least 25% over 3 years. We estimate that if the system would be implemented across the country and would be effectively enforced, it could achieve a 40% reduction in secondary fractures, which would save 286 million PLN per year [details: Czerwiński E., Amarowicz A. i wsp.: Skuteczne zapobieganie złamaniom osteoporotycznym. Medycyna po Dyplomie; 9 (222) 2014: 33-37].

The organizer of the system in Poland is the European Foundation of Osteoporosis and Musculoskeletal Diseases (EFOM).

I. STRATEGY

a) Stages of implementation – strategy:

Preparatory stage:
1. Preparation of the documentation of FLS
   - Report "Osteoporosis: a silent epidemic in Poland"
   - Detailed fracture prevention program
   - Educational materials for patients
   - Educational materials for physicians:
     - "Principles of prevention, diagnosis and treatment of bone fractures"
     - "Treatment of patients with low-energy fractures", translation
   - Leaflet, Polish Portal of Osteoporosis: www.osteoporoza.pl
   - Questionnaire for patients with low-energy fractures
   - Organizational System, The Office of the National Coordinator of the System
   - National Database
**Monitoring stage:**
On February 2\textsuperscript{nd}, 2015, the first monitoring center was initiated at the District Hospital in Chrzanów, Poland. On March 17\textsuperscript{th}, 2015, the first National Course for Coordinators was carried out, after which three new centers were opened (in Starachowice, Lodz and Jaworzno).

**Implementation stages:**

1\textsuperscript{st} stage of implementation
On 31.June-01.Aug.2015 the 2\textsuperscript{nd} National Course for FLS Coordinators took place, followed by the 3rd National Course for Coordinators on 17.Nov.2015 as a result of which further centres were launched. Currently there are 16 active FLS centres in Poland:

The 2\textsuperscript{nd} National Course for FLS Coordinators was held between July 31st and August 1st, 2015 and more centers were opened.
At the moment there are 16 active centers:
- Chrzanów: District Hospital in Chrzanów
- Starachowice: District Health Care
- Jaworzno: Multi-specialistic Hospital
- Warsaw: Central Clinical Hospital of the Ministry of Interior
- Lublin: 4\textsuperscript{th} Independent Public Clinical Hospital
- Świetlik: New Hospital
- Lodz: Central Clinical Hospital
- Lublin: Regional Specialist Hospital
- Elblag: Municipal Hospital, Health Care
- Krakow: 5\textsuperscript{th} Military Hospital with Polyclinic
- Clinical Hospital of the Jan Mikulicz-Radecki
- Warsaw: Military Medical Institute
- Gorlice: Specialist Hospital Henry Klimontowicza In Specialist Hospital of the Klimontowicz
- Sosnowiec: 5\textsuperscript{th} Regional Specialist Hospital
- Bydgoszcz: 10\textsuperscript{th} Military Research Hospital and Polyclinic
- Bydgoszcz: 2\textsuperscript{nd} Univeristy Hospital

2\textsuperscript{nd} stage of implementation
20 new centers are planned to be inaugated in 2016.

b) Criteria for center opening
Mandatory conditions:
- Consent of the ordinator/hospital manager,
- DXA scanner,
- Osteoporosis Treatment Clinic.
Optional conditions:
- Rehabilitation Clinic,
- Assessment of the risk of falling.

II. SYSTEM STRUCTURE

a) Central Office of the National Coordinator

Tasks
- opening centers,
- coordination,
- supervision,
- data collection,
- supplying centers in materials,
- organizing trainings,
- database organization
- results analysis.
Headquarters - Members:

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International Osteoporosis Foundation – IOF  www.osteofound.org/
FRACTURE LIAISON SERVICE FLS www.capture-the-fracture.org/

b) Local centers – refer to: www.osteoporoz.pl

c) National database
- The online system incorporates all patients contacted by the coordinator
- Monitoring of treatment of falls and fractures

III ORGANIZATIONAL DETAILS - Local center

a) Equipment – Coordinator Office:
- Institution: office space, basic media,
- EFOM: office equipment, mobile phone, business cards
- information materials,
- „Don’t brake” Campaign – leaflets covering falls, fractures, Nordic Walking,
- devices – winter pads.

b) Coordinator responsibilities:

1. Identification of patients with low-energy fractures
   - patients on the ward,
   Daily medical ward rounds or a admissions report
   - print-out of patient list sorted by ICD codes, if in doubt → all fractured patients aged >50

2. Implementation of secondary fracture prevention
   - reach-out campaigns for patients
   - information about osteoporosis, falls and fractures,
   - questionnaire (falls, fractures, comorbidities, medications, data to the FRAX),
   - handing out educational materials (all materials issued by the EFOM, optionally, with a stamp of a ward)

   – falls prevention
   (instruction, optionally referring to Rehabilitation Clinic)
   – Nordic Walking training (everyone),
   – calcium and vitamin D supplementation (ward or the osteoporosis clinic),
   optional:
   - assessment of fall risk, assessment of sarcopenia (muscular strength, speed).

   - organization of pharmacological treatment
   - referral for DXA and osteoporosis clinic
3. Maintaining the patient in a long-term treatment:
- assistance in osteoporosis clinic,
- contact with patients:
  - After 6 months - phone questionnaire
  - After 12 months - check-up at the Clinic (DXA)
  - After 18 months, 24 months, 30 months, 36 months (3 years)

IV. DOCUMENTATION:
**Principle**
- the conversations with the patients are recorded in the questionnaire. The patient signs a declaration of consent for personal data processing for a hospital as well as EFOM.
- Coordinator enters the questionnaire entries into the national system network.
- The questionnaire is in the clinic documentation (folded A4)

V. AUDIT – PERFORMANCE EVALUATION
The evaluation of treatment will be carried out based on centrally collected databases (collected by local coordinators, online questionnaires).

Pending evaluation of the effectiveness of the fracture prevention:
- **short-term option, after a year:**
  - number of patients in the System
  - number of patients who have received instruction on osteoporosis, falls and prevention
  - number of patients with low-energy fractures
  - number and type of densitometry
  - number of patients with osteoporosis and osteopenia
  - number of patients which take active anti-osteoporotic drugs
  - number of falls
  - number of secondary fractures
  - proportion of patients continuing the treatment after a year

- **long-term option, after 3-5 years:**
  - number of patients who continue the treatment
  - number and type of densitometry in the following years,
  - number of falls
  - number of secondary fractures
  - proportion of patients continuing the treatment after a year

- **evidence of the System effectiveness:**
  - 10-50% increase in the number of patients who are treated after sustaining a fracture
  - 20-40% decrease of the number of secondary fractures
  - cost-effectiveness (after 3 and 5 years)

Chairman of the
European Foundation of Osteoporosis and Musculoskeletal Diseases
Prof. dr hab. med. Edward Czerwiński