Heart failure policy and practice in Europe

Poland

The Heart Failure Policy Network is an independent, multidisciplinary platform made possible with financial support from Novartis Pharma, AstraZeneca and Vifor Pharma. The content produced by the Network is not biased to any specific treatment or therapy. All outputs are guided and endorsed by the Network's members. All members provide their time for free.

The Heart Failure Policy Network

November 2020

About the Heart Failure Policy Network

The Heart Failure Policy Network (HFPN) is an independent, multidisciplinary network of healthcare professionals, advocacy groups, policymakers and other stakeholders from across Europe. It was established in 2015 with the goal of raising awareness of unmet needs and seeking meaningful improvements in heart failure policy and care. Our aim is to help reduce the burden of heart failure – on people living with it, those supporting them, health systems and society at large.

All members of the HFPN provide their time for free. All Network content is non-promotional and non-commercial. The Secretariat is provided by The Health Policy Partnership Ltd, an independent health policy consultancy based in London, UK.

Acknowledgements

This report is based on desk research undertaken in 2020 and interviews with experts who provided insights as to the national context. Research, coordination, drafting, expert interviews and member consultations were led by Stephanie Whelan, Sara C Marques and Ed Harding, with research assistance from Emily Kell. The report was edited by Madeleine Murphy and Katarzyna Trojanowska, and designed by Catarina Correia Marques.

The HFPN would like to thank the following experts for sharing their knowledge in interviews and supporting the development of this country profile:

- **Piotr Hetman,** Radiographer; Paramedic; Chair, Nursing and Medical Technology Section of the Polish Cardiac Society
- **Beata Jankowska-Polańska,** Professor of Nursing; Specialist in Cardiology and Geriatric Nursing; Health Educator, Medical University in Wrocław, University Teaching Hospital in Wrocław
- **Dorota Krówczyńska**, former Chair, Nursing and Medical Technology Section of the Polish Cardiac Society
- **Przemysław Leszek**, Cardiologist; Chair, Heart Failure Association of the Polish Cardiac Society
- **Ewa Straburzyńska-Migaj,** Cardiologist; former Chair, Heart Failure Association of the Polish Cardiac Society
- **Izabella Uchmanowicz**, Nurse; President-Elect, Association of Cardiovascular Nursing and Allied Professions of the European Society of Cardiology; Past-President, Nursing and Medical Technology Section of the Polish Cardiac Society

We would also like to acknowledge the Project Advisory Group for *Heart failure policy and practice in Europe,* with special thanks to:

- **Andrzej Gackowski,** Cardiologist; Head of the Non-invasive Cardiovascular Laboratory, John Paul II Hospital Krakow; Past-President, HF Working Group of the Polish Society of Cardiology

For a full list of members of the Project Advisory Group, please see **www.hfpolicynetwork.org/project/heart-failure-policy-and-practice-in-europe/**

Please cite this report as: Heart Failure Policy Network. 2020. *Heart failure policy and practice in Europe: Poland.* London: HFPN

Contents

About Heart failure policy and practice in Europe

Heart failure (HF) is a common and complex condition responsible for extensive avoidable morbidity, mortality and healthcare costs. There is a clear need to advance HF policy and practice across Europe, and this requires recognition of the real challenge in each country.

To this end, the Heart Failure Policy Network (HFPN) has developed *Heart failure policy and practice in Europe* – a comprehensive analysis of key gaps and best practice both in HF policy and in clinical performance across 11 European countries. In this work, we investigate each country's progress in addressing the HF challenge, for example in terms of the existence and implementation of HF policies and the provision of multidisciplinary and integrated HF care. Findings are presented in an overarching report, which outlines the methodology for this work and includes a pan-European narrative, and in standalone country profiles with dedicated national-level analysis.

Urgent action is needed to address the growing burden of HF and ensure the sustainability of our healthcare systems. This country profile aims to assist HF advocates across Poland in engaging healthcare system leaders to demand constructive changes to HF policy and care provision, to reduce the impact of HF on people living with the syndrome, their families and carers, the healthcare system and society.

Heart failure in Poland

SUMMARY

Heart failure (HF) places a heavy burden on health services. Hospitalisation rates for HF in Poland are among the highest in Europe and are predicted to rise even more in the next decade.[1] This challenge is increasingly recognised by the government, as demonstrated by the inclusion of HF in the National Programme for Prevention and Treatment of Cardiovascular Diseases (POLKARD) and financial investment in a pilot model of comprehensive care for patients with heart failure (KONS).[1,2] Despite the recent impact of COVID-19 on the healthcare system, the national cardiac society has called for a continued focus on cardiovascular disease, including HF, as it remains the leading cause of death in Poland.[3]

While national centres of excellence are leading the way in terms of multidisciplinary and integrated care,[4] management of HF is typically fragmented in other care settings.[5] Improvements are urgently needed in the diagnosis of HF,[6] hospital care and discharge,[4,7] and continuity of care in the community to ensure equitable access to high-quality management and better outcomes for people living with the syndrome.

HF is a common syndrome

Recent estimates suggest that there are between 600,000 and 750,000 people living with HF in Poland,[8] but experts indicate that the actual number may be over 1 million.[9] Over 130,000 new cases of HF are diagnosed and reported to the National Health Fund (Narodowy Fundusz Zdrowia, NFZ) database every year.[10] It is anticipated that the number of people with HF will increase by almost 25% within the next decade, which will create a significant burden to society.[11] Furthermore, historical data suggest that people in Poland may develop HF at a younger age, as well as being diagnosed in more advanced stages, than in other European countries.[12]

Up to 750,000

living with HF

HF often requires hospitalisation and outcomes are poor

Poland has recently been reported to have the highest rate of hospitalisations for chronic HF among the European countries within the Organisation for Economic Co-operation and Development (OECD).[13] In people over the age of 65, HF is the most common cause of hospitalisation.[8] According to the National Health Fund, over 194,000 people with HF were hospitalised in 2017.[10]

194,000

hospital admissions

Mortality in people living with HF is significant, claiming around 60,000 lives every year.[11] Historical data suggest that roughly 53% of people hospitalised with HF require readmission within 12 months of discharge, and nearly 11% of people with HF die within this timeframe.[14]

HF is associated with high expenditure

The direct costs of HF place a substantial economic burden on the health system and society in Poland. Estimates from 2011 show that total direct costs for HF exceeded €410 million in that year, which amounted to 3.2% of the national health budget.15 Indirect costs of HF are also significant. In 2015, they were estimated at €945 million,[16] mostly owing to the mortality rates in people of working age.[16]

€3.2%

of annual health expenditure

Heart failure policy in Poland

Formal plans on HF

Poland has no national HF strategy, but other health policies have recognised HF

The Polish government has yet to develop a formal plan on HF.[4] In the absence of a dedicated strategy, other policy initiatives hold promise in advancing HF care. For example, the Polish National Health Programme (Narodowy Program Zdrowia) for 2007–2015 included prevention of cardiovascular disease as a key goal.[17] However, this was no longer included as a standalone goal in the 2016–2020 plan.[18]

The Ministry of Health has developed a National Programme for the Prevention and Treatment of Cardiovascular Diseases (Program Profilaktyki i Leczenia Chorób Układu Sercowo-Naczyniowego, POLKARD). The goals for the 2017–2020 POLKARD included the reduction of hospitalisations in people with HF and greater access to diagnosis and outpatient treatment through the introduction of hospital day wards and use of telemedicine.[2] However, experts state that the programme has suffered from insufficient funding.[9] In addition, the redistribution of funds as a result of the COVID-19 pandemic has interrupted its implementation.[4] Experts hope that a renewed programme will be launched in 2021 by the new Ministry of Health.[9]

Investment in integrated HF models and facilitative tools

HF diagnostic tests are not consistently reimbursed, missing opportunities to streamline resource use and care pathways

Limited reimbursement of core diagnostic tests likely constitutes a barrier to HF diagnosis. Natriuretic peptide (NP) testing is not reimbursed in general practice or emergency department settings,[6] which is likely to have implications for the timely and accurate diagnosis of HF. Echocardiography, the most accurate diagnostic test,19 is only reimbursed under specialist care.[6]

Inadequate information technology systems hinder integration of HF care

To date, there is no standardised or advanced information technology (IT) system that would allow for seamless communication across care settings in support of HF care and management.[7 20] National experts believe this may be under development to support the implementation of POLKARD and the Comprehensive Care for Patients with Heart Failure (Kompleksowa Opieka nad Osobami z Niewydolnością Serca, KONS) pilot.[4 9 20] The need for significant investment may have acted as a barrier so far. In the absence of an integrated IT system, healthcare professionals communicate by telephone to discuss care for people living with HF.[9]

Government interest in integrated care and telemedicine for HF is growing

KONS is an integrated care pilot financed through the national health budget (see *Case study 1*).[11 21] The goal of this pilot is to improve and prolong the lives of people with HF.

In addition, a remote monitoring model has won reimbursement from the national health system, following positive results from a trial that showed a reduction in all-cause death and hospitalisation rates in people living with HF compared with standard care.[22 23] The model aims to support people with HF who have implanted devices, such as implantable cardioverter defibrillators. Specialist nurses and cardiologists regularly check data transmitted from the devices, which facilitates a clinical response whenever needed.

CASE STUDY 1.

Testing a comprehensive model of heart failure care

In 2018, the Polish Cardiac Society (Polskie Towarzystwo Kardiologiczne) proposed a multidisciplinary, continuous and coordinated HF care model to ensure high-quality care for all people living with HF.[21] The model, called Comprehensive Care for Patients with Heart Failure (KONS), was approved by the Ministry of Health for implementation as a two-year pilot across six centres, reaching over 5,000 people.[24] Funding was provided through the budget for coordinated primary care.[21]

KONS aims to provide coordinated care to people with HF following hospitalisation, who are at high risk of destabilisation and hospital readmission.[1] The model comprises ambulatory, hospital and home care coordinated by a team consisting of a general practitioner (GP), nurse, cardiologist and other specialists. It involves pharmacological treatment as well as access to cardiac rehabilitation services, dietary advice, psychological support and surgical procedures, if needed. Telemedicine will be used to improve coordination between GPs and cardiologists.

If successful, implementation of KONS on a national scale was planned for 2021,[20] but experts report that the COVID-19 pandemic has delayed progression of this initiative.[5 9] It is unclear how this will affect completion of the KONS trial and its wider roll-out.

Development of the HF healthcare workforce

National professional societies offer training in HF, but HF specialisation is not accredited

There is no national accreditation for HF physicians.[4] Similarly, the role of HF specialist nurses has no national accreditation,[5 7 20] but nurses specialising in cardiology must typically undertake modules in chronic and acute HF.[25]

In the absence of formal training, the Polish Cardiac Society (Polskie Towarzystwo Kardiologiczne, PTK) is active in organising national and local training courses for cardiologists, internists and GPs to promote HF care aligned with recommendations from the European Society of Cardiology (ESC).[26] The HF association of the PTK provides additional educational programmes for nurses.[9]

The current education of nurses involved in the management of people with HF does not adequately cover patient empowerment to self-care.[27] This gap is being addressed by a pilot educational programme, The Weak Heart (see *Case study 2* on page 14). Further to this, the Section of Nurses and Medical Technicians and the HF association of the PTK have developed an HF nurse curriculum in 2020.[28]

It is based on the ESC guidelines and takes into account the aims of the KONS model in providing coordinated care to people with HF following hospitalisation. The curriculum is currently being piloted.[5 7]

Guidance and local care pathways for delivery of quality care

Professional bodies outline guidance for various stages of the HF care pathway

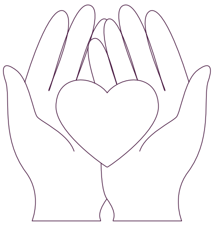
The PTK has formally endorsed the 2016 ESC guidelines on HF,[29] and the Polish translation of these guidelines is the national standard for HF care.[4] In addition, several initiatives have been developed over the years to improve HF care. In 2015, the College of Family Physicians in Poland (Kolegium Lekarzy Rodzinnych w Polsce) together with the HF association of the PTK published guidelines to improve collaboration between cardiologists and GPs.[30] These guidelines provide a framework for good clinical practice at the interface between general practice and hospital care, taking into consideration the structure of the Polish national healthcare system. In 2017, the guidelines were updated in line with the 2016 ESC guidance and to incorporate an updated definition of HF that emphasises its symptoms.[31] However, limited funding has been cited as a barrier to their implementation.[8] In 2020, the PTK issued recommendations for the reimbursement and integration of palliative care for cardiovascular diseases that lead to HF.[10]

Public audits of performance and high-level assessment initiatives

Several registries lend insights to different aspects of HF care, but full oversight is held back by the lack of a national registry

To date there has been no national registry that would allow for a comprehensive assessment of HF care services and patient outcomes.[9 21]

Different registries have been used to characterise the HF population and care.[9] For example, the DATA-HELP registry (Diagnostic and Therapeutic Methods used in Patients with Systolic HF Living in Poland) collected information on people living with HF with reduced ejection fraction (HFrEF). One of its insights was that people treated by cardiologists are more likely to receive medication in line with best-practice recommendations.[32] The COMMIT-HF registry (Contemporary Modalities in Treatment of Heart Failure) is a single-centre study on people with HFrEF, led by the Department of Cardiology in the Silesian Centre for Heart Diseases in Zabrze.[33] It is one of the first registries to assess the complete clinical profile and therapeutic options in people with HFrEF in the Polish context.



Heart failure practice
in Poland

Diagnosis

The diagnosis of HF is often delayed by inconsistent use of core diagnostic tests

Diagnosis of HF is usually led by cardiologists.[4,9] Recommended diagnostic tests are not consistently used.[4] NP testing has been reported to be used in just over 30% of cases of suspected HF, and echocardiography in about 60%.[34] Underuse of NP testing by GPs constitutes a barrier to timely diagnosis, alongside limited access to cardiologists due to their limited numbers, and low levels of HF awareness among the general population and healthcare professionals.[4,5,9]

Hospital care and discharge

Specialist-led care is not regular practice in the management of acute HF

Most people with HF are treated in internal medicine wards, with complex HF or first presentation of HF referred to cardiology wards.[9] Although there are historical reports of a high standard of care provided to people with HF in Poland,[12] experts have cited national variation in accessing specialist care.[4,5] In larger university hospitals and heart transplant centres, people with HF are cared for by multidisciplinary teams who design individual care plans.[9] Smaller hospitals may not have access to the full range of diagnostic tests or therapeutic procedures, and experts state that they cannot therefore provide this level of care.[20] While some people presenting in these settings may be referred to a larger hospital or centre, waiting lists may pose a barrier to timely care.

Discharge planning and follow-up remains fragmented

There are several issues with hospital discharge and post-discharge care, and experts widely report that standardised discharge planning is urgently needed.[4,5,7] One of the issues is that people with HF are often discharged too early or without a scheduled follow-up appointment with either a GP or a cardiologist.[9] In 2013, it was reported that guideline-recommended medications were prescribed in fewer than 70% of HF patients discharged from acute care.[34] Discharge processes varied depending on the ward; those discharged from cardiology wards were more likely to receive the recommended blood pressure medications than those discharged from internal medicine.[34]

Key components of quality care in the community

Cardiac rehabilitation is not consistently provided to people with HF

Cardiac rehabilitation is not always part of HF care. In 2013, it was reported that only 1 in every 22 people with HF participated in a cardiac rehabilitation programme.[8] Rehabilitation is provided in larger hospitals, while smaller hospitals must refer people with HF to a separate specialist cardiac rehabilitation centre, most of which are located in urban centres.[5] Accessing these centres may be more difficult for people living in remote regions due to travel and time constraints.[5 20] Further barriers include the small number of rehabilitation centres, lack of funding and a reluctance among some people with HF (particularly women) to access this service.[20] There are reports of low levels of exercise among people living with HF in Poland,[35] which may hinder their ability to return to work or lower the quality of life for both them and their families.

Provision of patient education in HF is not sufficient

There are gaps in the provision of education to people with HF.[5] Nurses report they lack sufficient knowledge to provide therapeutic education on HF self-care principles.[36] Fewer than 30% of people with HF have recently reported a 'satisfactory' or 'good' level of capability for self-care, which may contribute to exacerbation of HF and consequent hospitalisation.[35] Furthermore, low levels of self-care among people with HF have been attributed to frailty and lack of acceptance of the diagnosis.[35]

To address this, various patient education tools and events have been developed. For example, the PTK organises an annual Patients Heart Forum conference, which includes educational discussion panels on various cardiovascular diseases, including HF.[37] It also runs an online education platform that provides resources for people with HF and their families or carers.[38] Experts within the society developed a Heart Failure Patient Passport (Paszport Pacjenta z Niewydolnością Serca), a self-care diary.[39] It contains information about HF, including symptoms, treatment, and dietary and exercise recommendations.[40] Unfortunately, not all healthcare professionals involved in the provision of HF care may be aware of the various educational events and tools available, which may limit provision of self-care education.[5]

The PTK initiated a pilot educational and telemonitoring programme in 2018 to improve patient education in HF.[39] The role of a specialist HF nurse is integral to the success of this programme, being key to ensuring continuity of care. The nurses work closely with the person with HF and their family, GP and community nurses (see *Case study 2*).[20]

CASE STUDY 2.

Piloting of an educational model for heart failure nurses

The Weak Heart is an educational programme for people hospitalised due to exacerbation of HF that is being piloted in 14 cardiology centres across Poland.[39] It involves a two-day HF nurse training course certified by the PTK and patient education standards implemented in cardiac centres.

Once certified in HF patient education, the nurse meets the person twice during hospitalisation. In the first meeting, the person receives their Heart Failure Patient Passport and is educated on how to monitor symptoms, record measurements and recognise when symptoms worsen. The importance of adhering to medication and of the patient delivering a hospital discharge letter to their GP[41] is stressed. During the second meeting, the person is trained in effective post-discharge self-care and informed of outpatient treatment plans. In the three-month period following discharge, the nurse conducts three 30-minute monitoring telephone calls. They assess adherence to medications, self-monitoring in the passport and attendance at outpatient appointments.

Results from this pilot are not yet available. However, it is hoped that support from a specialist HF nurse will improve patients' understanding of HF and increase adherence to medication and recommendations for self-care. Positive results would create an opportunity to standardise HF patient education in Poland.

Palliative care is not provided to people living with HF, while psychological support is limited

A recent publication from the PTK recommends access to palliative care for all people living with HF, and highlights the urgent need for reimbursement of this service to help manage symptoms and discomfort.[10] National experts report that palliative care has traditionally been offered to people living with cancer or neurological diseases, but it is not provided to people with HF.[5 20] KONS may provide a useful future model to enable access to palliative care services for all people with HF.[20]

Psychological support is not regularly available to people with HF,[7] even though experts report that the PTK has issued recommendations for cardiology departments to have access to this service.[20] Among barriers to its provision is the limited number of psychologists employed in hospitals.[20] Experts have also cited a hesitancy among some people with HF to use this service due to the stigma associated with obtaining psychological support in Poland.[5]

Tools and methods to support multidisciplinary and integrated ongoing HF care

Centres of excellence offer various tools and models to encourage multidisciplinary HF care, which are largely unavailable in other settings

Overall, the implementation of tools and working methods that can promote multidisciplinary and integrated HF care has been inconsistent. The KONS model is widely considered to be a highly promising, progressive initiative signalling a growing interest in the greater integration of HF care.[1] However, this is not yet the reality in Poland. In the meantime, there are several other successful models of integrated care in selected regions and centres of excellence. These provide a wealth of national expertise in integrated care which could benefit from wider roll-out (see *Case study 3*).

CASE STUDY 3.

Comprehensive HF care in the National Institute of Cardiology, Warsaw[4]

The National Institute of Cardiology (Narodowy Instytut Kardiologii) is the main centre for cardiology in Poland,[42] and one of six national heart transplant centres. When a person with symptoms of HF is admitted to the Institute, they are seen by a cardiologist, who has access to the full range of diagnostic tests. HF care is provided by a multidisciplinary team, which may include specialists in cardiac rehabilitation and psychologists, to create appropriate, person-centred treatment plans.

Standardised discharge planning with scheduled follow-up appointments is commonplace to support the seamless transition of care and reduce the risk of readmission. Cardiologists can generate annual prescriptions for people with HF to reduce the number of Institute visits. If symptoms worsen, the person can arrange a teleconference with a cardiologist, who can then send an updated prescription via an online system directly to the person, if necessary. The Institute is a renowned pioneer in the field of telemedicine, with home-monitoring devices offered to people with HF for self-management.

The way forward

HF poses a challenge to the sustainability of healthcare systems in countries across Europe, including Poland. It is a manageable – and often preventable – syndrome, yet it continues to affect a great number of people and its burden on the national health system and society is significant.

Cardiovascular diseases, including HF, are still the leading cause of death in Poland and therefore should not be overlooked amid the COVID-19 pandemic. The need for coordinated efforts to address HF has been underlined by the impact of COVID-19, which has stalled progress on the implementation of integrated care models. It is crucial that interrupted initiatives are brought to the forefront of healthcare improvement, and that the HF challenge is fully acknowledged and addressed.

SEVERAL ACTIONS ARE ESSENTIAL TO ADDRESS THIS CHALLENGE.

Implement the KONS model of integrated HF care, and ensure this is paired with a comprehensive IT system that supports communication across care settings

The new Ministry of Health must recognise the importance of the KONS pilot through sufficient funding. This pilot will quantify the need to develop a sustainable reimbursement model for HF care in Poland. The collection and flow of patient information, including course and effects of treatments, is an important part of the KONS model. Therefore, there is a clear need for investment in a system that fosters communication and collaboration between healthcare professionals and across care settings, for example between cardiologists and other professionals, including nurses and allied health professionals. It is crucial to develop an IT system that enables communication between hospitals and primary care, particularly for effective discharge planning.

Increase awareness of HF among the public and healthcare professionals

Understanding of HF must be improved at all levels. Awareness campaigns aimed at the public may encourage people to see a healthcare professional as soon as they start experiencing signs and symptoms of HF. Training opportunities in HF led by national professional societies can support the correct identification of signs and symptoms as well as optimal management of HF in line with the latest guidelines.

Reimburse NP testing in primary care to support timely and appropriate diagnosis of HF

It is crucial to reimburse NP testing when prescribed by GPs, to widen the scope of diagnostic possibilities available within primary healthcare. This test can help prioritise referrals for specialist-led echocardiography, thereby facilitating timely diagnosis and access to treatment. National primary care societies can support this by engaging with decision-makers, and can provide training for GPs on the correct use and interpretation of diagnostic tests for HF.

Accredit and fund the HF specialist nurse role

It is essential that the HF specialist nurse role be formally recognised in Poland and that specialist nurses be closely involved in the management of HF. So far, professional societies have guided efforts to standardise requirements in terms of education and clinical responsibilities. If proven successful, these criteria can be incorporated into formal accreditation programmes, which should be recognised by regional and national healthcare systems. Accreditation should be linked to financial recognition of the role to foster interest in the specialisation path and ensure seamless incorporation of specialist nurses into multidisciplinary HF care teams.

Develop a national HF registry or audit to allow for performance assessment and enable clear oversight of HF care

There is a need for regular assessment of HF data through a formal registry or audit, so the real challenge – as well as the impact of care and different care models (such as KONS) – can be understood. This will help characterise the national HF challenge, assess the performance of different care settings and incentivise adherence to guideline recommendations.

Focusing on these priority areas will likely offer a cost-effective opportunity to improve life for people with HF, reduce hospitalisations and mitigate future pressures.

This is an investment in a more resilient and prepared health system, not just for HF but for chronic diseases more generally.

The creation and maintenance of national strategies and plans in HF is likely to be vital to long-term success. There are many strengths and existing resources within the healthcare system on which to build. Lasting success will require effective central oversight of inequalities and unacceptable variations, as well as long-term collaboration and commitment from decision-makers, patient representatives, healthcare professionals and the private sector. Failure to pursue the actions recommended in this report will allow HF to continue to challenge the sustainability of the healthcare system in Poland.

References

1. Nessler J, Zalewski J, Kozierkiewicz A, *et al.* 2018. Projekt programu kompleksowej opieki nad chorymi z niewydolnością serca (KONS). *Kardiologia Inwazyjna* 13(6): 10-17-10-17
2. Ministerstwo Zdrowia. 2017. Program Profilaktyki i Leczenia Chorób Układu Sercowo-Naczyniowego POLKARD na lata 2017-2020. [Updated 05/12/19]. Available from: https://www.gov.pl/web/zdrowie/program-profilaktyki-i-leczenia-chorob-ukladu-sercowo-naczyniowego-polkard-na-lata-2017-20205 [Accessed 12/08/20]
3. Polskiego Towarzystwa Kardiologicznego. Kardiologia podczas epidemii COVID-19. Stanowisko Polskiego Towarzystwa Kardiologicznego. [Updated 17/04/20]. Available from: https://ptkardio.pl/aktualnosci/510-kardiologia_podczas_epidemii_covid19_stanowisko_polskiego_towarzystwa_kardiologicznego [Accessed 06/10/20]
4. Leszek P. 2020. Interview with Stephanie Whelan Sara C Marques and Ed Harding at The Health Policy Partnership (Secretariat for Heart Failure Policy Network) [Videoconference]. 09/09/20
5. Uchmanowicz I. 2020. Interview with Stephanie Whelan at The Health Policy Partnership (Secretariat for Heart Failure Policy Network) [Videoconference]. 11/09/20
6. Nessler J, Straburzyńska-Migaj E, Windak A, *et al.* 2018. Stanowisko Grupy Ekspertów dotyczące oceny przydatności oznaczeń peptydów natriuretycznych w niewydolności serca. *Kardiol Pol* 76: 215-24
7. Hetman P. 2020. Interview with Stephanie Whelan at The Health Policy Partnership (Secretariat for Heart Failure Policy Network) [Videoconference]. 11/09/20
8. Straburzyńska-Migaj E, Nessler J, Gackowski A. 2016. *Niewydolność serca w Polsce – raport 2016.* Poland: Kardiologicznego SNSPT
9. Straburzyńska-Migaj E. 2020. Interview with Stephanie Whelan at The Health Policy Partnership (Secretariat for Heart Failure Policy Network) [Videoconference]. 11/09/20
10. Sobański PZ, Brzezińska Rajszys G, Grodzicki T, *et al.* 2020. Palliative care for people living with cardiac disease. *Kardiol Pol* 78(4): 364-73
11. Nessler J, Kozierkiewicz A, Gackowski A, *et al.* 2018. Kompleksowa opieka nad chorymi z niewydolnością serca w Polsce: propozycje rozwiązań organizacyjnych. *Kardiol Pol* 76:
12. Sosnowska-Pasiarska B, Bartkowiak R, Wożakowska-Kapłon B, *et al.* 2013. Population of Polish patients participating in the Heart Failure Pilot Survey (ESC-HF Pilot). *Kardiol Pol* 71(3): 234-40
13. OECD. 2019. *Health at a Glance 2019.* Paris: OECD Publishing
14. Balsam P, Tymińska A, Kapłon-Cieślicka A, *et al.* 2016. Predictors of one-year outcome in patients hospitalised for heart failure: results from the Polish part of the Heart Failure Pilot Survey of the European Society of Cardiology. *Kardiol Pol* 74(1): 9-17
15. Czech M, Opolski G, Zdrojewski T, *et al.* 2013. The costs of heart failure in Poland from the public payer's perspective. Polish programme assessing diagnostic procedures, treatment and costs in patients with heart failure in randomly selected outpatient clinics and hospitals at different levels of care: POLKARD. *Kardiol Pol* 71(3): 224-32
16. Łyszczarz B. 2018. Indirect costs and public finance consequences of heart failure in Poland, 2012–2015. *BMC Public Health* 18(1): 1130
17. Adamowicz-Klepalska B, Borusiewicz R, Burzyńska E, *et al.* 2007. Narodowy Program Zdrowia na lata 2007-2015. Available from: http://www.archiwum.mz.gov.pl/wp-content/uploads/2014/03/zal_urm_npz_90_15052007p.pdf [Accessed 12/08/20]
18. Klimczak M. 2019. Cele operacyjne NPZ. [Updated 21/08/19]. Available from: https://www.gov.pl/web/zdrowie/cele-operacyjne-npz [Accessed 12/08/20]
19. Ponikowski P, Voors AA, Anker SD, *et al.* 2016. 2016 ESC guidelines for the diagnosis and treatment of acute and chronic heart failure. *Eur J Heart Fail* 18(8): 891-975
20. Krówczyńska D. 2020. Interview with Stephanie Whelan at The Health Policy Partnership (Secretariat for Heart Failure Policy Network) [Written]. 17/09/20
21. Nessler J, Kozierkiewicz A, Gackowski A, *et al.* 2019. Comprehensive Heart Failure Care pilot study: starting point and expected developments. *Kardiol Pol* 77: 994-99
22. Tajstra M, Kurek A, Pyka Ł, *et al.* 2020. The increased rate of life-threatening interventions in remotely monitored patients with heart failure during the coronavirus disease 2019 pandemic. *Pol Arch Intern Med*: 10.20452/pamw.15505:
23. European Society of Cardiology. 2019. Remote monitoring keeps heart failure patients out of hospital; The set-up is so effective it has won reimbursement from the health system. Available from: https://www.escardio.org/The-ESC/Press-Office/Press-releases/Remote-monitoring-keeps-heart-failure-patients-out-of-hospital [Accessed 01/09/20]
24. Łuszczyńska K. 2018. [The Minister of Health inaugurated the pilot of Comprehensive Care for People with Heart Failure (KONS)]. [Updated 07/12/18]. Available from: https://www.gov.pl/web/zdrowie/minister-zdrowia-zainaugurowal-pilotaz-kompleksowej-opieki-nad-osobami-z-niewydolnoscia-serca-kons [Accessed 13/08/20]

25. Centrum Ksztalcenia Podyplomowego Pielegniarek i Poloznych. 2017. Program kursu kwalifikacyjnego w dziedzinie pielegniarstwa kardiologicznego. Available from: http://www.ckppip.edu.pl/uploads/docs/Programy_ksztalcenia/kursy_kwalifikacyjne_1/Piel%C4%99gniarstwo%20kardiologiczne.pdf [Accessed 15/09/20]
26. Wizner B, Fedyk-Łukasik M, Opolski G, *et al.* 2018. Chronic heart failure management in primary healthcare in Poland: Results of a nationwide cross-sectional study. *Eur J Gen Pract* 24(1): 1-8
27. Krówczyńska D, Jankowska-Polańska B. 2020. Nurses as educators in the comprehensive heart failure care programme-Are we ready for it? *Nurs Open* 7(5): 1354-66
28. Uchmanowicz I, Lisiak M, Lelonek M, *et al.* 2020. Curriculum for the heart failure nurse: an expert opinion of the Section of Nurses and Medical Technicians and the Heart Failure Section of the Polish Cardiac Society. *Kardiol Pol* 78:
29. European Society of Cardiology. Acute and Chronic Heart Failure Guidelines. Available from: https://www.escardio.org/Guidelines/Clinical-Practice-Guidelines/Acute-and-Chronic-Heart-Failure [Accessed 31/07/20]
30. Nessler J, Windak A, Oleszczyk M, *et al.* 2015. *Zasady postępowania w niewydolności serca; Wytyczne Kolegium Lekarzy Rodzinnych w Polsce oraz Sekcji Niewydolności Serca Polskiego Towarzystwa Kardiologicznego.* Krakow: Medycyna Praktyczna Spółka z ograniczoną odpowiedzialnością Spółka Komandytowa
31. Nessler J, Windak A, Oleszczyk M, *et al.* 2017. *Wydanie specjalne 2/2017: Zasady postępowania w niewydolności serca; Wytyczne Kolegium Lekarzy Rodzinnych w Polsce oraz Sekcji Niewydolności Serca Polskiego Towarzystwa Kardiologicznego.* Krakow: Medycyna Praktyczna Spółka z ograniczoną odpowiedzialnością Spółka Komandytowa
32. Jankowska EA, Kalicinska E, Drozd M, *et al.* 2014. Comparison of clinical profile and management of outpatients with heart failure with reduced left ventricular ejection fraction treated by general practitioners and cardiologists in contemporary Poland: the results from the DATA-HELP registry. *Int J Cardiol* 176(3): 852-8
33. Gąsior M, Pyka Ł, Gorol J, *et al.* 2016. COnteMporary Modalities In Treatment of Heart Failure: a report from the COMMIT-HF registry. *Kardiol Pol* 74(6): 523-8
34. Fedyk-Łukasik M, Wizner B, Opolski G, *et al.* 2017. Quality of care of hospitalised patients with heart failure in Poland in 2013: results of the second nationwide survey. *Kardiol Pol* 75(6): 527-34
35. Mlynarska A, Golba KS, Mlynarski R. 2018. Capability for self-care of patients with heart failure. *Clin Interv Aging* 13: 1919-27
36. Jankowska-Polanska B, Brzykowska M, Uchmanowicz I, *et al.* 2017. Polish Nurses' Knowledge of Heart Failure Self-Care Education Principles. *Clin Nurse Spec* 31(3): E7-E13
37. II Forum Serce Pacjenta. 2020. Zapraszamy na ii forum online - serce pacjenta. Available from: http://sercepacjenta.pl/#zaproszenie [Accessed 01/09/20]
38. Forum Serce Pacjenta. sercepacjenta.pl. Available from: http://slabeserce.pl/ [Accessed 13/08/20]
39. Kolasa J, Uchmanowicz I, Wleklik M, *et al.* 2020. "The Weak Heart" as an educational model for patients hospitalised due to decompensation of heart failure with reduced ejection fraction. *Folia Cardiol:* 10.5603/FC.a2020.0014:
40. Polskiego Towarzystwa Kardiologicznego. Paszport pacjenta z niewydolnością serc. Available from: https://www.optimize-hf.com/wp-content/uploads/2016/08/POLAND-Patient-passport-.pdf [Accessed 01/09/20]
41. Lelonek M. 2018. Heart failure — discharge management the crucial point in heart failure care. *Folia Cardiol* 13(4): 371-77
42. Narodowy Instytut Kardiologii. About the Institute. Available from: https://www.ikard.pl/about-the-institute-280.html [Accessed 14/09/20]

The Heart Failure Policy Network

To find out more about the Heart Failure Policy Network and this work, go to **www.hfpolicynetwork.org**

If you have any comments or questions, please get in touch with the authors at **info@hfpolicynetwork.org**