



# Scientific Work of An Independent Provincial OPO in China Promote the Development of Organ Donation Discipline



## Shanxi Provincial Organ Procurement And Allocation Center

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**TTS2024**  
**ISTABUL TURKEY**

# “Shanxi Model”

Multidisciplinary Experts  
Promote the Scientific Development of Our OPO  
Promote the Professional Development of Organ Donation

## THE FIRST

### Independent Provincial OPO in China

### Shanxi OPO Scientific Committee



#### Around the World



### The First Independent Provincial OPO in China: The Shanxi Experience

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#### BACKGROUND

It has been a decade since China launched the national pilot program for voluntary deceased organ donation (OD). The Chinese reform of OD and organ transplantation has been successful, achieving 5818 deceased ODs in 2019.<sup>1,2</sup> In 2013, the national health commission advocated the concept of developing organ procurement organizations (OPOs) to manage deceased ODs. Here, we present the pathway of establishing the first independent provincial OPO in China and emphasize its exemplary role to advance OD in China.

#### CURRENT PROGRESS OF DECEASED OD IN CHINA

Per the Global Observatory on Organ Donation and Transplantation, deceased OD cases performed in China reached 5818 in 2019, accounting for 14.3% of the global deceased donation volume.<sup>1</sup> As of May 2021, over 34 200 deceased ODs have been performed under the national program framework, and over 101 200 organs have been recovered.<sup>4</sup> The Civil Code updated in 2020 mandates an opt-in system for organ and tissue donation.<sup>3</sup> The number of deceased organ donors per million population (PMP) remained low (4.16) in 2019,<sup>3</sup> suggesting room for

improvement. Currently, there are over 130 hospital-based OPOs throughout China. Regulations on Donor Organ Procurement and Distribution issued in 2019 stipulate that provincial OPOs should be gradually established to achieve the final goal in attaining self-sufficiency.<sup>5</sup>

#### ORGANIZATIONAL STRUCTURE OF SHANXI OPO

From 2015 to 2017, a group of medical staff located in transplant hospitals managed OD activities in Shanxi. In 2018, the Shanxi Provincial Organ Procurement and Allocation Center (Shanxi OPO) was founded under the supervision of the Shanxi Provincial Health Commission. The Shanxi OPO represents the first independent non-profit provincial OPO in China, covering a donation service area of 37.29 million people and serving 6 transplant hospitals in the region. As one of the pilot provinces, Shanxi explored a feasible and up-to-date organ procurement structure, under which organ donation coordination, organ recovery and organ allocation are managed uniformly within the province. In addition to OD, tissue donation and its specific implementation process had not been standardized yet. Hence, pushing the “issue” part under the current OPO program appeared imperative.

Within the past 2 y, an operational structure with 7 functional departments has been built in the Shanxi OPO (Figure 1). Medical facilities including donor intensive care units, surgical suites for organ procurement, and machines for organ perfusion have been installed at the OPO. An information center was established in 2020 to maximize the utilization of information technology, helping to coordinate teams, organ recoveries, and allocations. Accordingly, close communication with donor and transplantation hospitals has been established to emphasize on efficiency while assuring that practices comply with regulations and protocols. Moreover, a board of directors, an ethics committee, and a scientific committee have been established to supervise and guide OPO operations (Figure 1). Funding for Shanxi OPO is supported partly by the provincial government (for facilities), with procurement costs covered by the transplant centers based on a payment structure approved by the provincial health commission.

#### OD

Shanxi witnessed an increasing rate in ODs, from 35 cases (PMP: 0.9) to 94 (PMP: 2.5), reflecting a growth rate of 168%. Organs recovered increased from 100 to 271 (Figure 2). From 2015 to 2017 (before the establishment of Shanxi OPO), procurement was limited to livers,

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W.J., Y.S., and X.W. contributed to research design. W.J., X.H., and Y.M. edited the article. J.Y. and H.W. performed research. F.J. and K.H. collected data. W.J., Y.S., F.J., J.Y., H.W., X.H., Y.M., and X.W. jointly participated in data analysis.

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# Multidisciplinary Cooperation

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· 指南与共识 ·

## 器官和组织捐献家属沟通专家共识

器官和组织捐献家属沟通专家共识编写组

**【摘要】** 家属沟通是器官和组织捐献工作的关键环节,也是捐献成功与否的关键。为了更好地帮助潜在器官和组织捐献者家属了解法律赋予的器官捐献自主选择权利,提升家属沟通效率,充分体现人文关怀,同时帮助相关从业者长期保持专业的工作态度及健康的心理状态,分享和总结各地最佳临床经验,共同商议并解决目前家属沟通面临的困难,在多方专家的共同参与下,特制订《器官和组织捐献家属沟通专家共识》。本共识以器官和组织捐献家属沟通的关键问题为导向,查阅相关文献,经多学科专家编写,并通过德尔菲投票方法达成共识,形成18个器官和组织捐献家属沟通关键元素及推荐建议,以期为器官和组织捐献家属沟通工作提供指引。本共识已在国际实践指南注册平台进行中英文注册。

**【关键词】** 器官捐献;组织捐献;器官移植;潜在捐献者;捐献者家属;家属沟通;器官获取组织;脑死亡  
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## Chinese Efforts to Pursue Effective Communication With Family of Potential Organ and Tissue Donor

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### ABSTRACT

Within the last decade, deceased organ donation and transplantation in China have made great progress, but there is still much room for improvement. Inefficient communication with the family of potential organ and tissue donors is one of the major reasons for donor loss. In this study, the current progress of the deceased organ donation program in China was summarized, with a particular focus on the analysis of problems and solutions for achieving best practices in communication with the family of potential organ and tissue donors. This paper is in compliance with the Helsinki Congress and the Declaration of Istanbul.

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## 多学科融合促进器官捐献学科体系建设及专业化发展

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**【摘要】** 学科交叉融合成为当前科学技术发展的重大特征,跨界融合将逐步成为常态。专业和技术的多学科融合具有不可预计的潜力,催生新学科前沿、新技术领域及创新形态。器官捐献是我国新时代的新兴学科,构建和推动以保障捐献者及家属的合法权益及移植受者健康权益为总体目标的器官捐献学科体系,符合推动我国器官捐献移植事业高质量发展的根本要求。同时,器官捐献工作是一项复杂的医疗和社会行为,公民捐献的器官属于国家资源,这赋予了器官捐献兼具一种社会公益属性和与全社会共担的责任。本文通过分析我国器官捐献工作当前面临的问题,以及分析器官捐献的全流程及供者的不同临床体验,探讨理论如何指导器官捐献学科建设融入国家政策,以维护捐献、家属和移植受者权益为中心,以器官捐献和移植工作为主线,遵从多方共识、共建、共促、共赢的合作原则,推动器官捐献的多学科融合发展和综合人才培养,共同提高器官捐献认知和普及率,使器官捐献工作获得社会各界人士的广泛认同。

**【关键词】** 器官捐献;多学科交叉融合;器官获取组织;供者评估;供者管理;脑死亡判定;家属沟通;器官获取  
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Multidisciplinary integration promotes the disciplinary system construction and professional development of organ donation Jiang Wenshi, Ma Lianbing, Sun Jie, Sun Jun, Song Liming, Ma Yiqin, He Xiangxiang, Hu Xiaoxiang, Shanxi Provincial Human Organ Procurement and Allocation Center, Taiyuan 030006, China  
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IntechOpen

Book Chapter Template

## Empower the Science of Organ Donation by Multidisciplinary Integration

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### Abstract

Inter-discipline is formed by the interpretation and integration of multiple disciplines, which has become a notable trend involving interdisciplinary activities and combination of research and development. Learned from experience worldwide, the management mode for organ donation and procurement activities varies among countries, but the core of the disciplinary construction of organ donation remains the same. The theoretical basis and practice of organ donation is not purely a matter of coordination, but its ground of knowledge is built upon multidisciplinary integration and its implementation relies on a joint effort approach and requires collaboration of multiple teams. From the sociological viewpoints, organ donation represents the gift of life for transplant patients, of which funds the key element on enhancing the harmony of the society. While, from the practical perspective, its professionalism has been widely recognized by the international medical community. As a complex medical and social act, organ donation is a medical-centered subject with sociological, humanistic, ethical, psychological and genetic attributes. This chapter will provide an overview of how multidisciplinary integration empowers the science of organ donation, followed by the summary of recent efforts taken in China in pursuit of this goal as an example.

**Keywords:** Organ donation, multidisciplinary integration, organ procurement organization, brain death, ICU

# Expert Consensus on Effective Communication with Family of PD Family

# Multidisciplinary Cooperation to Promote the Professional Development of Organ Donation

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## 论以社会公众及捐献者家属为中心 建立器官捐献信任体系

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**【摘要】** 公众信任是支撑各类社会捐献体系可持续发展的基础。然而,信任体系的构建是持续的、长的、且艰难易失。探讨了公众、捐献者及其家属在人际、体系、社会和监督等方面多对象、多维度的信任度,倡议各级参与机构与从业人员以此行为导向,通过构建以社会公众及捐献者家属为中心的两大支撑体系打破信任危机,共同为器官捐献事业的可持续发展保驾护航。

**【关键词】** 器官捐献;器官捐献协调员;器官获取组织;信任体系;公众信任  
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Establish an Organ Donation Trust System Centered on the Public and the Families of the Donors  
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**Abstract:** Public trust is the foundation for supporting the sustainable development of various social donation systems. However, the construction of trust system is continuous, long-term, and easily lost a difficult to defend. This study explored the multi-object and multi-dimensional trust demands of the public donors and their families in interpersonal, system, social and supervision aspects. It was proposed that participating institutions and practitioners should take the multidimensional claims as an action-oriented break the crisis of trust by building two major support systems centered on the public and donors' families

and jointly ensure the sustainable development of organ donation.

**【Key words】** Organ donation; Organ donation coordinator; Organ procurement organization; Trust system; Public trust

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学术前沿

## 将器官捐献宣教加入我国安宁疗护服务初探

江文诗 马联斌 何湘湘 武小桐 王云婷

**【摘要】** 目前,移植器官捐献,供受者匹配的全球器官捐献与移植发展面临诸多困难。

把器官捐献宣教列入安宁疗护服务内容已在国内外已有许多实践。器官捐献宣教

是《民法典》赋予公民的一项自主选择权利,可以在一定程度上保障供者的知情权

和隐私权,为医联体医务人员提供临床决策支持,并对医务人员和公众起到一种反哺作用。

也是体现患者自主权利的重要方面。安宁疗护工作具有良好的人文关怀属性,结合

本职工作职责和角色立场,更要在家属沟通中将宣教引入器官捐献宣教并站在患者和家

属立场上,不以“灌输”为目的,而是帮助供体本人和家属自愿选择权利,在充分

知情的前提下自愿做出合理选择。因此,将器官捐献宣教加入安宁疗护服务的建

议具有可行性、合理性和重要性。与此同时,以医护人员及其家属人文关怀和医疗

服务质量为出发点并列入项目,逐步建立安宁疗护和器官捐献两个专业领域学术发展

及培训机制,实践跨专业系列的权利,增强两个领域的相互信任和协同能力,以实际

行为完善临床患者的服务内涵,促进两个领域专业化和规范化协同发展并实现更广泛

的探索与实践。

**【关键词】** 安宁疗护; 器官捐献; 宣教初探; 医疗自主权; 双向反馈

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Research progress in cognition, attitude and willingness for organ donation among ICU staff in China Ma Yiqin, Wang Peng, Yang Liming, Sun Yongkang, He Xiangxiang, Jiang Wenshi, Hu Xiaoxiang, Shanxi Provincial Human Organ Procurement and Allocation Center, Taiyuan 030012, China  
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**【Abstract】** In recent years, organ donation and transplantation have entered a stage of study development in China. Nevertheless, the shortage of transplant organs and the contradiction between supply and demand of organs are still the bottlenecks to achieve the strategy of "self-sufficiency in organ transplantation" advocated by the World Health Organization (WHO). The key reasons for donor loss described in the "critical pathway of organ donation" defined by the WHO include the identification and referral of potential donors and the maintenance and repair of organs. Smooth development, high efficiency and high-quality development of organ donation cannot be achieved without the support of intensive care medicine, which are highly associated with the cognition, recognition and participation of intensive care unit (ICU) staff. In this article, research progress in ICU staff's cognition, attitude and willingness for organ donation were reviewed and relevant influencing factors were discussed, aiming to offer targeted suggestions on how to resolve those difficulties.

**【Key words】** Organ donation; Organ transplantation; Critical care medicine; Willingness to donate; Potential donor; Donation cognition; Intensive care unit (ICU); Death determination; Multidiscipline

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## 我国ICU医务人员器官捐献认知、态度及意愿研究进展

马联斌 王娟 杨立明 孙承康 何湘湘 江文诗 武小桐

**【摘要】** 近年来,我国的器官捐献与移植已经处于稳定发展的阶段。尽管如此,移植器官来源短缺、器官供体不足仍是实现世界卫生组织所倡导“实现器官移植自给自足”的瓶颈。世界卫生组织定义的“器官捐献关键路径”中阻碍供体丢失的关键因素包括潜在供者的识别和转介以及器官的维护与修复问题。器官捐献工作尚需开展宣教和培训,提高健康意识,尊重医学的尊严,并与重症监护室(ICU)医务人员和移植医学工作者的认知、态度及参与程度息息相关。本文就ICU医务人员对器官捐献的认知、态度及意愿的研究现状进行综述,讨论相关影响因素,并尝试就如何改善相关因素提出针对性建议。

**【关键词】** 器官捐献; 器官移植; 捐献意愿; 潜在供者; 捐献认知; 重症监护室(ICU); 死亡判定; 多学科  
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Research progress in cognition, attitude and willingness for organ donation among ICU staff in China Ma Yiqin, Wang Peng, Yang Liming, Sun Yongkang, He Xiangxiang, Jiang Wenshi, Hu Xiaoxiang, Shanxi Provincial Human Organ Procurement and Allocation Center, Taiyuan 030012, China  
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**【Abstract】** In recent years, organ donation and transplantation have entered a stage of study development in China. Nevertheless, the shortage of transplant organs and the contradiction between supply and demand of organs are still the bottlenecks to achieve the strategy of "self-sufficiency in organ transplantation" advocated by the World Health Organization (WHO). The key reasons for donor loss described in the "critical pathway of organ donation" defined by the WHO include the identification and referral of potential donors and the maintenance and repair of organs. Smooth development, high efficiency and high-quality development of organ donation cannot be achieved without the support of intensive care medicine, which are highly associated with the cognition, recognition and participation of intensive care unit (ICU) staff. In this article, research progress in ICU staff's cognition, attitude and willingness for organ donation were reviewed and relevant influencing factors were discussed, aiming to offer targeted suggestions on how to resolve those difficulties.

**【Key words】** Organ donation; Organ transplantation; Critical care medicine; Willingness to donate; Potential donor; Donation cognition; Intensive care unit (ICU); Death determination; Multidiscipline



# Building of Talent Team

## 中国人体器官捐献管理中心文件

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### 关于申报 2021 年人体器官捐献 课题研究项目的函

各有关单位:

为加强人体器官捐献相关工作的薄弱环节建设,推动人体器官捐献工作高质量发展,根据“十四五”中央专项彩票公益金人体器官捐献项目预算,中国人体器官捐献管理中心(以下简称“国家管理中心”)计划征集开展人体器官捐献相关课题研究项目。现将具体事项函告如下:

**Undertake National Scientific  
Research Project of Reference  
Standard for Training Base  
Construction & Comprehensive  
Training Program**

Train a host of **application-oriented** professionals

The main force for driving the development of organ donation



**Organize Organ Donation Trainings  
for Relevant Healthcare  
Professionals of Donation Hospitals**



**Regularly Multi-disciplinary  
Professional Trainings for  
Our Staff**



**TTS2024**

# Annual “Scientific Report” on OD & OT

## Quality Control and Management



Provide analysis and summary of relevant quality indicators of OD & OT work within Shanxi Province



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