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Jie Zhao June 04 2026, first published by [MIP](#)

Revised examination guidelines and evolving technology have driven a surge in smart medicine patent filings and grants. Jie Zhao of Wanhuida Intellectual Property examines several examples of significance for foreign applicants

Article 25.1.(3) of the Chinese Patent Law stipulates that methods for the diagnosis or treatment of diseases are not patentable. Although the Patent Examination Guidelines further clarify that methods “whose direct purpose is not to obtain a diagnostic result or a health status” but rather “to obtain information serving as an intermediate result, or to process such information” are not diagnostic methods, in practice, examiners tend to adopt a broad interpretation of “obtaining a health status”, thereby tightening scrutiny on patentability assessment.

For example, in the case of detecting certain biomarkers, even if the detection result is not correlated with whether a subject is suffering from a disease or has been cured, the mere presence or absence of the biomarker per se may be deemed as a “health status”, leading to findings of unpatentability for many therapeutic intermediate methods involving a core step of biomarker detection, unless they are reformatted as Swiss-type claims.

However, the 2023 revision of the Patent Examination Guidelines introduced a provision explicitly stating that “information processing methods carried out entirely by computers or other devices” are not diagnostic methods. This welcome change has formalised the patentability of many upstream or intermediate methods related to diagnosis and treatment that rely on algorithms, large language models, and machine learning, leading to a surge in the number of patent grants.

The selected cases below showcase the patentable methods in smart medical patents in China.

Screening drugs and biomarkers

Owned by Proteint Tianjin Biotech Co Ltd., CN106404975B protects a method for screening individualised drugs, by utilising liquid chromatography-tandem mass spectrometry (LC/MS/MS) technology to construct a disease-related pathogenic protein molecular database, a patient-individualised clinical course-pathogenic protein factor response characteristic correlation database, and a disease model target drug-protein response correlation database. Drugs suitable for individualised treatment are screened by comparing and analysing protein differences between diseased and non-diseased populations.

CN112071365B is owned by the Beijing Institute of Technology. This patent protects a method for screening glioma biomarkers based on PTEN gene status. This method obtains the PTEN gene status – whether the gene has undergone mutation – stratifies glioma patients based on the PTEN gene status, screens for subgroup-specific differential genes, constructs a prognostic model, calculates a risk score, and screens for potential targeted drugs.

Although the methods in the above patents involve the collection or detection of a “health status” (e.g., clinical course, gene mutation status), their direct purpose is to screen potential drugs. Therefore, they aim to “provide results for the reference of physicians or the like” rather than “to obtain a health status” and are thus patentable.

Predicting drug sensitivity, drug response, or efficacy

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Owned by Peking University, CN115966316B protects a method for predicting tumour drug sensitivity, by employing graph neural networks combined with deep learning technology. It leverages protein-protein interaction network data, gene expression profiles, and drug chemical molecular structure data to train a pre-training model and performs transfer learning to generate a merged model for predicting tumour drug sensitivity.

CN115274136B is owned by Shanghai Jiao Tong University. This patent protects a method for predicting drug response in tumour cell lines. It constructs the DROEG (drug response based on omics and essential genes) prediction method, integrating gene expression data, copy number variation data, methylation data, somatic mutation data, and CRISPR gene effect data. Drug response prediction is performed using a support vector regression model, combined with quantitative and qualitative evaluation methods to comprehensively assess model performance.

CN117116349B is owned by the Innovation Center of Yangtze River Delta, Zhejiang University. This patent protects a method for ranking drug-responsive cell populations based on single-cell transcriptome data. This method constructs a target gene regulatory network, using drug target information to virtually knock out targets, training low-dimensional representations of gene nodes through manifold alignment, calculating Euclidean distances and drug perturbation scores, to generate a ranking result of drug-responsive cell populations.

Granted to Shenzhou Medical Data Technology (Beijing) Co., Ltd., CN107038351B protects a method for systematically predicting the impact of omics variations on drug efficacy. By establishing a database of protein three-dimensional functional subregions, it compares unknown clinical significance variants with known variants in terms of attribution, type, and amino acid property changes, predicts the impact of unknown variants on drug efficacy, refines domains, and analyses the three-dimensional distance and position of amino acid residues relative to drug binding sites, generating a functional subregion database for prediction.

Similarly, these methods are also deemed to be “providing results for the reference of physicians or the like” and are thus patentable.

Drug recommendation methods

CN115472216B is owned by Shenzhou Medical Technology Co Ltd., protecting a data integration-based method for recommending cross-indication combination drugs for tumours. By integrating multiple types of data, it constructs a tumour-specific protein-protein interaction network, screens potential target proteins, generates a candidate drug list, and builds a drug response prediction model to recommend optimal drug combinations.

CN112768029B is owned by Shanghai Dongfang Hospital, which is affiliated to Tongji University. Claim 5 of this patent protects a method for recommending combination drugs based on single-cell sequencing. It obtains tumour sample information, performs immune-related feature extraction and assessment based on machine learning models, selects drug administration methods, and generates a multi-objective optimisation model using the Monte Carlo algorithm to recommend multiple drug combination regimens.

Even for “information processing methods carried out entirely by computers or other devices”, the bottom line remains that such methods cannot include treatment or administration steps. Therefore, the objectives of the above methods are both “recommending drug combinations” (for physician’s reference).

Methods for screening subjects and determining physiological parameter targets

CN113948165B is owned by Yilinyun (Shenzhen) Technology Co., Ltd. This patent protects a subject screening method. By obtaining a subject’s physical sign information and clinical research project protocol information, it uses a physical sign feature extraction model and a preset feature prediction model to extract and predict the subject’s physical sign features at various stages. These are then matched stage-by-stage with expected features to facilitate the calculation of a comprehensive matching score based on which target subjects could be screened.

CN113164105B is owned by Abbott Diabetes Care, Inc. This patent protects a method for determining a glucose level target. By measuring glucose levels and the reticulocyte production index, it calculates a more reliable cHbA1c value, further calculates at least one physiological parameter, and thereby adjusts a glucose level target.

Although CN113948165B is used for screening subjects, it involves neither a specific disease nor a correlation between specific physical sign information and certain disease or health status. CN113164105B claims a “method for determining a glucose level target” rather than a “method for determining a glucose level”. Therefore, neither of them falls within the unpatentable subject matter of “directly obtaining a health status”.

Final thoughts

The filing and granting of patentable methods in smart medical patents have been on an upward trajectory in China, with domestic applicants in particular universities contributing significantly. This could be attributed to the nation's booming AI industry and state initiatives to increasingly use universities as R&D incubators.

Foreign applicants that have business interests in the smart medicine industry are thus strongly advised to keep abreast of the CNIPA's latest examination trends and developments in this regard and leverage the Chinese regime to broaden the scope and diversity of their patent portfolio.