



COMPENSATION COMMITTEE CHARTER

MEDIDATA SOLUTIONS, INC. (Amended April 2016)

I. PURPOSE

The purpose of the Compensation Committee (the "Committee") of the Board of Directors (the "Board") of Medidata Solutions, Inc. (the "Company") is to: (i) establish appropriate compensation practices for the Company; (ii) determine the compensation and other benefits for "officers" of the Company (as defined in Rule 16a-1 under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) (such officers, are hereinafter referred to as the "Executive Officers"); and (iii) to administer the Company's cash-based and equity-based compensation plans, (including issuance of stock options and other equity-based awards granted other than pursuant to a plan). The Committee will also consider and make recommendations regarding director compensation.

This Charter is intended to provide a set of flexible guidelines for the effective functioning of the Committee. The Committee may establish policies and procedures from time to time that it deems necessary or advisable in fulfilling its responsibilities.

II. COMPOSITION

The Committee shall be comprised of at least three (3) members, each of whom shall (1) be a member of the Company's Board, (2) satisfy applicable independence requirements (as determined from time to time by the Nominating and Governance Committee, in accordance with the Company's Corporate Governance Guidelines, applicable regulations, the Listing Rules of The NASDAQ Stock Market LLC ("NASDAQ Listing Rules") and applicable law), (3) qualify as an "outside director" under Section 162(m) of the Internal Revenue Code, and (4) qualify as a "non-employee director" under Rule 16b-3 promulgated under the Exchange Act. Members of the Committee and a Chair shall be appointed, and may be removed, with or without cause, by the Board on the recommendation of the Nominating and Governance Committee. The Board, on the recommendation of the Nominating and Governance Committee, shall appoint a new member or members in the event that there is a vacancy on the Committee that reduces the number of members below three (3), or in the event that the Board determines that the number of members on the Committee should be increased.

III. DUTIES AND RESPONSIBILITIES

The operation of the Committee will be subject to the provisions of the Bylaws of the Company and the Delaware General Corporation law, each as in effect from time to time. The following are the duties and responsibilities of the Committee and may be modified by the Board from time to time:

After considering the independence factors outlined above, the Committee may retain, or receive advice from, any compensation consultant, legal counsel or other advisor it prefers, including ones that are not independent. The Committee will evaluate whether any compensation consultant retained or to be retained by it has any conflict of interest that shall be

required to be disclosed in the Company's proxy statement in accordance with Item 407(e)(3)(iv) of Regulation S-K adopted by the Securities and Exchange Commission.

The Committee shall be directly responsible for the appointment, compensation and oversight of the work of any compensation consultant, legal counsel or other advisor so retained. However, the Committee shall not be required to implement or act consistently with the advice or recommendations of its compensation consultant, legal counsel or other advisor to the Committee, and the authority granted in this Charter shall not affect the ability or obligation of the Committee to exercise its own judgment in fulfillment of its duties and responsibilities under this Charter.

The Company shall provide adequate resources to support the Committee's activities and appropriate funding, as determined by the Committee, for payment of reasonable compensation to a compensation consultant, legal counsel or any other adviser retained by the Committee.

1. Review and approve the Company's strategy, guiding principles, objectives, policies and practices in the areas of compensation, performance evaluation, benefits, management development, and human resource planning.

In the sole discretion of the Committee, retain (or obtain the advice of) and terminate, at the Company's expense.

2. Compensation consultants, legal counsel, accounting and other advisors as the Committee determines necessary or appropriate to assist in the performance of its duties hereunder. The Committee shall consider the following factors affecting independence before selecting (or receiving advice from) any compensation consultant, legal counsel or other advisor:
 - the provision of other services to the Company by the person that employs the compensation consultant, legal counsel or other adviser;
 - the amount of fees received from the Company by the person that employs the compensation consultant, legal counsel or other adviser, as a percentage of the total revenue of the person that employs the compensation consultant, legal counsel or other adviser;
 - the policies and procedures of the person that employs the compensation consultant, legal counsel or other adviser that are designed to prevent conflicts of interest;
 - any business or personal relationship of the compensation consultant, legal counsel or other adviser with a member of the compensation committee;
 - any stock of the Company owned by the compensation consultant, legal counsel or other adviser; and
 - any business or personal relationship of the compensation consultant, legal counsel, other adviser or the person employing the adviser with an executive officer of the Company.
3. Form and delegate responsibilities to subcommittees of the Committee, as may be necessary or appropriate.
4. Review and recommend for approval by the Board how frequently the Company should permit stockholders to have an advisory vote on executive compensation (i.e., a recommendation for the stockholder's "say when on pay" vote), to be proposed to stockholders at the annual meeting at least once every six years and in accordance with

applicable law, SEC rules and NASDAQ Listing Rules (including voting standards), taking into account the results of prior stockholder votes on the frequency of say-on-pay resolutions at the Company.

5. Consider, among other matters it deems appropriate, the results of the stockholder vote on executive compensation (the "say on pay vote") held at the last annual meeting prior to such consideration, including in relation to golden parachutes (if any), and consider whether to make any adjustments to the Company's executive compensation policies and practices or say on pay vote frequency.
6. Conduct an annual review of and recommend the Company's compensation package for the chief executive officer (including the annual base salary level, the annual cash bonus opportunity level, the long-term incentive opportunity, and any other forms of compensation, after an evaluation of: (a) the say on pay vote held at the last annual meeting prior to such consideration; (b) the performance of the Company (with a view towards a [strong] relationship between compensation and Company financial performance); (c) market data, including peer group companies as determined by the Committee; (d) internal remuneration relationships as provided by the Company's compensation consultants, if any; (e) the chief executive officer's performance against corporate goals and objectives; and (f) such other factors as the Committee deems appropriate. The Committee's recommendations shall be reviewed and approved by a panel consisting of the "independent directors" of the Board as defined in the NASDAQ Listing Rules. Directors who are not "independent directors" may participate in such panel discussions, but shall not be present or vote on whether to approve the Committee's recommendations; provided, however, in no such case shall the chief executive officer be present during voting or deliberations regarding his or her compensation.
7. Conduct an annual review of and recommend the Company's compensation packages for Executive Officers of the Company (including the annual base salary level, the annual cash bonus opportunity level, the long-term incentive opportunity, and any other forms of compensation), after an evaluation of: (a) the recommendations made by the chief executive officer and the Company's compensation consultants, if any; (b) the performance evaluation process of the Company as applied to such officers; and (c) the say on pay vote held at the last annual meeting prior to such consideration. The Committee's recommendations shall be reviewed and approved by a panel consisting of the "independent directors" of the Board as defined in the NASDAQ Listing Rules. Directors who are not "independent directors" may participate in such panel discussions, but shall not be present or vote on whether to approve the Committee's recommendations. The Committee shall also evaluate compensation matters relating to other key employees as may be designated by the Committee and the Company.
8. Annually review and recommend the objective performance measures and the performance targets for Executive Officers.
9. Annually review the performance of the Executive Officers against the applicable measures and performance targets.
10. Annually review the performance of the chief executive officer and meet with such officer to share the findings of such review.

11. Conduct an annual review of and approve the Company's management development and succession planning practices and strategies.
12. Review and approve employment terms and agreements for new Executive Officers, any severance arrangements for Executive Officers, and any change of control, indemnification, or other employment or compensation-related agreements to be entered into with Executive Officers.
13. Review risks and exposures associated with leadership assessment, management development and succession planning, and executive and employee compensation programs and arrangements, including incentive plans.
14. Review the Company's incentive compensation arrangements to determine whether they encourage excessive or inappropriate risk-taking that could have a material adverse effect on the Company, to review and discuss at least annually the relationship between risk management policies and practices and compensation, and to evaluate compensation policies and practices that could mitigate any such risk.
15. Oversee the application of the Company's executive incentive compensation recoupment policy and, as appropriate, review and recommend changes to the Board concerning such policy.
16. Approve, modify, and administer employee-based equity plans, and other similar compensation plans and in that capacity:
 - advise on the establishment of equity award guidelines and the general type and size of overall equity awards;
 - establish parameters for routine equity awards under delegated authority to issue equity awards in connection with new hires, spot awards and promotions specifying limits on the number of shares and the price and type of awards to be granted.
17. Administer and, if deemed necessary, amend the Company's 401(k) plan and any deferred compensation plans (collectively, the "Designated Plans"), and, if desired, delegate the routine administration of the Designated Plans to an administrative committee consisting of employees of the Company.
18. Recommend to the Board, for determination by the Board, the form and amount of cash-based and equity-based compensation to be paid or awarded to the Company's non-employee directors, including compensation for service on the Board or on committees of the Board.
19. Review and discuss with management the Company's disclosures under "Compensation Discussion and Analysis" (the "CD&A"), and based on such review and discussion, make a recommendation to the Board as to whether the CD&A should be included in the Company's annual report on Form 10-K and, as applicable, the Company's proxy statement. As part its review of the CD&A, the Committee shall take into account the say on pay vote for the most recent annual meeting in accordance with applicable law (including voting standards) and prior stockholder votes on this subject.
20. Prepare, review, and approve the Committee's report regarding executive compensation and review and approve the other compensation information (including the compensation discussion and analysis) that is required in the Company's Proxy

Statement for its annual meeting of stockholders.

21. In consultation with management, oversee regulatory compliance with respect to compensation matters, including overseeing the Company's policies on structuring compensation programs to preserve tax deductibility, and, as and when required, establishing performance goals and certifying that performance goals have been attained for purposes of Section 162(m) of the Internal Revenue Code.
22. Periodically review other human resources programs and initiatives.
23. Make regular reports to the full Board.
24. Review and assess the adequacy of this Charter annually, or more often as circumstances dictate, and update or revise the Charter as appropriate.
25. Periodically evaluate and take steps to improve the effectiveness of the Committee in meeting its responsibilities under this Charter.
26. Ensure the independence of any compensation consultant engaged by the Committee by, among other things: (a) reviewing and approving the compensation consultant's scope of work, both for duties provided to the Committee and for duties, if any, provided to the Company; (b) approving annually the compensation consultant's fee structure for the services rendered (with the Chair reviewing and approving actual fees incurred); (c) reviewing annually the fees paid by the Company to the compensation consultant for all services provided to the Company; (d) maintaining safeguards to ensure the consultant's independence; and (e) determining whether, and under what circumstances, the compensation consultant participates in Committee meetings and executive sessions.

IV. MEETINGS

The Committee shall meet at least two times each fiscal year, and may hold additional meetings in person or telephonically as often as may be necessary or appropriate, at the discretion of the Chair of the Committee. Prior to each meeting, the Chair of the Committee will circulate or discuss the agenda for the meeting with each member of the Committee. When appropriate, the Committee may meet in separate executive sessions with management, employees, legal counsel, internal audit, and the independent auditor to discuss matters that the Committee or the other groups believe warrant Committee attention.

Members of the Committee are expected to use all reasonable efforts to attend each meeting. The Chair of the Committee may also request that members of management, legal counsel, or other advisors attend the meetings of the Committee.

V. MINUTES AND REPORTS

Minutes of each meeting shall be prepared under the direction of the Chair of the Committee and circulated to each member of the Committee for review and approval, and then circulated to the members of the Board who are not members of the Committee. The Secretary of the Company shall archive the approved minutes.

VI. PERFORMANCE EVALUATION

The Committee shall produce and provide to the Board on an annual basis a performance evaluation of the Committee's performance of its duties under this charter. The evaluation shall also include any recommendations to improve the charter of the Committee. The performance evaluation shall be conducted in such a manner as the Committee deems appropriate. Any member of the Committee may present the evaluation to the Board either orally or in writing.